

**Analogical Fit: dynamic relatedness in the psychotherapeutic setting (with reference to language, autonomic response, and change in self-state)**

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## **Appendix 6: Macquarie University Ethics Approval**

## **Declaration**

I declare that this thesis is my own work and has not been submitted to any other university or institution.

Anthony James Korner

Date

20 / 3 / 2015



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## **Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

### **Abstract**

**Philosophical orientation:** “Self”, and “person”, are concepts related to the embodied flux of feeling in a symbolic, acculturated personal context: a system of *self* and *other*. This thesis explores available evidence and theoretical underpinnings required for development of an *intersubjective* paradigm (as opposed to sole patient-focus) in researching psychotherapy process. This involves human communicative processes related to the development of *personal selves* and personality.

**Research approach:** Research questions are only partially addressed through the experimental work of the pilot study. They are also approached through examination of available evidence from a variety of sources. The experimental component uses sessions where conversation and autonomic variables (Heart Rate Variability (HRV); and Respiration) are recorded. These continuous variables are embodied analogues of responsiveness to environmental input. An additional tool, the Change in Self Experience Rating Scale (CSERS) is used, allowing both patient and therapist to comment on shifts in personal experience within therapy, through independently rating the transcript of a session, giving voice to private experience not registered in the transcript itself. A current model of autonomic function, the polyvagal theory, is used as a basis for re-evaluation of the role of feeling in mental life, emphasizing its role in social engagement. Different modes of autonomic function underpin a variety of human encounters with the environment, and may contribute to emotional displays that form a basis for symbolic representations, or “embodied symbolic orders”.

**Findings:** Experimental findings of slowing of breathing rate, i) during speech; and ii) in relation to narrative highpoints in conversation, are consistent with hypothesized vagal regulation of social engagement. CSERS findings demonstrate, i) complexity in individual rating of feeling; and ii) information additional to the semantic content of the transcript, providing a window onto the feeling-based “interpersonal metafunction” of language. These self-ratings also illustrate that timings of self-states accessible to reflective consciousness correspond to the timings of language, and breathing, a period of longer duration than minimal conscious states.

**Conclusions:** The self is seen, in linguistic terms, as emerging through embodied interpersonal interaction. This involves analogical exchange, developing within the textual domain, as a culminative text, ultimately providing an effective voice, capable of utilizing the representational function of language in the speech community. Such exchange is embodied through states of social engagement; states of orientation to signals of threat or surprise; and realization in instantiated moments of experience. This work is organized into six parts that correspond to this process: Orientation (Part 1); Embodiment (Part 2); Language (Part 3); Reciprocity (Part 4); Instantiation (Part 5); and Realization (Part 6). The sense of matching that occurs during interpersonal communicative exchange is appropriately thought of as “analogical fit”, involving best approximation of fit between the feeling and conceptual domains of experience. A mature self involves the achievement of self-organizing agency within a relational network underpinned by language.



**Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

## **Part 1**

### ***Orientation***

**The personal world of self:**

**The embodiment of language and affect**



## 1.0 Outline of thesis

Part 1, entitled “*The personal world of self: the embodiment of language and affect*”, lays the groundwork for understanding the emergence of self through interaction in a matrix of communication, feeling, language, and relationship. An intersubjective research paradigm is set out, that actively involves both patient and therapist, with hypotheses that seek correlation between subjective personal significance and objective autonomic response. A discussion of *analogical fit*, as a process of approximate matching in communicative exchange, lays the basis for the linguistic model of psychotherapy process developed later in the thesis. A philosophical discussion embeds the approach in, i) the sense of self described by William James; ii) the centrality of language to human life, with reference to Ludwig Wittgenstein; and iii) the inextricably contextual and connected position of self in relation to the world, through the work of Martin Heidegger. The lively participation of humans in the embodied symbolic milieu of communication is highlighted, from infancy, with reference to *iconic* and *indexical* levels as a prelude to full *symbolic* participation. A case is made that “self-states”, units of significant experience for the individual, need to be distinguished from bare conscious states. While self-states are emergent from conscious states, they occur on a different time scale, relating to the timings of breathing and language. Self differentiates, to a considerable extent, through the process of communicative exchange, contributing to the development of personality and the establishment of the individual as a self-organizing system. Personality is understood as a linguistically mediated self-organizing system. Traumatic experience disrupts the differentiation of self and the growth of character by halting or restricting the flow of communicative interaction. Psychotherapy reflects an effort towards personal growth through communicative exchange. The study of psychotherapy is well placed to contribute to the emergence of a science of meaning (semiology).

In Part 2, entitled “*Heart and Soul: On the relationship between self and body*”, the embodied nature of self experience in an environmental context is explored with specific reference to the “Polyvagal Theory” (Porges, 2011). Breathing is not only a physiological regulator, but also an important regulator of language production, autonomic response and social engagement. It provides a physical analogue for some aspects of the relationship of self to interpersonal environment. Autonomic activity is a marker of self-state, providing continual internal feedback, as well as metabolic and affective regulation in contexts of social engagement. These functions are additional to the role of the autonomic nervous system in the context of threat. Emotional life is considered, in the light of this theory, as subserving a primarily normative function in valuing of the environment, rather than a primarily defensive function. This view diverges from views dominant in scientific writing in psychotherapy, and related fields, for much of the twentieth century. The concept of heart rate variability (HRV) is discussed as a measure of autonomic response, particularly as it relates to vagal function of the relatively recently evolved myelinated vagal nerve, described by Porges as the “*smart vagus*”, seen to have a central role in regulation of social engagement (Porges, 2011). A method of recording HRV, thought to reflect this “smart” component of vagal activity, known as respiratory sinus arrhythmia (RSA), is utilized to demonstrate autonomic response. The use of RSA follows that of Porges’ approach, although where previously this relied upon filtered averaging of HRV over periods of several minutes, the method developed here, using an algorithm known as “Similar Basis Function” (SBF), allows estimation of RSA over short periods, relevant to dynamic processes in psychotherapy. Experimental data is presented which demonstrates autonomic regulation occurring during conversation; and in controlled conditions, illustrating, i) the inverse relationship of HRV to respiratory rate; ii) slowing of breathing when speaking; increase of breathing rate in listening condition; and iii) synchrony of breathing rates and waveforms occurring in psychotherapeutic, and non-psychotherapeutic, settings. Problems with data collection and interpretation of data are discussed.

In Part 3, entitled “*Making Meaning: the realization of self through analogical fit in embodied interactions: Self-state and Language in the psychotherapeutic context*”, the focus shifts to the realization of self through interpersonal communicative interaction. The notion of self-states is further explored in terms of linguistic understanding, with reference to Saussure’s concept of synchrony (Saussure, 1959), and the progression of conversation in terms of “given” and “new” information. The development of an instrument that provides a measure of these states, the Change in Self-Experience Rating Scale (CSERS, is described. A number of sessions are analysed using this instrument. These provide data that support the notion of the “present moment”, or “self-state”, as being distinct from minimal experiences of conscious awareness; rather self-state is more closely related to the timings of language, and hence is potentially accessible to reflective awareness. This suggests the dependence of self on language / communication, a feature distinguishing self from inanimate physical objects. The concepts of *narrative unit* and *embodied symbolic order* are introduced as relevant to the linguistic study of self particularly in relation to psychotherapy. The CSERS is seen as providing an additional window onto psychotherapeutic interaction, and other conversations; one that gives expression to self. The notion of self as *partially expressed text* is seen as providing a conceptual basis for understanding processes of change in therapy. Such a text is continually developing, rather than reflecting an immutable reality for a given person.

In Part 4, entitled “*Cry and Response*”, the focus is on understanding self and other primarily as a communicative system of reciprocity, operating at the level of whole persons, with manifestations at levels including experience; brain and nervous system coordination; and language. The interaction of two communicative systems, that of affective communication and signalling on the one hand; and that of the symbolic system of language, on the other, reflects the flux, or leading edge, of the personal experience of *significance* and *meaning*. The evolution of reciprocally interactive brains is discussed, as well as the evolutionary endowment shared by humans, to a considerable extent, with other mammals and in itself consistent with complexity in social organization: the system of affective communication. This operates within verbal language, and independently, in language-like ways. A session is analysed with reference to the notion of *embodied symbolic order*, illustrating a concept that may have potential in allowing recognition of physical analogues, or correlates, to the symbolic system of language.

Part 5, entitled “*Exchanging language, changing self: further case illustrations*”, explores a single psychotherapy session in greater detail using CSERS, with presentation of illustrative physiological findings. The slowing effect of speech on breathing, and examples of breathing synchrony, are demonstrated. This session is of the same dyad as one of the cases in Part 3, with an interval of twenty months between recordings, allowing some longitudinal comparisons to be made, illustrating progress and development of self. This includes recognition of the body of referents that have developed in the particular relationship. Linguistic analysis of recursive “tropes” in the earlier session shows a pattern of equivocation no longer evident at the later one, perhaps reflecting personal growth. One of the “control dyad” sessions is also presented and contrasted with the psychotherapy sessions in terms of its content. Physiological illustrations demonstrate slowing of breathing more pronounced at the emotional highpoint of both therapy and control sessions, consistent with enhanced vagal influence, as shown in Part 2 under controlled conditions. Initial analyses lead to a discussion of the notions “I”, “it” and “self” as they apply in the psychotherapeutic context. Self is seen to refer to a whole person capacity for differentiation, relating closely to the integration of feeling and language. This development of self occurs in the interplay between subject consciousness (“I”), and object consciousness (“me”). The holistic concept of self is contrasted with Freud’s model, of agencies in the mind. The process of personal development is based upon empathic connection with others, rather than the triumph of reason over

passion. This process is not primarily dependent upon gender roles. Psychoanalytic theory is discussed in relation to primary and secondary process, arguing for a revision of the notion of ‘mastery’ of the emotions, towards optimal coordination and integration of feeling and language.

In Part 6, entitled “*Psychotherapy process: shaping the symbolic maelstrom towards a narrative of self*”, there is a discussion of the project findings and implications in modern pluralistic societies, where people develop in heterogeneous communities with a confusing mix-up of ways of life, and symbolic representations, impinging upon individual embodied existences. Many need assistance in finding what holds significance, and works, for them. Affect is seen to be the primary motivator of human behaviour. The experiential regulation of affect is described with reference to the “*general images*” of affect (Tomkins, 1995, pp. 66-73). The fourth general image, involving coordination of the other “images”, is seen to be most significant in relation to development of character. The process of conversation is understood in terms of “given” and “new” elements that provide structure, and are themselves structured by perceived significance for self. A “motivated selection” of extracts, taken from the Pilot 1.2 transcript, is used to illustrate principles of conversational exchange, and realization of self. Traumatic scripts, using illustrations from study data, demonstrate dissociative processes. Apart from scripts, chronicles, and narratives, a fourth, traumatic form, or rather absence of form, described as “no story”, is discussed. Dissociation is understood as a realm of experience, held largely outside relational space. This impedes development of self, and, in particular, slows development of a confident, prospective self. A prospective self is able to articulate evolving narratives, serving a self-organizing function. The therapeutic process is seen as one of re-association, involving embodied communicative exchange that relies upon non-specific communicative, relational, factors, and understanding of role. Objective correlates of self, illustrated by project data, are discussed. The role of speech in slowing breathing implies vagal up-regulation, and is also likely to have metabolic implications. Breathing synchrony is discussed as a possible unconscious form of interpersonal resonance. The language of self develops through the interpersonal domain of affective relatedness in conversation, and the culminative (ongoing) growth of personal messages, associated with a sense of personal value. This helps the individual find an effective voice within a community. Finally, possibilities and proposals for further research are put forward. While there is no shortage of outcome research in psychotherapy, there is no clear consensus in the field in relation to process. Proposals put forward provide one framework for furthering our knowledge of how psychotherapy works.

While many tools are available in the modern era of information technology, and “virtual worlds”, there is a need for real engagement with an actual other(s) for optimal realization of individual selves. The relationship of early development of language to the body, and bodily experience, highlights the embodied nature of symbolic experience. Individuals seek greater coherence of experience over time, a process that necessarily involves engagement with other people.





## The personal world of self: the embodiment of language and affect

### 1.1 Introduction

*"There can be no semiotic act that leaves the world exactly as it was"*

Michael Halliday (2002, p. 254)

Language is essential to human life. Human beings live as much in the space of thought and meaning, as in physical space. The Emperor Frederick II, an admirer of Albert Magnus and a believer in 'observed truth', was said to have brought up children in silence *"to settle the question whether they would speak Hebrew, which was the first language, or Greek, or Arabic or at least the language of their parents; but he laboured in vain, for the children all died."* (Fernandez-Armesto, 1997, p. 148). While this story may not be a verifiable piece of evidence, it illustrates the potentially fatal consequences of a linguistically-deprived environment for the *actual* development of humans in the material world. In modern times gross neglect or emotional deprivation in infancy has been shown to have potentially fatal consequences (Spitz, 1946). Psychotherapists deal with people in whom traumatic disturbances in interpersonal interactions during development have had real consequences for personal growth.

The psychotherapist is always in the position of engaging with the presentation of a person, the patient, who is seeking some form of enhancement in personal experience. The medium for this process is communicative exchange, based in language and imagery. For the process to be effective it will need to attain a level of significance for both parties. The natural form for the psychotherapy process is human conversation. The relationship which develops in this medium of exchange is both actual and symbolic. A scientific approach to this field needs to include consideration of *self* and *language* if it is to retain the immediacy of "first person" experience, rather than simply becoming a description or representation of such exchanges (a "third person" account). This is to say that psychodynamic psychotherapy cannot be considered a purely objective field. Both *self* and *language* present paradoxes for science. *Self*, understood as the flow of private, personal experience, is a whole person concept that can't be defined objectively, yet which has objective correlates in terms of observable behaviour; speech; and accompanying states of the body and brain. *Language* is part of the material world and yet, in its human symbolic form, does not correspond to any material "thing". While it is material in its instantiation through speech acts, it also exists independently of any such individual act. When it is instantiated, as it is in psychotherapy, it invariably includes the component of affective expression, a major contributor to the significance and interpersonal meaning attained at any given moment. The concept of mind necessarily involves self, language, feeling and relationship. As such it is an irreducibly interpersonal phenomenon.

The register of the psychotherapeutic field is that of felt significance, and the expression and representation of personal meaning. Meaning created together and meaning held alone. This encompasses shared meaning, divided meaning, understanding and misunderstanding, or even lack of meaning. Patients often present with vague dissatisfactions, or painful states of mind, leading to a discomfort with self and incapacity to "see" effective paths of action in life. Personal meaning is never a precise or quantifiable matter. It is a question of approximation and "best fit"; of similarity in understanding rather than precise definition. In conversation we strive towards making sense of painful and discordant self-states through the use of language. Analogy and metaphor are central when it comes to communicating what is personal in psychotherapy. The therapist endeavours to make a response that fits analogically, approximately matching the affect and emphasis in the patient's expression (an *analogical fit*), while also contributing something additional (i.e. not simply imitating). Psychotherapy has the potential to support the development of a "science of meaning" ("semiology"). Given

that such a “science” is still in its infancy, such investigations need to consider their philosophical basis. While the “free association” of the patient was considered the “first instrument for the scientific study of mind” (Strachey, 1962), an *intersubjective* framework requires a shift to “the conversation” as the primary object of study. This thesis is intended to contribute to the development of a scientific approach in psychotherapy through the engagement and participation of the two personal selves that make up the psychotherapeutic relationship. Correlates of *self* that may contribute to identification of personal significance, and its objective correlates within the body, are utilized and applied to the psychotherapeutic conversation. Evidence and theoretical underpinnings from philosophy, linguistics, psychoanalysis, neuroscience, literature, and physiology are discussed in order to develop an understanding of psychotherapeutic process and its investigation. The psychotherapeutic approach which informs this investigation is the Conversational Model (Hobson, 1985; Meares, 2000, 2005).

## 1.2 Research Questions and Hypotheses

This thesis, in part, explores available evidence and theoretical underpinnings required in the development of an inter-subjective (as opposed to patient-focused) paradigm in researching psychotherapy process and, more broadly, human communicative processes in relation to the development of *personal selves*, and personality. The research questions are only partially addressed through the experimental work of the pilot study. They are also approached through examination of available evidence from a variety of sources. Despite the relatively high public profile of psychotherapy and competing claims about outcome and efficacy, “research into the processes and effects of psychotherapy remains much less known” (Lambert, 2013, p. 3). While the dominant approaches to research utilize quantitative measures, seeking objective definition, it is the qualitative approach to research that appeals to many clinicians because “it remains closer to the actual phenomena and lived experience of therapy”; providing a sense of “being able to hear the voice of the client”; while “offer(ing) an understanding of the meaning that various aspects of therapy hold for them (clients)” (McLeod, 2013, p. 49). In the latest edition of a standard text on psychotherapy research (Lambert, 2013) a whole chapter is devoted to qualitative approaches for the first time, “evidence for the ‘coming of age’ of qualitative research” (McLeod, 2013, p. 49).

The research questions of interest in the understanding of psychotherapeutic process discussed in this thesis are:

- 1) What is the relation between linguistic interpersonal interaction and bodily (autonomic) response?
- 2) Is there any objective distinction in linguistic or bodily (autonomic) responses between a psychotherapeutic and a non- psychotherapeutic conversation?
- 3) Does measurement of self-state add additional information about interpersonal interaction in psychotherapeutic (or other) settings beyond the information provided by the actual language (transcript) of the conversation?

The hypotheses in this study relate to complex correlations of language, self-state and bodily response. The approaches used involve a combination of qualitative, and quantitative, methods. While an approach is developed that allows representation of objective autonomic correlates of conversational interaction, technical limitations of the data only allow for illustrative, graphic presentations of the material rather than full quantitative definition. The conclusions of the study are based on consideration of available evidence and theories as much as on the basis of the data from the pilot project. The hypotheses of interest are:

- 1) That experience of effective communicative “fit” between patient and therapist is likely to be associated with greater levels of autonomic synchrony; and synchrony or congruence of self-states.
- 2) That conversation has demonstrable effects on autonomic state and other physiological variables (in this study Heart Rate Variability and Respiration).

### 1.3 Applying the Conversational Model to the investigation of psychotherapy process

The psychotherapeutic model utilized in this study is the Conversational Model (CM). The CM is fundamentally a psychology of self, embedded in a developmental understanding of relatedness. As such it is an inherently inter-subjective model. A brief outline of some features of the model is given, although the reader is referred to a published guide to the CM for a detailed discussion of application of the CM (Meares et al, 2012).

The CM argues that naturally-occurring communicative processes, in a relationship of perceived safety, facilitate growth of self, and the resolution of trauma. Self is a notion inherently linked to concepts of feeling, relationship, and language, and hence to meaning at both conscious and unconscious levels. In the case of meanings that are not fully conscious, there is an experience of felt significance associated with experience that is salient to self. Growth of self occurs when there is the sense of containment and creative possibility in relationship. Amplification of states of well-being, and modulation, and integration, of traumatic self-states are associated with a sense of personal value and the emergence of a sustainable sense of self. As such, the personal world of the patient grows through an active process of co-construction with the therapist. This is consistent with the notion of the social construction of self, where interactions and relatedness are inherently meaningful, requiring approaches to research that take meaning into account from the point of view of both patient and therapist.

Supervision in the CM is carried out using audio-recording of sessions, focussing on moment-to-moment micro-processes of the conversation, including the contributions of both patient and therapist. This approach lends itself to study of the nuances of interpersonal interaction, and change, during the psychotherapeutic conversation.

Previous study of micro-processes in therapy has been divided into two types: “interpersonal process recall” (IPR), and “conversational analysis” (CA) (McLeod, 2013, p. 57). The present study has elements of both of these approaches: the actual transcripts of single sessions are studied (CA), and both patient and therapist are subsequently asked to reflect on the experience of the session (IPR). The precise methodology, however, is original. An example of existing methodology is the “Core Conflictual Relationship Theme” approach which identifies patterns of interaction between patient and therapist involving the “response of the other” (RO) and the “response of self” (RS) (Luborsky, 1977). This enables identification of repetitive patterns of rejection and the like. Analysis of the “RO to RS” sequence “goes a long way toward assisting joint understanding of the meaning of symptoms.” (Grenyer, 2012, p. 25). However this method relies upon the researcher carefully reading and interpreting the transcript (Grenyer, 2012) without directly involving the patient in the process. This study, in contrast, employs both patient and therapist as active participants, independently rating the transcript.

The experience of self, as understood in the Jamesian manner of “stream of consciousness” (James, 1890, pp. 224-290) and “I-me” duality (ibid., pp. 400-01)), contains paradoxes of unity and multiplicity. There is a sense of personal being (Meares, 2000; 2005), associated with a level of *“body feeling, which is with us all the time... To (which) we (usually) pay no attention at all”* (Meares, 2000, p. 10), which provides *“continuity of being”* (Winnicott, 1960, p. 47-55). However this experience can, at any time, be disrupted; or change in the direction of enhancement of self. This kind of shift is distinct from moment-to-moment

changes of perception where the sense of self remains largely unaffected. The psychotherapeutic setting provides a particular focus on the patient's self and, as such, might be expected, as the psychotherapeutic relationship develops, to become more salient than everyday life situations for the person. Shifts in self-state may occur with greater frequency in such a setting.

The psychotherapeutic conversation is an example of a spontaneously occurring dialogue with a focus on the personal world of the patient. From a linguistic point of view, the study of this interaction is best approached using actual transcripts rather than interpretations involving meta-psychology that goes beyond the data of the language. Supervision in the CM involves use of actual recordings, encouraging primary reliance on the actual language used in the session. Where shifts occur in self-states it might be predicted that this will be reflected in "what happens next" linguistically. There may be movement towards more, or less, narrative forms of language, reflecting development of, or alienation from, a sense of personal existence. Apart from narrative *per se*, it is expected, over time, that the conversation changes, in an interpersonal sense, in the direction of greater, or lesser, collaboration and mutuality (Graham & Van Biene, 2007).

#### 1.4 Experimental Methodology

This project explores changes in self-state in an intersubjective paradigm utilizing audio-recordings of actual therapy sessions, and a comparison situation of a non-therapeutic conversation. Simultaneously, both subjects are monitored, using a non-invasive system that records heart and respiratory rate. A measure of autonomic activity, Heart Rate Variability (HRV), is derived from these recordings. Subjects are blind to autonomic measures at the time of recording. The comparison dyad, involving an interviewer conversing with an interviewee regarding his, or her, life story, provides a situation that in one respect mimics the dynamic of the psychotherapeutic couple: in both circumstances one person is the subject of the conversation.

Experimental data collected in this study are preliminary in nature, constituting a pilot project that seeks to establish methods of measurement based upon the intersubjective paradigm of the Conversational Model, demonstrating the feasibility of application to the psychotherapeutic context. This initial pilot project has involved three therapeutic dyads and four comparison interview couples with recordings occurring over two sessions. The age range of participants was 29-67 with 2 male patients (ages 31; 52) and one female patient (29). The therapists were both male, one aged 34; one 56. The comparison group was drawn from professional contacts of the author and consisted of 3 male and 3 females with age range 53-67. One of the dyads reversed roles to make up the fourth comparison dyad. None of the participants reported any cardiovascular condition. Comparison participants were specifically instructed that the conversation had no therapeutic purpose and that it was part of a project measuring autonomic response during conversation in psychotherapy and other contexts. In addition, in response to technical issues that arose during the project, some additional measurements were taken under controlled conditions that helped to refine our approach to measures of autonomic response, and to begin elucidation of the relationship of speech to HRV and respiration (see Part 2).

Patient and therapist recorded a single session, within the context of a longitudinal therapy, using audio-recording of voice; and physiological recording of heart rate, and respiratory rate. The physiological measures were recorded using a Zephyr monitor system worn as a belt, put in place prior to the commencement of the session (see Appendix 3). Commencement of the session was synchronized, manually, between audio and physiological recording systems. The

process of recording and rating was designed to fit within the timing of a normal psychotherapy session (approximately 50 minutes) in order to minimize disruption to therapy.

Following the recording session, a transcript was typed with copies given to therapist and patient. The therapist rated the “Change in Self Experience Scale” (CSERS) prior to the next session, noting where shifts in the experience of self-state occurred, using a self-state rating scale developed for the project (Appendix 2). CSERS was developed on the basis of an “enlivening – deadening” axis of experience, considered a fundamental dimension of self-experience (Korner, 2000). In the subsequent audio-recorded therapy session, the patient spent the first 30 minutes completing the same procedure blind to the therapist rating (the patient was not made aware the therapist had made a rating). This rating procedure constitutes a further deviation from the normal therapeutic framework, although it allows for completion within the duration of a normal session. The time limit also ensures the rating gets done. If it is not completed in 30 minutes, the transcript was given back to the therapist with as much done as possible. In the last 20-25 minutes of the follow-up session the patient was invited to reflect upon the experience of the previous session and the process of rating. For the non-therapist dyads the same procedure was followed except the rating was conducted separately (i.e. independently), in the same 30 minute time-frame. Both interviewer and interviewee were instructed on the rating method at the beginning of the second session, by the researcher. The researcher also interviewed participants for feedback on the experience of the procedure.

Correlations were made between self-state ratings of the two members of the dyad, for both psychotherapy and non-psychotherapy dyads. These are reported in Part 3. Subsequently efforts were made to correlate reported shifts in self-state, with shifts in autonomic state, as measured using the Zephyr monitor. While the hope was to look at correlations between language and autonomic state, technical limitations in data collection meant these hopes were not fully realized. These aspects of the study are considered further in Parts 2, 3, 5 & 6. Future directions are discussed in Part 6.

The nature of the study is such that subjects are inevitably aware whether or not they were engaged in psychotherapy. However subjects were blind as to the detailed nature of the study. All results from the study should be considered suggestive, or illustrative, rather than providing a basis for firm empirical conclusions. They provide grounds for consideration of approaches to further investigation.

### 1.5 The ground of psychotherapy: analogical fit

*“....the essential function of language – (is) to maintain social contact in the dark. It is doubtful whether man learned to speak in order to convey information or emotion; it was rather that, with the light gone and the comforting visible world with it, he had to convince himself that he was not alone among the possible terrors of the night.”* Anthony Burgess

In his initial formulation of the Conversational Model, Robert Hobson articulates the process as one of “*learning, and learning how to learn, within a personal conversation*” (Hobson, 1985, p. 15). The conversation is the spontaneously occurring form of language that occurs socially between *persons* rather than relating to the description and manipulation of *things* (ibid., p. 16). Self emerges in a system of self and other, in the space between feeling and language. The CM conceives of the self as emerging through a process of doubling, originally described by Baldwin, as made up of “ego” and “alter”, where *the ‘alter’ is ultimately internalized in a reverberating process.... then recreated culminating in the formation of the ‘bipolar self’*” (Meares, 2000, p. 26; Baldwin, 1906). The task of therapy can be seen as the “*mutual creation or discovery of a feeling-language*” (Hobson, 1985, p. 15). Burgess’ comment about man’s need for connection in the dark captures something of the personal

importance, for self, of social connection (Burgess, 1970, p. 40). Conversational exchange based on social interest, is the predominant function of language at all ages, most of the time (Dunbar, 1996, pp. 1-8). Where social organization and communication in primates is largely based around exchanges involving grooming, gesture, and physical display, in humans these interactions are greatly supplemented, and to some extent taken over by, conversation (ibid., pp. 35-79). Language is likely to have evolved for more efficient management of increasing social complexity, arguably the major evolutionary force driving increase in relative brain size (ibid., pp. 63-64; 77-79). Language, and communication, in humans constitute “*a fundamentally cooperative enterprise*” (Tomasello, 2010, p. 6) that is prosocial in nature, depending upon, “*the ability to create common conceptual ground – joint attention, shared experience, common cultural knowledge*” (Tomasello, 2010, p.5).

The emergence of personal selves “from the dark” of isolation, relates to the gaining of personal knowledge acquired through the “vision” that comes from language. Such experiences are rare but when accomplished carry the sense of truth: in therapy, “*perhaps -, if only for a moment – seeing through the darkness of our fear and envy, we might share a gaze, with a new vision*” (Hobson, 1985, p. 130). This process involves eventually finding a voice and establishing a home, as the personal self develops in the public world, through skill acquisition, and processes of linguistic and affective exchange. The essential nature of this process to life is illustrated by the ill-fated story of Emperor Frederick II mentioned earlier, where the lack of a responsive linguistic environment for infants had fatal consequences.

The ground of psychotherapy lies in reciprocal communication that seeks resonance with affective life, and finds, using language, an analogical fit with the patient’s experience, facilitating emergence of self. This marks a movement from being simply a publicly identifiable individual, towards being an effective self-organizing system within a social network. The process is irreducibly interpersonal and communicative, involving interpenetration of the symbolic and the actual in the particular embodied forms of patient and therapist. Self cannot be separated from language: the individual self is dependent upon language even though, on his or her own, it is not possible to change language since language is a *social*, not an individual, institution (Saussure, 1959, pp. 13-15). Hence an emerging science of psychotherapy needs to incorporate linguistic science. In particular the putative science of “*semiology*” foreshadowed early last century (Saussure, 1959, p. 16) would be of relevance to a science of psychotherapy. Such a science would need to operate from an inter-subjective perspective, given that both language and psychotherapy are interpersonal, interactive fields.

Interpersonal fit in the realm of the psyche is always of “sufficient similarity” to the feeling and need of the individual. Given that self is always linked to feeling, and is “beyond” words, the matching required in the developing individual is always of an *analogical* nature rather than a precise mechanical fit. Forms of feeling include affect and emotion, as part of the shifting ground of being. For first person experience we can only speak of “what it is like” to experience rather than define “what it is”, as we might with an inanimate object. Hobson draws attention to Buber’s distinction between “*I-thou*” and “*I-it*”: “*For the I of the primary word I-thou is a different I from that of the primary word I-it*” (Hobson, 1985, p. 18; Buber, 1937, p. 3). The *I* of the personal “*primary word*” (also “*primary world*”) is the forerunner of the personal self with its dual form; whereas in the *I-it* configuration the personal sense of self with its duality, is lost (Hobson, 1985, p. 18). In normal development the infant and developing child have to negotiate and exist in both of these interpersonal, communicative spaces: one felt to be personal, where play and personal growth occur; and one where exigencies of the “*real world*” interrupt play, requiring the child to adapt and focus on the external world, without the duality of real interaction and illusion characteristic of play

(Meares, 2005). Throughout life the person will need to be able to negotiate these two spaces: one relatively impersonal and distanced; one relatively personal and intimate.

In the Macquarie Dictionary, there are two nouns corresponding to the adjective “analogical”: analogue, and analogy. Each of these has relevance to the phrase “analogical fit”. In the previous paragraph the notion of approximate, or *best*, fit has been highlighted as appropriate to the interpersonal field in which selves develop. It is also characteristic of many biological processes. Physiologically, many vital processes are continuously variable quantities. The term *analog* is relevant to many such functions: respiration, heart beats, blood pressure, temperature and so on. This adjective, applied to certain devices and systems of measurement (“an *analog* scale”), describes “*measuring or representing by use of a continuously variable quantity*” or “*showing measurement by use of a continuously variable display, such as the needle on a car speedometer*” (Blair, 1982). This property, of continuous variability, is also true for *feeling*, always present in consciousness, varying both in kind and intensity on a continual basis. However, in contradistinction to physical quantities which can be displayed objectively on a continual basis, using techniques such as the electrocardiogram, affect can only be “measured” through the filter of self. While signs of affect are perceived by one person observing another, we need to rely upon the report of a particular *self*, subject to feeling, to discern what is actually being experienced. We find, in doing so, that the person often struggles, using linguistic and gestural means to express these states as best they can, by *analogy*.

*Analogue* is defined as “*something analogous to something else*” (i.e. a relationship of “likeness”) (Blair, 1982). *Analogy* is defined as “*partial agreement or likeness between two or more things, which forms basis for a comparison*” (Blair, 1982). In psychotherapy an “analogue” could be said to be present when an image instantiated in therapy has a likeness to an image from elsewhere (including the past). Analogy, on the other hand, implies a more clearly linguistic process where comparisons are actively made, bringing likenesses into the conversational field. In this study relevant analog scales (measuring heart rate and respiratory waveforms) are utilized to display objective correlates of continuous autonomic function that relates to affective experience. In addition the filter of *self* is used to provide a “measure”, reflecting an effort by the individual in describing his, or her, internal state during a conversation. This allows the exploration of likenesses between the two parties to the conversation. *Analogical fit* in the psychotherapeutic context is taken to refer to the essentially symbolic processes of language, and the essentially material processes of the body as manifest in spoken language, feeling, and autonomic processes.

We live in a simultaneously symbolic and actual world. For humans the actual includes the symbolic, an environmental stream of the spoken and seen, from the beginning, long before the infant becomes skilled in the use of the symbols that surround him or her. This is the situation even before the infant has developed the perceptual schemas and capacities that would allow sounds, sight and other senses, to differentiate and come into focus. The effects of surrounding symbolic attitudes, and the affective ground of the infant’s own experience, blend into actual bodily consequences, both in terms of the infant’s growth and the ways in which the infant acts upon the environment. For the individual infant, the world presents itself already made, with knowledge already present, “out there”. The biblical statement, “*In the beginning was the Word*” (John,1:1; KJV), reflects such a situation for each new life as it starts. As against this external knowledge that takes many years for a given person to appropriate, partially, into an individual mind, the infant has only its own feeling states to provide a balance of inner, personal knowledge in guiding adaptation to life. However, these feeling states, or affective capacities, already have some differentiation at birth and constitute a genetic endowment for humans and other species (Panksepp & Biven, 2012, pp. 1-46). They

are also the germ of self, and the beginning of personhood.

## 1.6 Brain and mind; self and language: some philosophical considerations

*“Thoughts connected as we feel them to be connected are what we mean by personal selves”*

*William James, 1892*

*“The whole is greater than the sum of the parts”*

*Aristotle, Metaphysics*

In psychotherapy the patient endeavours to gain personal knowledge of his or her world through communicative exchange with the therapist. Self is an emergent phenomenon in the manner of the whole being greater than the sum of the parts. The part being expressed at any given time has a relation to this whole. In linguistics the relation of the part to the whole is known as *meronymy*, with a *meronym* being “part of a whole”, as a finger is to a hand (Wikipedia, 2013; Oxford, 2011). A closely related term is *mereology*, used to denote part – whole relations in logic (Wikipedia, 2013; Oxford, 2011). It is commonplace in scientific writing to equate parts with functions of the whole. For example certain pictures of brain activity might be taken as equivalent to certain cognitive functions, or affective experience. The ascription of psychological attributes to the brain, or its component parts, has been termed “*the mereological fallacy*” (Bennett & Hacker, 2007, p. 22). In understanding something psychologically, it is necessary to utilize communication corresponding to the whole self. The institution that humans use for this is language, although here we also get into problems. In language, descriptions of experience might be taken as equivalent to actual experience. We find a plethora of representations that relate to life but should not be confused with direct experience. In the psychotherapeutic context, *understanding*, in the immediacy of the actual relationship, may reflect a sense of connection and security, rather than specific representation. The conundrums presented by difficulties in defining self-experience, and self-other relationship, have puzzled philosophers for millennia. Since psychotherapy cannot as yet be considered an established science, it is necessary to consider its philosophical assumptions. Some philosophical influences relevant to this thesis are discussed below, particularly the work of James, Wittgenstein and Heidegger.

William James described consciousness as a “stream” which has been taken as a starting point for the notion of *self* in the Conversational Model. The Jamesian metaphor of the stream of consciousness makes it clear that self is a felt process and not a thing. His concept of “*flights and perchings*” (James, 1890, p. 243), as a description of the movements of consciousness, emphasize both the dynamism that is consciousness, and the human capacity to “hold” states in a felt way that allows for the possibility of reflection, and clarifies the essential duality of the self as “I” and “me” (James, 1890). The Jamesian self is both self-modifying and continually adaptive to the external world. A “perching” implies a “chunk” of experience held sufficiently, to become not only an object of awareness in the immediate ‘grammatical’ sense, but also where there is “awareness of the awareness” which probably relates to what most consider “higher consciousness” (Stern, 2004, p. 123). James was a major influence on the phenomenological and existential schools of the 20<sup>th</sup> century, acknowledged by Husserl as laying a foundation for phenomenology by “*help(ing) him find his way out of psychologism*” (Wilshire, 1984, p. xxiii).

Familiarity tends to be associated with the sense of personal reality, particularly during childhood development. The world around us becomes affectively invested and familiar. James’ emphasis on “warmth and familiarity” prioritises a positively-toned felt experience of well-being as conducive to being sensed as “self”, rather than “alien”. James refers to the



process of “*splitting of the whole universe into two halves....we....call... ‘me’ and ‘not-me’ respectively.*” (James, 1890, p. 289, his emphasis). Here he is referring to the way we sense the world as familiar (part of self; ‘me’), or not. The human capacity to sustain felt experience in a brain where succeeding chunks of consciousness have “memory” (though not absolute or everlasting) of preceding chunks, is critical to James’ idea that, “... *thought is itself the thinker*” (James, 1890, p. 401). This insight refers to felt qualities that have a life in the body, reflected in brain maps, giving a clue to a model of consciousness that doesn’t require invocation of a “centre of consciousness” within the brain. Positive hedonic tone is important in terms of what can be “owned”, internally, as “me”. This is reflected in a quote James was fond of citing: “...*to miss the joy is to miss all. In the joy of the actors lies the sense of any action.*” (James, 1899, p. 272; Stevenson, 1888).

The existential philosophy of Heidegger brings individual experience into focus by replacing consciousness with *dasein* (“being-there”), emphasizing the inseparability of human experience from the environment, and demonstrating the irreducibly temporal (dynamic), and therefore non-thing like, qualities of human life (Heidegger, 1927, pp. 26-28; 32 - 35). We always find ourselves in-a-situation, that is, a context. The subject-object distinction is seen as a development in human thought, but not the primary state of affairs. *Dasein* has a past, present, and future, and is a “being with possibilities” (that is, inclined to a future), not simply a materially defined, fixed being (ibid., p.27). Heidegger rejects questions such as “what is a man?” as unanswerable, and asks instead questions of the form of “what does it mean to be a man?” (Gelven, 1989, pp. 6-10). Such a view opens up the possibilities for a self that creatively contributes to life rather than being externally defined. This shifts the ground of inquiry to the realm of first person experience, posing the question of what dynamic first person experience is “like”, requiring understanding at a human level. This kind of understanding was referred to by Jaspers as “*verstehen*” (“perception of meaning”), relying upon empathic apprehension. It is contrasted with “*erklären*” (“perception of causal connection”), relating to knowledge about facts, or “*static*” understanding (Jaspers, 1963, p. 27). The communication of *verstehen* involves analogy and metaphor, the “analogical fit” referred to in this thesis. Put another way, self is understood through “knowledge of acquaintance” (James, 1890, pp. 221-3), rather than “knowledge about” (the objective facts).

In *Being and Time*, Heidegger considers the world as experienced by the individual, not as objectively defined. What is experienced includes resistance, and self, coming into awareness, to some extent, in relation to this resistance (Heidegger, 1927, pp. 252-4). Meaning in life comes to centre on the relational concept of “care”, although *awareness* of “care” occurs first in relation to its lack. This is part of a general human tendency to notice matters when they “go wrong”, or can’t simply be taken for granted. By implication this may follow a time where care has been present but outside of awareness, felt simply as part of the natural order. For Heidegger the realm of psychic life, what we *mean* by ‘having a life’, is understood as a dynamism i.e. necessarily unfolding in time. Mental “space” is, after all, time.

Heidegger highlights the relationship of “Being”, and thought, to language:

*“.... in thinking being comes to language. Thinking accomplishes the relation of Being to the essence of man. It does not make or cause the relation. Thinking brings this relation to Being solely as something handed over to it from Being. Such offering consists in the fact that in thinking Being comes to language. Language is the house of Being. In its home man dwells. Those who think and those who create with words are the guardians of this home.”*

(Heidegger, Letter on Humanism, 1977, p. 239)

Heidegger’s emphasis is on thought, and all work/effort, deriving from, and being directed to, whole persons: “beings”. The kind of language to which he refers, is seen as having a relation

to the core of affective life, represented in the modern world by “*poetic creation*” (Heidegger, 1977, p. 240). It may be that Heidegger, while acknowledging the centrality of language to the human experience of “being”, may have underestimated the role of others and interpersonal responsibility in the development of self (Orange, 2010, p. 7). Overemphasis on *self* may lead to a one-sided view of personal development. Selves develop in a system of “self and other”; “self and world”; and “self and language”. In each case, emergence of an autonomous self would imply a balance in these oppositions, reflected in development of the capacity to resonate, rather than simply being “subject” to domination.

While James can be said to have made the concept of “feeling” philosophically respectable, he was met with some derision by philosophers such as Russell and Moore, who considered that James’ pragmatic doctrine was one of convenience where truth is defined as “what works” (Goodman, 2002, pp. 13-15). Russell was more attracted to mathematical notions of identity as defining of truth, in a way that suggested an objective definition of language. His student, Ludwig Wittgenstein, came from a background of education in logic and mathematics, to philosophy. Wittgenstein was attracted both to James’ humanity and James’ appeal to everyday experience in developing his philosophical approach. The famous contrast between the early and late Wittgenstein, is between a young man attempting to employ the formalistic approach of Russell to language, with a reduction to mathematical laws (i.e. to statements that are held to be ‘generally true’) (Wittgenstein, 1921); and the older Wittgenstein, who came to see language as always embodied, locally defined in the particular case, and itself defining of what humans mean by “having a life” (i.e. a non-reductionist position) (Wittgenstein, 1958). In the final line of his earlier work, *Tractatus Logico-Philosophicus*, Wittgenstein states that, “*what we cannot speak about we must pass over in silence*” (Wittgenstein, 1921, TL-P 7), pointing to those aspects of existence beyond objective definition.

Wittgenstein succeeds in demonstrating limits in the extent to which anything in the human world of experience can be objectively defined. Using the tool of skeptical argument he highlights the possibility of non-standard explanations for any given event, undermining the degree to which any rule can be seen as fixed, or irrevocable. Other rules could always be imagined that would also give a plausible, if often unlikely, explanation for phenomena (for discussion see Kripke, 1982). Rules and concepts, for Wittgenstein, can only be understood in the context of human language and, in turn, language cannot be conceived of in isolation – it is an interpersonal and cultural phenomenon. Rules are a product of life in communities rather than logic; “*to imagine a language means to imagine a form of life*” (Wittgenstein, 1958, PI, 19), i.e. language gives rise to particular forms in human life. Ways of life (e.g. “being a Catholic”) are “*language games*” (ibid. PI 7). The reference point for his use of the term is the ways in which humans naturally express themselves. There are sufficient commonalities here that languages are always capable of comprehension, ultimately, to other people. Such a definition encompasses the range of natural emotional expression in humans, not simply the words that are spoken. Through such forms of life “*the adult human subject emerges slowly, as its life becomes structured through the acquisition of new and more complex language-games*” (McGinn, 1997, p. 52).

Use of language is also seen by Wittgenstein as a development of customary action, only ever to be understood as it applies in a particular context. Any given statement is seen as part of a “lifelong conversation”. Hence Wittgenstein locates language in an embodied, relational, and spatially particular way as a “text in progress”, where others make a contribution (a ‘conversation’ not a ‘monologue’).

There is no such thing, for Wittgenstein, as private meaning. He rejects the idea of an internal world, or of an internal “private” language, on the basis that “*everything lies open to view*”

(Wittgenstein, 1958, PI 126). Language is a mode of expression learnt in conjunction with others, not something developed in isolation. This is consistent with Saussure's conception of language as irreducibly social (Saussure, 1959). Wittgenstein came to see philosophy as a kind of therapy: a clearing away of the misconceptions and misunderstandings induced in individuals through their development in a "fog" of complex linguistic interactions. Similarly Hobson considered that "*Learning how to correct misunderstandings is one (and, perhaps, the) most important therapeutic factor*" in psychotherapy (Hobson, 1985, p. 16).

Wittgenstein's private language argument developed in response to James' notion of an "ideal psychological language", arrived at by introspection of privately "felt" states of consciousness, without reference to externalities (James, 1890; Goodman, 2002). Wittgenstein considers that we don't "know" sensations as something that "*belongs*" only to oneself (Wittgenstein, 1958 PI 275). Rather one "*has*" sensations and states (ibid., PI 281). The way we express ourselves will vary depending upon our stage of development, starting, for example with the cry as an expression of pain that will tend to be replaced by verbal linguistic expression as we learn the "language game". In giving the example of the "cry" as expression, perhaps Wittgenstein highlights the communicative significance of the cry. There is no "hidden" language. Even when thinking to oneself, thought is in the language learnt, utilizing the "common sense" of the mother tongue, not a "private" language.

When it comes to the level of the unseen, including the level of background feeling, Wittgenstein believed efforts at fixed definition would always fail. Rather, he points to a level of experience beyond verbal definition. In a psychotherapeutic sense this may inform the issue of provision of fixed meaning through interpretation, as opposed to approaching personal experience through analogy. It also is a reminder that no one approach, philosophical, religious, or scientific, can claim a monopoly on the truth or even on what constitutes "the facts". A *language game* not based on objectivity or logic may be as effective as one that is. Sometimes, at least in some ways, such organizations of life may be more effective, when it comes to matters such as social cohesion, stability, and sustainability of environmental provision.

James' idea that the thought is the thinker; and Wittgenstein's private language argument, are relevant in critiquing models of mind that invoke mysterious "hidden agencies" as the basis of psychological functioning. Currently such positions include the notion of the brain as a computer (with a central processing unit), and the traditional psychoanalytic notion of the "unconscious" as a "hidden" intelligence, determining behaviour.

The philosophical progression that has been traced here might be seen as providing a concrete, grounded position for self in relation to feeling and language. James' self is based in experience-near phenomenology, and is highly individualized: no two selves are identical. James and Heidegger emphasize process and a temporal animation of self, inseparable from the world; irreducible to temporally-frozen objective description. Wittgenstein helps us see that any life is locally and contextually defined. Selves arise in living relationships, at the intersection of language and feeling. Self cannot be objectively defined outside learned language games. It is, therefore, not separable from language.

This philosophical line serves to help us understand why the project of psychotherapy, in one form or another, is necessary. Things just won't do. People need people. However, psychotherapy needs to be seen as pluralistic, and locally defined to fit the particular context, not a universal method where "one size fits all" (Korner, 2008). The emphasis on language should not be seen as undermining the significance of other material aspects of reality. Material contingencies are inescapable and not all aspects of being human are encompassed by self and language. Historically there has been tension between materialist and idealist

positions philosophically. The account presented, however, does not require any “non-material” element to reality. Rather it takes language seriously as part of inter-subjective material reality (Korner, 2008).

The response of the materialist to the idealist can be characterized as “show me”, don’t take the route of referring to evidence that has its basis in the “unseen”. Neuroscientists, on the other hand, may caricature psycho-analysts as “mysterians” who worship the mysterious unconscious, something that can only be expressed as an “idea” (Spielman, 2004). The tension between these positions has always been difficult to resolve. Hegelian dialectic sees this tension as reflecting two “*moments*” in thought, each with an area of validity, but by itself, “*deprived of life*” (Hegel, 1807, pp. 29-33). Wittgenstein would see the situation in terms of different language games, each with its place, but frequently leading to confusion. While encouraging staying with observable phenomena (“don’t think, look!”) (Anderson & Shotter, 2006), he also demonstrates the limitations of scientific searches for fixed meaning in the domain of human interaction and mental phenomena.

In formulating their current neuroscientific model of consciousness, Edelman and Tononi, discuss philosophic assumptions (Edelman & Tononi, 2000) (commentary added in brackets):

- 1) “*Being comes **first**, describing second.*” (Edelman & Tononi, 2000, p. 15) (describing can never capture first person experience)
- 2) “*Doing generally precedes understanding.*” (ibid, p. 16) (language, and other actions, need to be performed, before understanding is possible)
- 3) “*Selectionism precedes logic.*” (ibid, p. 16) (differentiation comes about through selection, not logic)

Summarizing his position on higher forms of consciousness, Edelman and Tononi say that “*we emphatically do not identify consciousness in its full range as arising solely in the brain, since we believe that higher brain functions require interactions both with the world and with other persons.*” (Edelman & Tononi, 2000, p.xii). The interactions referred to clearly include the exchanges of language that form the basis of personal thought.

In the context of the present discussion, it does not make sense to say that brain and mind are one, although some psychiatrists do (e.g. Detre, 1987). We might say they are inseparable. Brain, mind and language live together, inseparable in lively co-dependency. From a logical perspective it makes sense to say, of relationships between mind, brain, and environment that:

- 1) *Mind and brain cannot be separated.*
  - 2) *Mind cannot be separated from the objects of perception*
  - 3) *The embodied human brain is a necessary but not sufficient condition for human minds.*
  - 4) *The (peopled) environment is a necessary but not sufficient condition for human minds.*
- (Korner, 2008, p. 36)

In noting these relations, the point can also be made that “mind” is a whole person concept related to a particular self, or person, whereas “brain” is not (rather it is part of the body). When we consider “whole” relations through concepts involving mind and meaning, we see many perspectives are possible. Even as logical statements like the four points above are made, we should bear in mind that perhaps such assertions are just one type of language game, one “form of life”. Wittgenstein was inclined to view life in three “phases”: the world of objective definition characterized by fixed meaning where “it is either this or that”; the world of moving but observable phenomena where meaning could be “this, that or the other”

and finally the world of unseen phenomena, characterized as “neither this nor that” (Anderson & Shotter, 2006). We shouldn’t take ourselves too seriously or attempt to be authorities when it comes to the personal meaning of events. Adopting a flexible position assists the therapist in allowing meaning to develop in the psychotherapeutic context.

### 1.7 Liveliness as a psychodynamic notion

Over the last half century relational developments in psychoanalytic thought, informed by the growth of a developmental psychology focused on normal development, have seen a movement away from a predominantly intra-psychic, drive-based psychodynamic model. The shift towards a relational orientation has taken various forms. For example, Winnicott emphasized environmental provision with focus on the maternal relationship and the development of the capacity for play. In contrast, Lacan refers to a linguistic unconscious and the relationship of the individual to language, highlighting not only personal relationships, but also broader conditions, to which an individual life is subject (Luepnitz, 2009). Put another way, it has been said, “Winnicott introduced the comic tradition into psychoanalysis, while Lacan sustained Freud’s tragic/ironic vision” (Luepnitz, 2009, p. 957). Recognition of the role of early development in adult personality has led to greater emphasis on understanding the pre-verbal world of the infant (e.g. Stern, 1985; Emde, 1983).

Freud saw the infant as motivated primarily by pleasure-seeking curbed by external constraints (Freud, 1911). Concepts such as pleasure and pain, reward and punishment, do have great importance in understanding mental functioning. However they are ultimately based upon a “good - bad” mental organization that is divisive rather than unifying in terms of mental functioning, and also probably not appropriate to the earliest levels of development (Korner, 2000, pp. 732-739). In contrast, shared experience, reflected in moments of connection (dyadic intersubjective states), is associated with increased well-being and “*an expansion of (the) state of consciousness*” (Tronick, 1998, p. 296). Implicit relational knowing in infancy involves procedural and perceptual memory, and “moments of meeting”, co-constructed with carer (Lyons-Ruth, 1998, p. 282). “Moments of meeting” are considered crucial to the psychotherapeutic process (ibid.). In psychotherapy one way in which such shared moments may be manifest is in the development of a particular language (e.g. characteristic phrases and stories) that identify a specific therapeutic dyad.

With understanding of the modular way in which the brain handles perception, it is no longer tenable to consider that the mind is composed of fully formed contents or perceptions (Stern, D.B., 2006, p. 89). Although it remains problematic to attempt characterization of the pre-verbal world of infancy, it seems likely that early experience, shaped by rhythmic interactions with the environment in the form of vitality affects (Stern, D, 1985, pp. 53-61) might correspond to a sense of aliveness or “liveliness” (Ogden, 1995; Korner, 2000). An enlivening-deadening axis of experience might encompass basic principles of mental functioning in a way that allows a revision of Freud’s original two principles, the *pleasure* and *reality* principles (Freud, 1911; for discussion see Korner, 2000). The *pleasure principle* might be restated as “*a tendency to seek or continue experiences of liveliness and to seek escape from, or foreshorten, deadening experiences*”. The *reality principle* becomes “*the tendency to seek conditions that allow for a sustainable experience of liveliness*” (Korner, 2000, p. 738). The recognition of a primary “*seeking system*”, associated with strivings towards the environment (Panksepp and Biven, 2012, pp. 95-144), overcomes some of the apparent conflict between the reality and pleasure principles. The sense of liveliness, on an ongoing basis, is largely engendered in strivings to work and play that occupy much human time and effort, rather than through the episodic satisfactions of consummatory pleasure.

The concept of liveliness is somewhat fuzzy, perhaps appropriate to an intersubjective model, where boundaries are often indistinct. The liveliness of the infant, for instance, will be felt by the mother. The two principles, as restated, include recognition of the environment's role in shaping learning. The conditions sought include language and relationship. Where liveliness is engendered in interaction between people, the emphasis is more on resonance, and less on mastery or dominance. The "id" and "primary process" conceptualizations of Freud, where desire drives behaviour in a linear way, can be re-thought as forms of mental functioning that allow creative engagement with others, and the environment, in ways that can be adaptive, with a typically non-linear form. The fate of this element of experience is to be integrated with, rather than supplanted by, a distinct secondary process, as self develops.

## 1.8 Personality and personal selves

We look at an infant and speak of his or her "personality". At the other extreme of life we observe someone with dementia, and see him, or her, "still having", or "losing", his or her "personality". As is often the case in everyday language there are a huge range of ways in which such a term may be used. Given the difficulty in defining the term, the task of attaining objectivity about the phenomenon seems daunting. Yet human beings are highly attuned to person: in some ways it is what we know best. An individual's voice, face and movement are highly identifiable, and become more differentiated over the trajectory of a lifetime. It is, in a sense, the "view from outside": in the case of the infant we see someone whose personality is not fully formed. The "personality" we speak of in this context is an endowment from the caring "other". The view from the "inside" is different, with access to feeling states but without the full view of face seen by others (Merleau-Ponty, 1945, p. 122).

In the psychiatric context, concepts of "personality trait" and "personality disorder" have currency. Personality traits are defined as: "*enduring patterns of perceiving, relating to, and thinking about the environment and oneself ... exhibited in a wide range of important social and personal contexts.*" (DSMIV, 1994, p. 630). ICD-10 makes the distinction between "*personality disorder*", seen as being a developmental condition, and "*personality change*", referring to acquired conditions that have brought about a pervasive change in personal functioning (ICD10, 1992). These entities, referring to pathological conditions, are not equivalent to "personality". Various dictionary definitions, with generally positive connotations, include: "Being a person"; "personal existence or identity" (Oxford, 1963), "lively, engaging qualities"; "the combination of characteristics or qualities that form an individual's distinctive character" (Oxford, 2011). For the present purpose, this last definition is most relevant. In the Psychodynamic Diagnostic Manual, "*Personality is what one **is** rather than what one **has***" (PDM task force, 2006, p. 17). This highlights a relationship between personality and the fundamental state of *being*.

Also relevant, from a psychiatric viewpoint, is the fact that "personality disorder" is rarely diagnosed until adulthood. In the case of Antisocial Personality Disorder, indeed, diagnosis is proscribed until the age of 18 (DSM IV, 1994). By "personality", then, we understand a form of organization and relating in the individual, evident in patterns of behaviour, interaction and verbal expression. In everyday discourse, the positive connotation of "distinctiveness" is present when we refer to someone "having personality". In psychiatric discourse this is clouded by concepts that have the effect of defining a person in terms of disorder, an inherently stigmatizing process. Classification in psychiatry is continually evolving. In the DSM-5 (2013) there are two alternative classifications for personality. One remains categorical, in keeping with earlier versions; the alternative is dimensional, with emphasis on relatedness, and psychological concepts of self, empathy, and intimacy (DSM-5, 2013, pp.

761-781). Also significant in DSM-5, is the conflation of “personality disorder” with other mental disorders (no longer distinguished on a separate “axis”), which may increase the tendency, in the public mind, to see these disorders as “things”, equivalent to “diseases” that “afflict” people, rather than as disturbances of self, modifiable through collaborative work. Ironically, in classificatory processes, such as DSM-5, individuality is depersonalized: neither authors, nor the subjects of authorship, are evident to the reader as persons (Kriss, 2013, pp. 52-3).

In contrast, James saw *“the personal self....as the immediate datum in psychology. ....The worst a psychology can do is so to interpret the nature of these selves as to rob them of their worth”* (James, 1890, p. 226). From the objective perspective, personality dysfunction is what stands out in assessment and diagnosis. For a psychotherapeutic science, however, there needs to be recognition that the “personal self” at any given time reflects the individual’s best effort at adaptation in a complex world and, as such, is an achievement of value. Although James states that *“No psychology... can question the **existence** of personal selves.”* (James, 1890, p. 226), classificatory systems that objectify people tend to do just that.

The relation of self and value is crucial, reflecting intimate connection between self and feeling. Moreover differential processing of positive and negative affect greatly influences development of self, with the traumatic range of affective experience being associated with developmental arrest, and a constricted, dualistic sense of self (Meares & Lichtenberg, 1995; Meares, 1999). The theme of familiarity and “warmth” in personal experience, as relevant to individual development and differentiation at both psychological and neurological levels, is pervasive in the writing of William James. The inner stream of consciousness described by James is an essentially private experience (James, 1890), although it develops in the public space of personal relationships (Meares, 2005, p. 3). From early in life, the child develops a repertoire of responses, adapted to “fit” different relational configurations, seen, by others, as the individual’s identity, while simultaneously there is an emerging private experience, that of self (Meares, 2005, pp. 41-3). Personality consists of both identity and self.

James defines “chunks” of personal experience in a way that includes environment and others: *“a conscious field plus its object as felt or thought of plus an attitude towards the object plus the sense of a self to whom the attitude belongs .....such a concrete piece of personal experience may be a small bit but it is a solid bit as long as it lasts”* (James, 1902, p. 385). There is a relation here between the chunk of experience, the state of the body and nervous system of its experiencer. This complex formulation of mental states including feeling, thought, and attitude, can be compared to Stern’s notion of the “present moment” (Stern, 2004). For therapists, this reflects the moment to moment presentation of the patient requiring attention. James’ description is of a state of “self” at any given time. The notion of “self-state” as a unit of experience, occurring on a timescale different to minimal “conscious states” is developed in this thesis. In keeping with James’ view, Whitehead saw self as based upon meaningful *“drops of experience, complex and interdependent”* (Whitehead, 1978, p. 18), providing a thread of continuity (Smith, 2010). His “organic” philosophy prioritises the temporal development of the “subject”, shifting emphasis from the individual as “mere” subject: *“... for the philosophy of organism, the subject emerges from the world – a **superject** rather than a **subject**”* (Whitehead, 1978, p. 88).

A human life, in its dynamic, lived form is properly *considered* as a text. While a life can never be *reduced* to a defined text, it cannot be understood psychologically in any other way. Indeed, in any case beyond the cross-sectional fact of “being alive or dead” in a biological sense, consideration and understanding of people’s lives *are* carried out in terms of texts: biographies, stories, reports and histories. The term “text” tends to be identified with the written word. However, in relation to psychotherapeutic practice (and indeed in relation to

most life contexts), such a definition would lead to an elliptical “missing out” of what is essential. In practice each person is an “embodied text”, where the spoken word is by far the predominant mode of expression. In psychotherapy the patient presents with a “partially expressed text”. The task of the therapist becomes one of “developing the text” in such a way that it can be more fully expressed and appropriated by its author, the patient. The therapist seeks to immerse him, or her-, self in the patient’s world, following the agenda of the text that emerges (Meares et al, 2012), thereby going beyond the confines of externally-defined identity towards an authentic experience of self.

The concept of personality disorder has been elaborated in terms of language (Fine, 2006). Fine comments that, “*interpersonal functioning is itself a description of largely verbal behaviour*” (Fine, 2006, p. 266). In psychiatric classification the variety of personality disorders, with associated behaviours and characteristics, are emphasized rather than a more fundamental concept of *person as a self-organizing system that is linguistically-mediated* (in the broad sense of language as communication) (Korner, 2008b, p. 66). If this concept was embraced, “Personality Disorder” would become “a form of linguistically-mediated self-organizing system whose sustainability and viability are threatened due to harm or suffering caused to the self and others”. Such a definition provides a point of distinction from what were previously considered “Axis 1” disorders (until the advent of DSM-5), given that other disorders tend to be defined in terms of *breakdown in the capacity for linguistic mediation of interpersonal situations* necessary for health and, or, survival. In this context the phrase, “*linguistically-mediated self-organizing system*” implies a system with both internal and external relations, i.e. capable of mediating between people, and within a person.

### 1.9 Personal selves in development: roles of feeling and language

Patterns of self-organization become established early in life. These “*internal working models*” (Bowlby, 1984, pp. 80-84; Holmes, 1993, pp. 78-9) are not accessible to conscious awareness, yet structure the individual’s perception of the world. Internalized models of relatedness are one form of “unconscious” influence in the mind, although part of a “felt reality” in the developing individual. Such models are held in implicit (procedural and perceptual) memory systems (Schore, 2012; Wachtel, 2008, pp. 238-244). These are sensed as “the way the relational world is” i.e. they are part of a “*worldview*” that takes these models as facts rather than recognizing their relationship to personal context (Korner, 2011). The working model also reflects the way the adult uses language, as demonstrated by the reliability of the Adult Attachment Interview (AAI) in identifying early attachment patterns. In adults this instrument is primarily a measure of coherence of linguistic expression (Main et al, 1985; Bakermans-Kranenburg & Van IZendoorn, 1993; Fonagy et al, 1995).

Another method of assessing personality, the Tridimensional Personality Questionnaire, looks at three variables, taken to reflect both temperament, **and** underlying physiological mechanisms (harm avoidance; reward dependence and novelty seeking) (Cloninger, 1987). Cloninger sees temperament as a mode of emotional organization where the observed phenotype is driven by emotions; whereas later developments require greater conceptual grasp, on the part of the developing child (Cloninger & Svrakic, 2000). The instruments used for measuring these variables are, as is the case in so much psychological research, essentially linguistic in character (i.e. questionnaires).

A level of feeling is always present in consciousness and is not synonymous with “emotion”. Concepts such as “*vitality affect*” (Stern, 1985, pp. 53-61) and background (“*barely detectable*”) feeling (Meares, 2005, pp. 56-8) have been employed to capture the range of states that cannot be equated with specific emotions. Feeling is intimately related to the concept of self, since the individual can never entirely separate him, or her-, self, from



feeling. The capacities to sustain feeling for relatively long periods, and for feeling to endure, connected with memory, are characteristic of human consciousness. This presumably relates to the complex coordination afforded by a highly developed cerebral cortex (Korner, 2002). Such capacities are probably pre-requisites for a sense of innerness, and the dualistic form of consciousness that gives rise to the sense of self dynamically participating in the world.

In turn the capacity for sustaining, and expressing, representations is fundamental to the acquisition of language. The prolonged developmental dependence of humans ensures great emotional investment in communication. Affective investment in communication precedes conceptual learning, and is thought to be mediated by the right hemisphere (Schorer, 2012, pp. 122-7). The connectedness of self-states with memory of preceding states, allows for the sense of flow into a future, and of unity of identity, utilized for personal mapping in a linguistically-realized environment.

Each individual develops a distinct repertoire of feeling and emotional states. Feeling constitutes an important dimension of language. The majority of meaning in verbal exchange is conveyed by the combination of affect and context, rather than conventional semantic meaning (Goleman, 1995, p. 97; Stern, 2004). Affect refers to dynamic processes unfolding over time, in a living context. It is mistaken to see affect as purely “innate” or “biologically determined”. Like self, affect is a “whole person” experience at any given time, communicating a sense of value at the level of the whole body.

For each person it could be said that he or she begins life with *potential* access to the range of human feeling and emotions. How that is realized, and in what combination, or sequence, is uncertain at the outset. The situation is comparable to language: each infant begins (normally) with the *potential* to attain mastery of the mother tongue of the community into which he or she is born. The form, and style, of verbal expression, and the extent to which the full capacity for linguistic expression is realized, will vary as a result of experience, environmental affordance, and innate factors (**both** nature and nurture). With affect, the particular constellations and combinations experienced, and expressed, in relation to life events constitute an “*emotional fractal*” (McWilliams, 2010), or set of kaleidoscopic responses, unique for that individual: something like an “affective fingerprint”. It is affective sequencing that will be distinctive for the individual, rather than the isolated affects experienced (Brandchaft, 2012).

Observational mother-infant research has highlighted the delicate reciprocal interplay between infant and carer that is a crucial factor in the developing makeup of the individual infant, in their response to the environment, and the emergence of emotional experience (Trevathan, 1974; Schorer, 1994). The infant is a *communicant*, with whom carers interact, rather than merely an object to be acted upon (Brazelton, 1979, p. 79). The disturbances of attachment described by Bowlby have been identified as a central aspect of human development, one, however, potentially subject to later modification given more favourable attachment opportunities (Fonagy et al, 1996; Schorer, 2012, pp. 121-3; Wachtel, pp. 238-44). Broadly speaking there appears to be a relationship between attachment style, and dominant adaptive strategy (‘flight’, ‘fight’ and ‘freeze’ being mammalian defence strategies that bear some relation to ‘avoidant’, ‘ambivalent’ and ‘disorganized’ styles of attachment). The prolonged period of relational dependency in humans makes these influences critical in the development of personality. In the phase of dyadic, proto-linguistic, inter-subjective engagement, it is typically the mother that takes responsibility for providing language, and specific meaning, in interplay with the infant, allowing for a sense of dyadic “flow”. Provided the carer effectively facilitates fields of care and play, both mother and infant are active contributors to the sense of significance in interaction. This is perhaps why we refer to familiar intimate others, particularly when the relationship is one of attachment, as “*significant*” others.

Highlighting the infant's dependency in some ways obscures the infant's competence in areas significant for language development. These include the capacity to cry, and in so doing, to "call" to mother (carer) to respond and provide nurture and attention. Apart from the cry, understood as communication, other forms of expression, involving vocal, and visual, images of well-being, such as the smile, are crucial, from an early stage, in establishing interactions upon which development of self will rest. "*The foundation for interpersonal communication is 'there' at birth*" (Trevarthen, 1975, p. 66): i.e. capacities for engagement in vocal and gestural exchange; for sustaining attention in these relational contexts, using musical qualities of the voice and gestural expressiveness. Turn-taking in vocalizing, and engagement in periodic vocal activity, has the "narrative" quality of "beginning, middle (climax), and ending" (Malloch & Trevarthen, 2009, pp. 4-5). Communicative exchanges of social significance for both parties occur virtually from the outset (within hours of birth) in mother-infant exchanges (Malloch & Trevarthen, 2009; Brazelton, 1979; Bullowa, 1979). Such exchanges have implications for the extent to which communication will become pleasurable and fulfilling for any given person.

### **1.10 Personal Selves: the bodily dimension**

In terms of bodily responsiveness to the environment, it is clear the autonomic nervous system plays an important evaluating role, placing autonomic response in the position of being a prime marker of shifting dynamic states for each individual. While the sympathetic nervous system plays a crucial role in terms of the organism's stress response (Edelman & Tononi, 2000), current evidence highlights the role of the parasympathetic nervous system, through its more recently evolved division (the myelinated vagus), as crucial for regulation of social engagement, and mediation of relaxed and pleasurable states of mind (Porges, 2011, pp. 133-216). The Polyvagal Theory, suggests, on time scales relevant to the experience of non-traumatic self-states, that vagal tone may be an important marker of function in interpersonal contexts (ibid., 104-5).

Both constitutional factors, and environmental circumstances of appropriate responsiveness versus overprotection, neglect, and traumatic impingement, influence the autonomic nervous system, and bodily emotional responses, of individuals. The traumatic range of experience, particularly when this is the ongoing relational reality, tends to be associated with increased, often chronic, sympathetic activation, and sometimes activation of the more primitive, defensive components of the archaic (unmyelinated) division of the vagal nerve (Porges, 2012; Williams & Gordon, 2007; Lyons-Ruth et al, 2006). On the other hand adequate care, including opportunities for play, fosters infant capacities for enjoyment in seeking and exploring in relation to the environment (Panksepp & Biven, 2012; Williams & Gordon, 2007).

The failure to establish dyadic interplay and a linguistically stimulating environment could be a predictor of deficiency in parasympathetic responsiveness (social reward) in communicative interaction (Austin et al, 2007, pp. 73-77). Elucidating the nature of these inter-relations between bodily response and linguistic/semiotic interaction may be central to development of knowledge of "personality substrates" in infancy, before the notion of individual as a "self-organizing system" can be said to be present, given the prolonged nature of human dependency.

Preliminary physiological evidence suggests that established therapeutic couples, with high patient ratings of therapist empathy, have high levels of autonomic concordance (synchrony), as measured by skin conductance (Marci, et al, 2007). Models of emotional processing related to, "*a spectrum from "mismatches", signifying potential danger, to "matches", signifying*

*safety*”, may contribute to understanding the development of neuropsychiatric disorders (Williams and Gordon, 2007, p.349). Parasympathetic responsiveness has been found to be differentially processed in patients with Borderline Personality Disorder (BPD), suggesting lesser support for social engagement behaviors (Austin et al, 2007). In a somewhat similar vein, several studies have suggested that patients with BPD are more likely to process positive or neutral stimuli as if they were experienced negatively (Herpertz, et al, 99; Herpertz, et al, 2000, pp., 347-50). Studies of autonomic response in BPD, when compared to self-report, show a mismatch, i.e. self-report is of high levels of arousal, while autonomic measures show quite consistent hypo-arousal, perhaps reflecting the tendency towards dissociation (Rosenthal et al, 2008, pp. 77-80). These findings suggest potential for further investigation of autonomic variables during psychotherapy.

The autonomic nervous system coordinates a whole body interface with the environment that has great significance for phenomenal awareness throughout life. This is manifest in literature, such as the writing of James Joyce, who saw his most famous novel, *Ulysses*, as “*the epic of the human body*” (Bugden, 1972, p. 21). *Ulysses* can be seen as “*blue print for knowledge that is not based on intellect*” (Mason, 2008, p. 4/7; Beckett, 1929). In a celebration of Joyce’s work, his writing on the phenomenal awareness of everyday bodily functions was related to the autonomic nervous system, taking the vagus nerve as exemplar: a coordinator of human bodily function “*from the ear to the rear*” (Mason, 2008, p. 1/7). For Joyce, “*trouble and bustle always finds its way into the bosom of my stomach*” (Joyce, 1966, p. 213). At the time when Joyce was writing (early 20<sup>th</sup> century) there were significant developments in neurology, and the emerging discipline of psycho-analysis. It may be no accident that, while science was beginning to place an emphasis on the significance of the peripheral nervous system (concepts such as “the abdominal brain” were current), and psycho-analysis was describing pre-verbal stages of development in bodily terms (oral, anal, phallic, genital) there emerged a new form of literature described by Joyce as highlighting the continuing role of bodily function in phenomenal awareness: “*if they had no body they would have no mind, it’s all one*” (Bugden, 1972, p. 21).

### **1.11 Towards an inter-subjective scientific paradigm for psychotherapy**

In this thesis persons will be considered in terms of language, self-states and the biology of the autonomic nervous system. Language is both embedded in the body, and the interpersonal worlds we inhabit. Language is the manifestation of life that streams around us, impinges upon us, and takes root within us, ultimately giving rise to the individual voice with which we navigate our way through life. The individual person needs to be located within this stream. “Person” and “self” are language-dependent concepts. Persons require definition in terms of roles, responsibilities, and meaningful action in a network of relationships, as well as through delineation of objective characteristics. A description is provided of the temporal and developmental emergence of the personality from within this matrix, emphasizing the role of language. Finally some preliminary comments are made on the development of a possible framework for the scientific study of personality in psychotherapeutic-linguistic contexts.

#### **1.11.1 Locating the person**

Whereas an object can be located in physical space, a person needs to be located in a relational network, and within linguistic space. The traditional form of scientific inquiry looking into an entity such as personality would ask such questions as “What is a person?”, or “What is a self”? Such questions presuppose the “thing-like” qualities of the predicates under consideration. However concepts such as self and personality are better understood as processes rather than “things”. As discussed earlier, this shifts the ground of inquiry to one where first person experience is approached by “analogical fit”, seeking to understand self

through “knowledge of acquaintance” (James, 1890). Such re-framing of the fundamental inquiry brings into play realms of feeling, language, and expression, albeit a form of language that is “lived and embodied”, not abstracted from living organisms as a “thing to be considered independently”. Modern tendencies to attribute psychological qualities to “parts of an organism” (e.g. the brain) overlook the level of the whole person (Bennett & Hacker, 2007), whose attributes can only be understood in an interpersonal context: that of language.

Each person finds him- or her- self at two interfaces:

- 1) An interface with the larger world presented in the form of environment and the language, cultural practice and behaviour of those around him or her.
- 2) An interface with the body and its cellular functions and organ systems operating in a continuous way both in and beyond phenomenal awareness.

Hence the individual emerges constituted both by material phenomena outside the organism, and within the organism. These phenomena include the cultural beliefs and values manifest in interpersonal behaviour and language expression. There are three levels to the dynamic, open system outlined above. In a preliminary discussion, the more general case of animals is considered, defining the three levels, L+1; L; L-1 (Thibault, 2004, p. 15):

- 1) L+1. The environment of the animal as a *“system of interpretance which brings into relation...the animal and its affordances and provides the higher-scalar principle whereby these affordances and their relation to the animal can be interpreted in ways that afford perception and action”*.
- 2) L. *“The focal level of the animal’s engagements with the affordances that it encounters with its environment.”*
- 3) L-1. *“The biological and other physical-material properties of organisms **and** environmental affordances that enable them and predispose them to engage in transactions with one another and selected aspects of their environment.”* (ibid.)

In broad terms this refers, in “1)” to what is knowable for a given organism, in “2)” to the present of moment of lived engagement, and “3)” to the particular capacities that biology and opportunity provide. What is knowable will relate to the social and communicative structure of the environment; available food sources; the various populations contained in the immediate environment; the terrain; and the climate as it relates to the situation of the organism. The present moment will contain many and varied interactions, within the unfolding process of navigating through life, constituting a unique trajectory of life for a given individual. The capacities of the organism will relate to the organism’s perceptual make-up; its attachment propensities; capacity to sustain attention; memory; strength; intelligence; speed of movement; affective range; reproductive cycle; rate of maturation; conceptual capacity; and so on.

At this point it might be noted that animals other than humans have conceptual and feeling / affective capacities. It can also be assumed that other animals have some form of consciousness, with their own first-hand experience of life, much as this kind of knowledge is not available to us as humans. When applied to the human world, however, it does however suggest a source of knowledge “coming from within”; and another that derives from being “part of a community”. For humans the knowledge that becomes familiar includes that based upon symbolic expression, constituting a major part of the dynamic human environment. Symbolic expression and feeling are inextricably intertwined in humans. In relation to the human sciences and disciplines, this kind of knowledge is of special interest, and inherent in notions such as *self* and *person*.

The exchanges through which the individual transacts experience in the environment at these “L+1”; “L” and “L-1” levels, are underpinned in humans by two communicative systems. One, shared in part with other mammals, is the human range of feeling (in expressive and receptive forms), including associated propensities for the formation and valuation of affectional bonds; the dynamic capacity to sustain attention and memory; and to resonate with other individuals in ways that amplify and reinforce affective states. This “communicative musicality” allows the infant to become intimately related to fellow humans (carers) before the mother tongue is acquired (Malloch & Trevarthen, 2009). Throughout life the affect system remains as the primary motivational system (Tomkins, 1995, p. 34); the primary internal value system of human being; and a central aspect of communication. The second communicative system for humans is the conventional language of the mother tongue. This is language in the sense described by Saussure as a social institution, composed of arbitrary conventional signs, serving as a network for the discrimination of value (Saussure, 1959).

In the case of humans it is the acquisition of *symbolic* language as it is lived and expressed that most differentiates the human world from those of other species. It is a game-changer. For other species the world is presumably experienced within the framework of objects, living and inanimate; and actions, of living beings, and of nature. Communicative capacities are part of such worlds but, to a large extent, are embedded in systems indexically tied to the present. They are pre-symbolic, and hence pre-linguistic, in the conventional sense (Deutscher, 2005). By contrast, symbolic language takes on a life of its own and brings into consciousness a present, past and future; greatly expanding the environmental, and conceptual, matrix, into which humans are born. The more purely linguistic aspects of communication, involving conventional signs, and grammar, are thought to be “*culturally constructed and passed along by individual linguistic communities*”, contrary to the Chomskian proposal of “innate” grammar (Tomasello, 2010, p. 11). In each case this will be engaged with at the level of materiality, in the embodied existence that arises for the individual.

### 1.11.2 Early immersion in the symbolic world

Language in humans has been thought of as developing in a linear way from pre-symbolic to the linguistic / symbolic stage in humans. The differentiation of the “pre-verbal” *infant* (the term “infant”, indeed, refers, etymologically, to being “*not able to speak*” (Wiktionary, 2013), from the *child* “with language”, suggests going from pre-symbolic to symbolic modes of existence. Various formulations in psychoanalysis highlight this distinction e.g. Freud thought of the earliest part of life as “autistic” in nature (Freud, 1895; 1911); Margaret Mahler thought of the “*psychological birth*” of the infant as not being synonymous with actual birth because of physiological immaturity (Mahler et al, 1975); Stolorow and Atwood, more recently, draw a sharp distinction between “*attunements communicated in the sensorimotor dialogue with caregivers*”, with the shift to the capacity to use symbolic language by about 18 months: “*By the middle of the second year, the child is able to use symbols, making language possible. .... mak(ing) possible ‘a sharing of mutually created meanings about personal experiences’*” (Stolorow and Atwood, 1992, p. 370).

However, it seems likely that these views are in error. An alternative view of language development is that the infant is immersed in the human world of symbolic meaning from the beginning. The relationship is interpenetrated in the same sense that “breathing the air” is an interpenetrated relationship with the environment (the infant is being exposed continually to the communicative exchanges directed towards the infant and going on around it). Capacities for interaction and turn-taking in vocal exchange are evident from the neonatal period (Malloch and Trevarthen, 2009). Moreover the infant’s face and actions (e.g. the infant’s cry) become symbolic in an “iconic” sense in these exchanges. That is to say, although not expressed initially with intent or self-awareness, the infant is contributing to the symbolic

proto-conversation in an active way. The infant could be said to have a “proto-symbolic” capacity, even at this stage. The powerful images of infant, and mother (other), will remain psychologically active throughout life, although not necessarily in a conscious way.

By the period of 9-18 months there is substantial evidence the infant has developed a more complex form of communication reaching up to 50 or so concepts or representations (vocal or gestural) shared with the carer. The nature of this ‘language’ is that, in a symbolic sense, it is “indexical”, i.e. tied to the immediacy of the present. This form of communicative interaction reflects the closeness that develops (usually) between infant and carer, and is highly interpersonally attuned. Affective expression is a significant element of such exchanges, although Halliday also highlights recognizable and reproducible signs known between infant and carer(s) (Halliday, 1975, pp. 26-34). This form of language lacks grammar and, as such, does not represent a conventional system of signs as we would understand a mature language. Nevertheless it represents an enhanced symbolic capacity, relative to the earlier phase where the infant’s contributions are understood as largely “iconic”. Moreover this level of “attunement” in language carries on, once the mother-tongue is mastered in the form of the modulation of language by feeling. Halliday’s approach to linguistics is known as Systemic Functional Linguistics. In this system affect is considered to be a major contributor to interpersonal exchanges, denoted as the “interpersonal metafunction” (Halliday & Matthiessen, 2004; Fine, 2006).

Language, as an evolving corpus and network of meaning and relations, becomes a material affordance to individuals at “L+1”, not an abstract entity to be considered separately. At “L”, language occurs as it is expressed in the “here-and-now” context. At “L-1”, language requires the coordination of neuromuscular pathways that have been entrained to expressing and listening functions and afford the organism communicational capacities. In the account thus far we have located the individual as a point of flux in a dynamic system, giving a quasi-spatial, or topological, description. Such a description lacks a sense of significance, and tells us little about the quality, or typology, of experience. In order to understand humans, we need to consider the dimension of time and the unfolding emergence of the person in time.

### 1.11.3 Being; individual; self; person: a dynamic progression

Looked at in this manner, the following progression is relevant to an understanding of personality: *being; individual; self; person*. **Human being** is a term applicable to any stage of development of *homo sapiens*, at least once a fetal stage has been reached. What is implied is a sensible organism, capable of feeling and responding. In the relatively protected uterine environment, there is limited opportunity for differentiation in response to environment, or for exploration of, and development of knowledge of, the “other” and the environment. In the neonatal period these opportunities are greatly expanded in the specific environment that pertains for a given infant. While there is thought to be a rudimentary “proto-self” operating, in relation to body image and kinesthetic experience (Damasio, 2000), the sense of being appears both easily disrupted, and restored (most infants are easily upset and readily comforted in normal circumstances).

Infants are adapted to develop preferential knowledge of, and responses to, a primary caregiver. With biological maturation and exposure to a “good-enough” caregiver, the infant – caregiver dyad will develop unique patterns of stimulation and response that become increasingly meaningful within the dyadic system. A “proto-language” develops that remains bound to present interaction. This will be associated with development of individualized characteristics, although individualization that can only be understood in an inter-subjective, relational context: perhaps best thought of as the “indivisible duality of self and other”. In this sense all mammals individuate as organisms through such interactive processes. Indeed we

refer to the *individual* both in relation to humans and other species. At this stage we see the increasing emergence of externally (publically) identifiable characteristics.

With the acquisition of the mother tongue, the individual emerges into a greatly expanded conceptual universe, and cultural context. The grammar of language facilitates the grasping of concepts that begin to be accessible for utilization, and later, reflection: this confers spatiality to the mind, allowing emerging awareness of past, present, future, and cultural context; differentiating human minds from the consciousness of other mammals. The spatiality of grammatical, symbolic language provides a locus within the individual for the development of self-relationship, over and beyond self-other relationships. Once it has been mastered to the extent that it is realized “inner speech” is not necessarily accessible to others, there are the grounds for a reflective space that takes on the lively sense of a separate *self*, or “mind of one’s own”. There is evidence for the emergence of this sort of characteristic around the age of 3-4 years (e.g. Meares & Orlay, 1988). Typically this follows a period of “symbolic play” where the young child chatters to him or her-self while playing with toys and manipulating objects in the external world (Meares, 2005, pp. 27-9; Vygotsky, 1934, pp. 32-3).

This associative stream of self-talk, developed in a context of generally positive hedonic tone, becomes the basis of an inner or personal world. With the development of a sense of interiority, the self begins to become an object of self-awareness and reflection rather than simply a point of reference. In this way, it is language that provides possibilities for self-realization. Inner “talk” or verbal thought, however, always faces the need and challenge of reconciling itself with the bodily-based signs of the feeling system.

The further journey of self, towards “personhood”, or the mature *person*, occurs over a longer time-scale, involving acquisition of skills; development of expressive capacities; formation of relationships; and the finding, ultimately, of a “voice”, capable of steering a path through the complex demands of adulthood and parenthood. This arises through a coordination of the publicly recognizable identity of an individual, with the internal direction of a private self, such that it is reasonable to speak of a relatively autonomous “self-organizing system”. Whereas the schema introduced earlier as “L+1”; “L”; and “L-1” was seen as essentially describing spatial location, the introduction of syntax into the human situation also allows us to analyse the situation in terms of grammatical location. Commonly this is thought of in terms of whether one is “subject” or “object” in a given context. This can be misleading insofar as, for example, confusion is common in relation to what is meant by “object”. It is common to mistake the term as synonym for “thing”. What is meant, generally, in the developmental or psychotherapeutic context, is closer to a “dynamic focus of attention” i.e. a “grammatical object”. One of the synonyms in linguistics for “object” is “patient”, and one of the synonyms for “subject” is “actor”. These terms convey the sense of *persons* in an interpersonal, linguistic field. There is an interesting resonance with the medical field in use of the term “patient”. Originally, the doctor was an expert in the “interpretation of signs”, and hence the object of the doctor’s attention was appropriately called “patient”. Ultimately to find one’s voice, generally following considerable “patient” experience in tandem with a developing range of “actor” experience, is to become a *player* in the larger community. The voice referred to here is the “true voice of feeling” (Hobson, 1985, p. 93), denoting genuine engagement with life and the community.

In current classification systems it is recognized that “personality” cannot be considered fully formed at least until late adolescence. Indeed, in terms of biological and neurological maturation, it could be argued that personality does not emerge fully until later, perhaps around the end of the third decade. Social integration takes longer. Mature personality implies the capacity to negotiate a way through complex social environments in interaction with others, with a sense of self-awareness and responsibility: becoming both “*agents*” (MacMurray, 1961, p. 15) and “*authors*” of our lives (Benjamin, 1998, p. 78). The shift from

dependence on the caregiver occurs through the realization of self in language and, in turn, the development of personality occurs through the organization of self in relation to others through the emergence of expressive capacities.

The emphasis on language and social interaction in human development highlights its inter-subjective nature. The primary evolutionary advantage of mankind can be seen as related to effective communicative capacities, and consequent tendencies to complex social organization, and cooperative action. From this perspective models of biological organization need to be viewed in terms of reciprocal co-ordinations between people. A paradigmatic example is the cry of the infant: this response can be defined in terms of related neural networks in both infant and carer, and clearly has significance for the carer. There would be, however, no evolutionary advantage were it not for the reciprocal neural networks that subserve the response of the parent to the infant (Newman, 2003). Understanding of the system as a whole is deficient if individuals are viewed in isolation.

### **1.12 The trajectory of self through iconic, indexical and symbolic levels of exchange: transformation from bare conscious states to self-states**

From the first person perspective, the level of the organism (“L” in the previous section), can be seen as moment-to-moment phenomenal awareness, while from a third person perspective “L” becomes an observed phenomenon. Phenomenal awareness, in the sense of being able to perceive separate events, occurs in humans over very short time frames, from as little as 20ms (Stern, 2004, p. 41). However the presence of the “psychological refractory period” means that humans can’t make a discrimination until the last one is completed - at least 100-150ms (Edelman & Tononi, 2000, p. 27). Phenomenal awareness consists in a flow of conscious states each of which has a limited duration (approx.20-150ms). It is associated with a sense of unity, in that each conscious state cannot be further divided (Edelman & Tononi, 2000, pp. 23-7).

In response to environmental stimuli, according to Edelman, the organism automatically organizes its attentional resources with rapid selection of a response, based upon its experience of similar circumstances, and innate capacities. This is the form of consciousness described by Edelman as “Primary Consciousness”, shared at least with other mammals (Edelman & Tononi, 2000, pp. 102-5). Choices are not based upon reflection and the selection process is not accessible to conscious awareness. Hence this could be seen as an account of neurally-based processes that are “unconscious”. For phenomenal awareness, the implication is of a kaleidoscopic flow of scenes “out there”: a moving world projected through the lens of the individual organism, with digital (time-limited) characteristics.

For higher consciousness, it is hypothesized language is required (Edelman & Tononi, 2000, p. 208) and, therefore, understanding of the phenomena of higher consciousness cannot be confined to mechanisms within the individual organism. It has been argued that inner speech is “linguistically realized thinking” and that “*inner speech just is higher-order or symbolic thought*” (Thibault, 2004, original emphasis, p. 273). Any such achievement of inner speech can occur only on the basis of the ongoing interpersonal interactions that provide the basis for the acquisition and development of language.

Language itself needs to be seen as a living and embodied phenomenon, not as an abstraction isolated from the individuals, and societies, in which it is spoken and written (Thibault, 2004, pp. 26-34). For each individual, a trajectory in language towards greater differentiation occurs in time, continuing over the lifespan. Initially the infant’s body and its states of being are perceptual objects in an inter-subjective field, giving the infant a point of reference, or “proto-



self” (Damasio, 2000, p. 154). The communicative repertoire is limited although not absent. Participation in communicative exchange, beginning with the cry, and other vocalizations and expressions, is evident from the outset. There is a level of communication embedded in the here-and-now that tends to be interpreted by the carer as a “mood sign” (Bateson, 1954, p. 132).

This is to say the infant is a participant in interaction that includes (proto-) symbolic exchange, from birth. The infant is *an iconic symbol, in the minds of significant others*, in addition to being an actual presence, even though the infant does not have self-awareness of this iconicity. The actuality of the infant-carer dyad has *felt significance for both*, although there is no “meaning” in a conventional, conceptual sense for the infant. This level is always present and, as a person-in-the-mind-of-others, gives bodily states their iconicity well before they become the subject of reflection by the individual self. This is another form of “unconscious” communication. This trajectory occurs on a continuous (analog), moment-to-moment timescale. It is likely that this level of “felt significance” in interaction continues throughout life endowing language, communication and relationships with a sense of liveliness.

In taking the infant’s “cry” as communication, we see it is a “sign” for the (m)other. The concept of “sign” is fundamental to linguistics, and the human sciences (Innis, 1985, p. vii). C.S. Peirce, and Saussure, in their own ways, emphasized that signs are not to be understood as a “name” for a “thing”. In Peirce’s terms, the sign is a “representamen”, which “*stands to somebody for something in some respect or capacity*” (Peirce, 1897, p. 5), connected to an “object” (in this case, the infant) by a (mental) “interpretant” (occurring in the mother) (Peirce, 1897, p. 5). Taken as a two-person system we see Peirce’s semiotic structure of firstness (representamen); secondness (object); and thirdness (interpretant). While the mother is usually capable of holding the infant’s cry, and its relation to the infant as “object” of her attention, the infant is not fully capable of “reading” the sign or holding it as an object of attention – hence the infant lacks “thirdness” in Peirce’s terms. The participation in communication is carried out unconsciously by the infant in a whole body, imagistic, iconic sense. To use the language of Saussure we could reasonably speak of this system as having a signifier, signified and significance (or a relationship of signification) (Saussure, 1959), although for the infant it only could be said to involve a signifier and significance.

This early period of development involves differentiation of systems of memory, contributing to pre-conceptual knowledge stored in implicit perceptual and procedural memory systems (Doidge, 2007, p. 229). Hence the infant comes to know movements through repetition and to recognize faces, expressions and gestures through repetition of perceptual presentation. Early involvement in communication also occurs at an unconscious, imagistic, iconic level for the infant on the receptive, as well as the expressive, side of communication. Although unreflective, these forms of knowledge are constantly being utilized throughout life as we move, speak and perceive. They become part of the individual’s continuity of being, colouring and shaping the emerging personality.

This trajectory into symbolic language also requires interpersonal developments, in the form of a mutually connected and responsive interplay between infant and carer. This typically involves a kind of intersubjective “dance”: the proto-conversation, (Trevarthen, 1974), where communication is social, for the infant, before it is conceptual (Vygotsky, 1934, pp. 34-5). Within this relationship, the infant is able to participate, and even able to initiate, vocal exchanges (Malloch & Trevarthen, 2009, pp. 1-6). Gestures and vocal expressions come to acquire distinctiveness, becoming points of reference within the particular dyad, again in a moment-to-moment way, although one that is increasingly differentiated, such that from about 6-8 months it becomes *indexical* in terms of the form of language exchange (Thibault, 2004, pp. 37-8; Halliday, 1975). That is to say the infant seems to have acquired the capacity,

at this point, to consciously use “signs” that have some specificity in a particular context of time, place and person and are not completely restricted to natural modes of expression (like the cry, or the smile). The infant appears to gain a conscious awareness of being an active partner in relationship. At this stage the infant’s communicative function involves participation at both *iconic* and *indexical* levels.

Finally the infant acquires competence in the shared language of the community, embodied by the carer(s). A huge range of concepts become potentially available and learnable, within the temporo-spatial flexibility provided by the lexicon and syntax of language. A new trajectory leading to the possibility of reflection on states of self, other, and the world, is opened up. The learning and application of concepts will be the work of a lifetime for each self. This process occurs on a different time scale, *proceeding at a much slower rate, closely related to the rhythms and memorization of language itself, rather than the constant flux of environmental images*. This time frame is properly thought of as the “trajectory of self” in that higher consciousness, as opposed to unreflective primary consciousness, is operant. The trajectory of self relates to episodes of personal significance, accessible to memory, and linguistic representation. These can be thought of as *self-states*, rather than states of passing phenomenal awareness.

These processes of self-realization, and self-understanding, occur over the life span, episodically, not continuously. This trajectory introduces elements of historical context and cultural tradition, as well as future anticipation, extending beyond the material life of the individual. Of course the earlier form of continuous, moment-to-moment exchange still occurs, in a way that embeds language, reciprocally, in bodily processes. Just as language is effected through the body, so the body is affected by language. In particular the autonomic nervous system, linked to the brainstem and hypothalamus with an array of central projections that, at a whole organism level, is thought to provide a continuously operating value system, strongly influencing perception and behaviour (Edelman & Tononi, 2000, pp. 46-7). Self-realization necessarily involves processes of reconciling this continuous stream of feeling state with the conceptual knowledge being appropriated from the social (external) institution of language, so that this knowledge can be “owned” and incorporated by self.

### **1.12.1 The symbolic level of participation; Operationalizing self-states**

While early development is characterized by *iconic* and *indexical* participation in the symbolic modality of language, the realization of a mature self requires a *symbolic* level of participation, providing the child with maximum communicative flexibility, and understanding, of the interpersonal environment. The way is prepared for this kind of involvement in the human world by the child’s engagement in *symbolic play* which follows on from the dyadic engagement of the proto-conversation and becomes characteristic in the child’s solitary play from about 18 months to the age of 4 or so (Meares, 2005, pp. 28-9). Here the child will often relate to toys as if they were personified others, talking out loud in a non-linear way that probably has a correspondence to later “inner talk” (ibid.; Vygotsky, 1934, 86-8). One of the values of play is that the child represents his, or her, personal experience, allowing emergence of a sense of distinctness, as well as of specific interests and abilities. Experiences that occur in play, symbolic or not, should not be mistaken as “abstract”: they are real for the child, or rather have the quality of being both real and not-real simultaneously (Bateson, 1954, pp. 132-3). Units of language are not abstractions but part of the material world (Saussure, 1959, pp. 15; 102). With respect to the adult “plays” of the Ancient Greek theatre, the view in “*Poetics*” is that tragedies were the highest form of theatre because they allowed integration of emotionally and morally challenging experience without recourse to actual violence, betrayal, or other behavior, associated with man’s inhumanity to man (Aristotle, 1996). Entry into participation in communication at the symbolic level is a

practical matter, in a world of material realities, and intellectual possibilities. It is not an escape into the immaterial or the abstract.

A different form of play (rough and tumble), shared with other mammals, is also of social importance. While it may serve a practical preparatory function for later adult behaviour, it also engenders positive affect, perhaps significant in helping infants and children support a broad affective range (Panksepp & Biven, 2012, pp. 351-2). The development of a capacity to encompass, and utilize, a broad range of affect is important in fostering a sense of vital engagement with life, allowing for affective investment in symbolic play, and the movement beyond the “indexical present”. Symbolic play, in contrast, has no counterpart in other mammals.

It should now be clear, since they occur on different timescales, that “conscious state” and “self-state” are not synonymous. “Conscious states” are required, however, for “self-states” to develop. A method of “measuring” self-states in the psychotherapeutic setting will be used and described in detail subsequently. In principle any such “measurement” needs to relate to the use by the subject (self) of images and language that make up the objects of reflection. It cannot be rendered directly in a numerical form since that would be an abstraction from the substance of what is to be measured.

This can be illustrated by asking someone to rate a video or audio-recording of him or herself, in terms of where they become aware of an “inner change”. Such a rating is necessarily retrospective, involving a reflective process. The person will not be able to register every shift of conscious state that occurred originally (that would have occurred kaleidoscopically on a scale of milliseconds). Rather, the person will comment on states that can be represented as meaningful: a semiotic process. Hence the response will be “I felt like such and such” at this point. “Self-states”, as opposed to “conscious states”, can only be located in a text, albeit the commonest form of text is living, acted, and spoken.

In the present study such shifts, reported in Part 3, occur at rates of from three seconds or so up to many minutes: a different order to the minimal states of Edelman’s primary consciousness (Edelman & Tononi, 2000). These are everyday experiences, akin to the notion of “present moments” (Stern, 2004). Stern argues the minimum time for a “present moment” relates to the timings of language (“of a phrase”) and, in neurological terms, to the time required for formation of a re-entrant loop between neuronal groups (Stern, 2004, p. 52). Of course, if one was looking for ratings of highly significant, life-changing experiences the time scale would be different again.

### **1.13 Flexibility in the system: the potential for transformation in the “zone of proximal development”**

Flexibility is generally considered a hallmark of a mature personality. The human brain and nervous system provide a complex interface with the environment, and an internal value system, while language provides us with an instrument that can be gradually appropriated to provide a medium for shared understanding with our fellows, and understanding of the external value system of the community. With maturity humans are held accountable for their behaviour, considered by the community as both agents, and authors, of their own lives.

In much scientific writing, a “bottom-up” form of causality is espoused. Hence the activity of neurons, and cells, are said to “cause” movement, speech, and so on. Of course such forms of causal relation bear little resemblance to forms of causality that we speak about in our personal lives where we say things like: “he committed a crime”; “she looks after her children well”; “I hit him because he hit me”, etc. In other words popular (and legal) notions of causality, and responsibility, are very much based in the notion of humans as causal agents.

When higher order consciousness is under consideration, it has already been argued that language has a constitutive significance.

In this case we cannot, therefore, consider the situation solely in terms of “bottom-up” causality. In the “L+1, L and L-1” schema (Thibault, 2004), it is clear that the human organism interacts reciprocally with the two interfaces: the material environment, including linguistic, cultural and historical circumstances (L+1) entrain the person (L) **and** the person’s cellular and neuronal processes (L-1) on the one hand; and the cellular, organic environment of the body (L-1) provides capacities, within the constraints of the organism’s perceptive and behavioural range, that will also be constitutive of the person’s being (L). Moreover the individual, in turn, impinges on, and changes, the environment (L+1) and, through re-entrant phenomena (Edelman & Tononi, 2000), its own nervous, and other bodily, systems (L-1).

Conscious states, as already discussed, tend to reach phenomenal awareness as unified “scenes” of the world “out there”, somewhat in the manner of a moving picture. While perceptual capacities in humans, and other animals, tend to be oriented out to the world, they are always also attached to kinesthetic images of the body, the “proto-self” mentioned earlier, and to “feeling”. Feeling is the phenomenal side of cross-modal perception, constituting an animating principle central to subjectivity and self, although vague and difficult to define objectively. In his paper “*On a certain blindness in human beings*” James argues that this incapacity to imagine what might be *felt* to be of most significance to others is often missed, particularly in scientific accounts (James, 1899). Similarly, if language is to be accorded its role as constitutive of both higher order consciousness and self, it is crucial for this lived dimension of feeling to be included in the account of language. Language as expressed, under the influence of emotion and bodily systems, will show shadings of inflection; disruptions of grammar; hesitations and silences; musicality with shifts in pitch and tone, reflecting the life of the particular person: we see language as a ‘form of life’, closely reflecting the bodily vicissitudes and pleasures of its users.

The flexibility and plasticity of the brain have been increasingly recognized in recent decades. Edelman describes the property of degeneracy in selectional neural systems as accounting for considerable flexibility in the system: “...there are typically many different ways, *not necessarily structurally identical*, by which a particular output occurs.” (Edelman & Tononi, 2000, p. 86) i.e. different pathways can yield similar results. While this capacity is present in other species, in humans, with more highly developed cerebral cortices, the quantity of potentially available pathways is greatly increased.

Just as the evidence of brain plasticity that has accumulated in recent decades, challenges old notions of fixity in neural systems, the study of structure in language also faces the challenge of variability (Butt, 2005). Halliday’s concept of *meaning potentials* is seen to be analogous to Edelman’s selectional neurobiology (Butt, 2005, p. 95). Halliday’s description of language, and its emergence from strict dependence on here-and-now phenomenal experience, through the acquisition of grammar and a common system of meaning, refers to the inherent “redundancy” in linguistic systems (Halliday, 1992, pp. 356-8). This is to say there are many ways of conveying a message: “...*collective human consciousness created a semiotic space which is truly elastic, in that it can expand in any number of dimensions*” (ibid., p. 356). This emphasizes the tremendous flexibility of the language system. The principle of redundancy is “*not that i) meaning is realized by wording and wording is realized by sound*” (which would emphasize precise one-to-one correspondences with little flexibility), but that “*ii) meaning is realized by the realization of wording in sound*” (emphasizing the unique instantiation of meaning in local conditions, and particularly meaning arising “as we speak”) (ibid., p. 357). Linguistics, in Halliday’s view, is a science of relations across strata, describing a “realizational model” of meaning, where special conditions apply to semiotic processes: semiosis depends upon the prior working of a social order, itself dependent upon biological

(living) levels of organization, and the primary level of expression through the physical stratum (materiality) (Butt, 2005). These special conditions optimally include sensitively responsive carers, who, with the child, constitute an environment that is a “zone of proximal development” (Vygotsky, 1934, p. 187). This reflects cooperative engagement, where the child is learning through participation: *“In learning to speak.... What the child can do in cooperation today he can do alone tomorrow”* (Vygotsky, 1934, p. 188).

Flexibility in “meaning-making” depends upon the *symbolic attitude* (Jung, 1923; Hobson, 1985, p. 101). In this case, rather than being constrained by the indexical present, there are infinite possibilities for the realization of meaning in psychotherapeutic, or other, interpersonal contexts.

Once the child enters the “speech fellowship” by learning the mother tongue, there is an ongoing relationship with language. An important determinant of this relationship is the initial affective condition under which it was learnt. Myriad idiosyncratic pronunciations, and literal meanings, will compete with conventional and contextually appropriate meanings, within the individual. This personal, inner language has been termed “language underground” (Baum, 1977, p. 93). It is seen as the basis of linguistic expression in works such as “Alice in Wonderland” – an aspect of wordplay, humour and imagination. The extent to which the individual is able to “play” internally with meaning in this way may have significant implications for the way in which reality is perceived. For some people there will be little play (flexibility), and language is perceived as only having conventional meaning, so that at any given time one is either “correct”, or not. Where inner play is lively there is flexibility, and the creation of “personal worlds”, with dream-like characteristics contributing creative potential to the wider world. Here meaning can be “this, that or the other”, depending on creative input at the time! (not to mention context; conventional symbolic meaning; and feeling). The flexible use of language enhances the capacity for shared meaning-in-interaction. Where there is little capacity to “play” with language, one is left with a restricted, stereotypical view.

Each person has his or her own “store” of inner language, or language held “underground”. The “inner speech” of adults has, in common with the form of speech exhibited by children during symbolic play, its function as “speech for oneself” (Vygotsky, 1934, p. 32). Although this does not always coincide with language the person uses in actual interpersonal exchanges, it does constitute a hidden resource that could be expressed in a psychotherapeutic context. If accessed, rather than “hidden” (repressed or dissociated) it has potential to contribute to growth.

In the preceding discussion of conscious states, mention has been made of the nervous system’s capacity to recall configurations (global mappings) of past experience, utilizing them automatically (“primary consciousness”) as a reference system for action in the present (Edelman & Tononi, 2000). This occurs in the context of ongoing interaction with the environment and continual modification by re-entrant activity in the nervous system that, in turn, modifies the global mappings. This is applicable to both conscious and non-conscious memorial processes and explains why memory is not replicative, but rather creative (that is always modified by new experience and behaviour) (Edelman & Tononi, 2000, p. 101).

Neural degeneracy and memory provide a substantial basis for the flexibility, adaptability, and ontologically-evolving, characteristics of humans. The parallels with symbolic linguistic systems that have flexibility provided by redundancy, and evolutionary potential provided by the freeing, through grammatical structure, from immediate phenomenal contingencies, have led various authors to consider that living linguistic systems mirror neural-organic properties (Lamb, 1999; Halliday, 1995; Lemke, 2000). Humans live in interaction and cannot help but

have “meaning” in interaction, even if it is often at the level of automatic selections linked to non-conscious feeling valuations, or the levels of iconicity or internal relational models, rather than “meaning” in the sense of well-defined, conscious meaning. In this thesis this form of “meaning” is termed **significance**. Selections are always “motivated”, both at the level of the nervous system, and the level of language (Butt, 2008; Butt & Lukin, 2009, pp. 4-6). The intrinsic system of valuation (feeling) is motivating insofar as it is a system that at times involves experiences of “reward” and “punishment”, or more subtle influences, with a continuous reinforcing influence on behaviour, experience, and neurological correlates. The affective sense of significance, rather than conceptual meaning, is the most fluid and dynamic aspect of persons at all levels, including the evolving nervous system. However, without language and gesture to give it effective expression, affect remains constricted, leaving the person with a sense of entrapment and limitation.

Under conditions of early trauma and neglect, there are often failures to develop the sense of interiority required for the emergence of an autonomous self. This may also manifest as chronic stress-like conditions in terms of limbic-hypothalamic-autonomic activity. Such conditions may, for example in the case of chronic sympathetic overdrive, reduce flexibility in the system, leading to psychological manifestations such as hyper-vigilance or stimulus entrapment (being dependent upon external stimulation for a sense of continuing existence) (Meares, 2005, pp. 88-96), and impoverishment of the interpersonal appreciation of language. Here “inner language” may also be deficient or inaccessible to the person themselves, through processes such as dissociation. This does not mean there are no hidden potentials within the traumatized person. It sometimes means that such potentials may be hidden, with change requiring engagement in a creative psychotherapeutic process: the establishment of a new zone of proximal development.

Growth in psychotherapy only occurs if the person is emotionally engaged, without being overwhelmed. Change is sought in areas of felt significance. In relation to language, Saussure is clear that the individual, by him, or her-, self, cannot change the mother tongue; rather the individual depends upon this language in a one-way dependency (the language is not dependent upon him or her) (Saussure, 1958, pp. 7-11). Both the traumatized and the psychologically well person are in the same position in this regard. Hence, if there is a change in self-talk, or the way the world is viewed, it is not through a fundamental change in the person’s language. Change, if it occurs, will be in the sense of use of language, and new affective investments, in different perspectives and orderings of the worldview, understood through the same language. Such shifts will be considered in relation to the notion of (*embodied*) *symbolic order*, where a transformation in worldview reflects new priorities for self, and new perceptions of the environment. Even apart from psychotherapy, the world is replete with stories of redemption, associated with a changed sense of order that may arise dramatically, as in an epiphany, or more gradually, as in the story of the “ugly duckling”.

Psychotherapy has potential to bring about change in the direction of greater understanding and realization of humanity. Such a process necessarily involves language. When Butt says, “*Given the intricacy of human meaning making – an intricacy which is both a function of its longevity and centrality in the evolution of human beings ....it is language which created humans, rather than humans language.*” (Butt, 1990, p. 346), he refers to the humanizing of humanity into social, cooperative groups rather than strict “biological” creation. Such is the aspiration in psychotherapy. Self is realized as an expressed and developing text, involving creative and reflective processes. To apply the description of redundancy in language systems (Halliday, 1992), to self, one might say: it is not that i) the person is realized by self and self is realized by language (which would imply some sort of formula in language), but rather ii) the person is realized by the realization of self through language (as a unique instantiation of the species in the conditions that pertain).

### 1.14 Traumatic impacts on language and personality

This vast subject will be approached in various sections that follow, although necessarily in a non-comprehensive way. Some brief introductory remarks are made here, with orientation to trauma, language and personality.

At an early stage of development, an infant is only a “person” insofar as they are related to as such: when an infant is consistently not related to as a person, as in the case of the Emperor Frederick’s “experiment” (see 1.1), he, or she, will not survive. Relating to an infant as a person typically involves “glossing” (Halliday, 1975) his, or her, behaviour or expression, into a linguistic form. This relates to the iconic level of language (i.e. what the infant “seems like” to the carer). For example, Halliday “glosses” an interaction with a carer, involving a greeting smile by the infant, as “hello, pleased to see you” (Halliday, 1975, p. 19).

The basic capacities present at birth such as grasping, sucking and crying, all serve, at least in part, communicative functions oriented to attachment and establishment of interpersonal interaction. Of at least equal importance, however, is the infant’s iconic communicational capacity: the propensity of infants to elicit care by virtue of being infants. To put a gloss on it: it is as if the infant were saying “here I am” in a way that demands to be noticed. When they cry, it is akin to the statement “here I am, help me”. In the situation of “good enough” care (Winnicott, 1960), the infant knows it has been seen through the response of the other, in accommodating to the infant’s needs, or engaging in playful interaction. Initial interpersonal conditions will have significant effects on the trajectory of later development.

In trauma, characteristics of repetition (Freud, 1920), and constriction, are associated with a sense of fixity, and failures in development. People with very different personalities may have common problems. For example difficulty in expressing vulnerability, and with creating an intimate setting in which vulnerability can be allowed, may be common to many different personality “types”. Vulnerability is a fundamental state of self, necessary to self-knowledge. Language may be both a help and a hindrance here. Where the acquisition of language has occurred in situations of interpersonal insufficiency, it may be acquired with predominantly instrumental and regulatory characteristics (Halliday, 1975). These may tend to reinforce trauma, rather than serving the social function of interpersonal connectedness, and pleasure-in-relatedness, that facilitate the safe expression of emotion. The experience of trauma dominates consciousness from the perspective of self, in part because of the intensity and dominance of unpleasant, “vehement” emotions. This may blind the individual to the contributions he, or she, makes to interactive experience. It is likely that some temperaments are predisposed to the experience of trauma: e.g. the putative “interpersonal hypersensitivity” phenotype described in Borderline Personality Disorder (BPD) (Gunderson & Lyons-Ruth, 2008); or temperamental difficulty with maintenance of cooperation, or repair of cooperation after disruption (also in BPD), associated with differential neurological activity in the anterior insula (King-Casas, et al, 2008).

In psychodynamic theory, mechanisms of defence and adaptation have been used as a method of differentiating different personality types, for instance on the basis of predominant “mature”, “intermediate” or “primitive” defences (e.g. Vaillant, 1977). The impression conveyed is of internal “mechanisms”. However, from a linguistic, interpersonal viewpoint, any such “mechanism” is likely to have its basis in actual interpersonal, communicatively-mediated interactions. Impingement on the organism often mobilizes physiological systems of defence that will shape patterns of attachment. In the interpersonal situation of an immature infant subject to severe impingement, the infant’s capacity for response is overwhelmed with a tendency to “shutting down” or “cutting off” (i.e. dissociative) responses. Circumstances of

repression may operate with a somewhat more mature infant, typically involving systematized punitive, or intimidating, behaviours, expressed through verbal and behavioural means, perhaps aimed at suppression of expressions of distress in the infant; sexual behaviour; etc. Repression is a political phenomenon (i.e. it occurs originally between people) whether at a societal or familial level. Similar arguments could be made for other adaptations: ‘mature defences’ probably have a basis in playful forms of interaction, allowing for social, and cooperative modes of coping.

The impact of trauma is not uniform, and healthy personalities may emerge, despite trauma. The flexibility the communicative environment offers is likely to be a factor. Humans have a remarkable capacity to find *enough* of what they need, even under adverse circumstances. Language and interpersonal communication provide an enormous resource that can be drawn upon. This contributes to an understanding of the “non-absolute” determinative relationship between adversity and personality outcome.

### **1.15 Psychotherapy as a science of personality incorporating linguistics: preliminary comments**

The attempt to develop scientific approaches to the study of personality has been closely intertwined with the development of psychoanalytic psychotherapy. In a sense each analysis provides an opportunity for both examining, and creating a new, personal world (Winnicott, 1988). For much of the twentieth century psychoanalysis provided the major basis for theorizing in the field. Observations that informed this body of knowledge arose largely in the private setting of the analyst’s rooms. Indeed, the maintenance of privacy and confidentiality are seen as cornerstones of the work. At the same time, the contribution of psychoanalysis to the broader community lies in the opening up of private worlds to public view, allowing the development of theories of mind based upon the report of the “in here” (first person) account, in dyadic conversation, rather than the “out there” (behavioural) account. It is through linguistic expression, in the mode of “free association”, that psychoanalysis has developed its corpus of knowledge, albeit often invoking meta-psychological (non-conversational) entities.

By adopting a more overtly linguistic turn in the study of psychology we make use of the intrinsically “universalizing” character of language: *“For when someone gives utterance to an idea, those who hear it change and appropriate it... once expressed to others, my message is no longer my own.”* (McCumber, 1989, p. 53; Redding, 1999, p. 152; Korner, 2003). In speaking there is movement to the public realm. Hence when the scientific study of language is included in the framework of study for personality, there is a turn towards the actual (what is actually said), rather than reliance upon invocation of a mysterious unconscious, while still retaining a number of “non-mysterious” forms, of non-, or un-conscious elements to personal interaction at various levels.

Developmentally the world is experienced personally, interpersonally, and semiotically, before it is experienced logically, or in a manner subject to precision in numerical measurement. The turn to linguistics as a science leads us to embrace forms of approximate measurement encoded in semiotic space, based upon meaning (established prior to the acquisition of number). This leads away from precise correspondences, towards measurement of properties, such as coherence, gestural and linguistic style, syntactic structure, expressive capacities, and abstraction, in the assessment of linguistic interaction and personality. Evaluation is stratified across levels of Context, Semantics, Grammar and Phonology. Within these realms quantitative evaluation of variables becomes possible.

This form of analysis is appropriate to the study of self, given that self forms in relation to exchanges of meaning in the communicative environment (episodic exchange), whereas more



continuous physiological variables and conscious states present at the L-1 level are amenable to existing quantitative approaches, as currently applied in biology. As both forms of study will be informative regarding the maturing personality, both are relevant to the scientific study of personality. While it will be interesting to look for correlations between the level of self and that of neuro-physiological phenomena, precision of correspondence should not be expected, given the different temporal scales of the two fields.

We live in the “information age”. When applied to computers, “information” is synonymous with “bits”. In scientific discourse it is often represented as “the facts”. Both of these forms are “disembodied”, stripped of the value that only linkage to living people supplies. While language may serve a “meta-function” for self and persons, it is not “immaterial”, or “outside the world of observable phenomena”. The streaming communication, the “trouble and bustle” of our lives is felt and represented both phenomenally and neuro-physiologically. In the psychotherapeutic arena the opportunity exists to extend the language-based findings of psycho-analytic discourse into whole interpersonal interaction, using combinations of the methods of biology and linguistics. This might, for example, involve the simultaneous real time recording of voice, visual representation and bodily response (e.g. heart rate, respiratory rate, sinus arrhythmia, skin conductance), while additionally offering opportunities for reflective self-evaluation.

In normal circumstances each person is born into an ocean of communicative action, happening around, and to some extent directed to, him, or her. It is this complex milieu of conversations, attitudes, approaches, separations, bodily explorations and, above all, other people, that provides the crucible for the development of personality. From a first person perspective, life proceeds with considerable uncertainty. Human destiny, at a personal level, is always, at least in life, waiting to be defined. Even from a third person perspective people surprise us. The science of personality, like personality itself, would do well to have a high degree of flexibility and delicacy in attempting the task of defining the great variety of patterns of human adaptation to life. The addition of linguistic science to this study has potential to provide a nuanced dimension to the field.



**Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

## **Part 2**

### ***Body***

**Heart and Soul:**

**On the relationship between self and body**



## **Heart and Soul: on the relationship between self and body**

### **2.1 Introduction and Summary.**

*“Metaphors which carry experience forward are those which disclose a meaning which is beyond, or prior to conceptual thoughts and formulated words. The significance is ‘felt in the blood, and felt along the heart’”.*

*Robert Hobson, Forms of Feeling*

The practice of psychotherapy is an embodied interaction, requiring sensitive attention to affective states, and awareness of bodily responses. The sense of significance in the interaction is very often *felt*, rather than experienced in a conceptually clear way, particularly when it comes to experience that is conflicted, or on the margins of the patient’s (or therapist’s) established zone of self-comfort. The therapist works with the immediate phenomena of “first person” experience: both of the patient, and therapist. The work requires resonance, effective emotional connection, and an intellectual grasp, of the situation.

In everyday language “heart” and “soul” are used to convey notions such as “with all one’s being”; “with feeling for another”; “with generosity towards another” and so forth. Expressions like “my heart is pounding”; “my heart skipped a beat”; “I couldn’t breathe”, are descriptive of another range of emotional experience, commonly encountered in clinical contexts. In Part 2 the connection between emotional expression, and basic physiological functions, such as breathing and heartbeat, is considered. The Polyvagal Theory, a physiological model based upon recognition of biological factors underpinning emotional and social interaction, is discussed and found to have implications for the conceptualization of emotional life that are different from the dominant models of the 20<sup>th</sup> Century.

According to this model Heart Rate Variability (HRV), closely related to autonomic function, is an important marker of metabolic, and self, regulation. A method of measuring HRV, thought to reflect the myelinated component of vagal activity, known as respiratory sinus arrhythmia (RSA), is utilized to demonstrate autonomic response. This method uses Respiratory Sinus Arrhythmia (RSA), a component of HRV related to vagal function. Where previous approaches have relied upon averaging of RSA over periods of several minutes, the method we have developed, using an algorithm known as “Similar Basis Function” (SBF), allowing estimation of RSA over short periods, relevant to dynamic processes in psychotherapy. Experimental data is presented which demonstrates autonomic regulation occurring during conversation, and in controlled conditions, illustrating i) the inverse relationship of HRV to respiratory rate; ii) slowing of breathing when speaking; increase of breathing rate in listening condition; and iii) synchrony of breathing rates and waveforms occurring in psychotherapeutic, and non-psychotherapeutic, settings. Problems with data collection and interpretation of data are discussed.

### **2.2 Traditional notions of breath, life and spirit.**

*“And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul”*

*Genesis: 2, 7(King James’ Version)*

Traditionally, “*breath... was ever the original of ‘spirit’*” (James, 1904 p.178). In the pre-technological era “soul”, or “psyche”, was seen as closely tied to the breath: the soul is considered present in the breathing individual, and to have “left” when breathing ceases, at death. This remains a reasonable definition of the journey of life, as a separate (human) being, at least as far as the “common sense” view (what can be readily observed), is concerned. Life begins with the first breath, and ends when we “breathe our last”.

One Ancient Greek definition of the “psyche”, describes it as synonymous with being alive: “*anything which possesses my psyche is the very same living thing as I am*” (Gregory, 1987, p. 649). Contrary to later notions of immateriality, the psyche is here tied to the material processes of life. Paradoxically there is a tendency in modern psychology, psychiatry and science, to dismiss the notion of “soul”, as unscientific, or unexplainable. This is paradoxical for “sciences” that are about “the psyche”. The traditional relationship of breathing to “psyche”, “spirit” and “soul”, serves to emphasize the *temporal* dimension of these concepts. In other words, for something to have value to the organism, and therefore be constitutive of the psyche, there has to be a rhythm and flow of exchange with the environment that occurs over time. The ebb and flow, and the cyclic and re-iterative patterns of the breath, follow a path of regularity, with irregularities, that tracks mental life. The modern tendency to objectify effectively freezes the body into “breathless stases”, lacking life; then endeavours to re-animate it, with mechanizing theories.

A common element to creation myths is the “spark” of fire: feeling, encompassing affect and emotion, can be seen as the source, of the metaphorical “fire” in the psyche. The myth of Prometheus involves, “stealing from the gods”, thereby giving man the “divine spark” that vitalizes him, motivating individuation and differentiation. However, even with breath, body, and feeling, the psyche would be impoverished without communication, recognition, and the provision of a speaking (“*language*”) environment. Conversely, without the feeling of human connection, and the comfort of human relatedness, language is empty, insufficient for fulfilment. In Mary Shelley’s allegorical tale, “*The Modern Prometheus*” (‘Frankenstein’), the “new” 19<sup>th</sup> century technology of electricity is portrayed as the Promethean “spark” of life. The story illustrates the implications of a “scientific creation of life”, outside a context of care: the creature is mistreated, as an object, with failure to take into account “its” psychological needs (Shelley, 1818). Psychological existence, for humans, involves communication and significance: humans don’t survive as pure isolates.

### **2.3 The breath as physical function continually in consciousness.**

*“I am as confident as I am of anything that, in myself, the stream of thinking (which I recognize emphatically as a phenomenon) is only a careless name for what, when scrutinized, reveals itself to consist chiefly of the stream of my breathing. The ‘I think’ which Kant said must be able to accompany all my objects, is the ‘I breath’ which actually does accompany them.”*  
(James, 1904, p. 178)

Given that James’ descriptions of the stream of consciousness are still considered to be, in a phenomenological sense, definitive of our current understanding of consciousness, the quote

above could be seen as laced with irony. However it is characteristic of James' use of introspection, to illustrate the limitations of what can be directly experienced and known. In a similar vein he subjects his own spontaneous thought processes to an *"introspective glance"*, and finds, *".....all (I) can ever feel distinctly is some bodily process, for the most part taking place in the head."* (James, 1890, p.300). While James uses humour, he doesn't speak carelessly. The point of his reference to breathing is not to question the existence of mental states; or the reality of experience. Rather, James states, *"I mean only to deny that the word (consciousness) stands for an entity, but to insist most emphatically that it does stand for a function"* (James, 1904; p. 163). Consciousness is a process, not a "thing"; while breathing is an accompaniment present in, and complementary to, consciousness.

During meditation one may focus on thoughts; sensations; feelings; "objectless awareness"; movements; or, most commonly, the breath. As James suggests, it is breathing that is ever-present, in its ebb and flow. Usually in the background of awareness, accessible to conscious control, although most often continuing in unconsciously driven cycles and rhythms; the breath is something of a barometer of our mental states. For example, over-breathing is well known as an accompaniment to anxiety. Expressions such as "catching one's breath"; "waiting breathlessly"; and "panting in anticipation", are markers of a variety of affective conditions. Unlike other visceral activities, the breath remains part of consciousness in a manner similar to feeling: ever-present to consciousness. Both contribute to the sense of continuity for self. Properties that are continuous in consciousness provide the individual with something akin to an analog scale, containing re-iterative, self-relational, information. However this information is not in a simple one-to-one relationship with different emotional states (Kreibig, 2010). In relation to thought and breathing, James' comment suggests an analogy between the two phenomena: the "ebb and flow" of breathing (breathing in and out), might be compared to the process of "taking in" (information) and "expressing" (one's position), that constitutes the basis of thought. The stream of thought, in its adult verbal form, develops as a stream of language. In turn, language has its ontogenetic beginnings in vocal interactions with the environment, for which breath is the vehicle.

## **2.4 Feeling, breathing, and distinction of "self-states", from minimal conscious states**

*"If the passing thought be the directly verifiable existent which no school has hitherto doubted it to be, then that thought is itself the thinker"* (William James, 1890, p. 401) While breath and feeling share continuity in consciousness, they have very distinct functions. The affective nature of human beings is an inbuilt value system (Panksepp, 2012), inseparable from body, providing sensitively-nuanced information to self, in relation to both environment, and the state of the body. Breathing clearly has a primary metabolic function, although it also serves a self-regulatory function. Breathing and heart rate vary with autonomic response, and so provide, amongst other bodily systems, continual feedback, variably present to consciousness. These are intrinsic contributions to consciousness, against which conceptual thought is continually being gauged.

The area of feeling is intensely personal: *"we feel as though they were in the soul itself"* (Descartes; quoted in Stocker, 1996, p. 19). Hence personal selves experience life in terms of

its affective qualities, of reward and punishment, being motivated to modify both self and environment: 1) towards positive experience; 2) to avoid negative experience; 3) towards affective expression; and 4) towards the organization of personal worlds to maximize these 3 dimensions of affective life (Tomkins, 1995, see also discussion in 6.2).

Feeling is an integration of cross-modal, sensory, and contextual, information, translated into the “language” of affect, involving the deep structures of the limbic cortex. There has been interest in the role of the amygdala, in relation to the experience of affect. While the role of the amygdala in mediating fear has been well-studied (LeDoux, 2000), it has also been found to be important in facial recognition, social responsiveness and the appraisal of the valence of situations, thereby “updating representations of value” (Morrison & Salzman, 2010). This suggests a role in the process of apperception, in relation to the environment. However, the amygdala does not generate affect “by itself”. While important in the detection of environmental dangers, Panksepp comments that its role in the “*generation of affect....has been vastly exaggerated*” (Panksepp, 2008, p. 48).

The capacity of humans (and other species) to **apperceive** refers to the “*ability to understand perceptions in their context; to interpret them appropriately; to connect them with each other and form associations; and to incorporate them into total experience*” (Sims, 1988, p. 41). Feeling, in imbuing value to perception, is central to this capacity. Affective appraisal systems “*connect stimuli with their intrinsic or learned affective value*” (Niedtfeld I & Schmahl C, 2009, p. 48). Feeling tones are experienced cross-modally. This means, for example, the same feeling aroused by rhythmic touch, could also be produced by an action pattern, with a similar rhythm and intensity, in a different modality, such as a vocal / auditory stimulus. So, while feeling is always “in the body”, in the sense of being embodied, it reflects a “whole person experience”, rather than a localized sensation. Hence feeling is reflective of the experience of self, as a whole: “*I consider affect to be psychic, not just bodily*” (Stocker, 1996, p. 18-19).

In making reference to the “*passing thought...(as) the thinker*” (James, 1890, p. 401) , James refers to the “chunking” of consciousness into states (the “thought”), which have a rise and fall, and contain memory of the preceding state(s), as well as a feeling component (James, 1890). While he uses the term “thought”, he is referring to states that are continuous from the beginning of life, preceding verbal thought. These states have earlier organization around an affective core (Emde, 1983) and, even earlier, around the emergent perceptual, and procedural, patterns of interactive experience (Stern, 1985). The early organization of the mind, through feeling, and various image patterns, are now thought to be more dependent upon the right cerebral hemisphere than the left (Schoore, 2012). The role of the right hemisphere in processing emotion, imagery, and aspects of social engagement, like facial recognition, continues throughout life (Schoore, 2012). The overlap between mental states, provided by memory and feeling, allows for the experience of continuity in consciousness, necessary to the emerging experience of self.

Measurements of conscious states, show that “chunks” of consciousness can be very brief, literally a small fraction of a second, although there *are* limits. For example, “a visual scene presented for a short time to avoid eye movements.... we can accurately report just 4-7 independent features” (Edelman & Tononi, 2001, p. 26). The *psychological refractory period* means that we can’t make more than one discrimination within a few hundred



milliseconds: “*regardless of how much we practice we cannot learn, say, to discriminate simultaneously between two tones and two shapes; one discrimination must be completed, which takes at least 100-150 milliseconds, before the other one starts*” (Edelman & Tononi, 2001, p.27). Such brief periods of consciousness are not available to the reflective consciousness of self, in the main being subsumed under what James referred to as “flights”, in the stream of consciousness (James, 1890, p. 243).

Daniel Stern gives consideration to ‘chunks’ of consciousness sufficient to be psychologically meaningful, and reflectively accessible, using the phrase, “*the present moment*” (Stern, 2004). He makes the point that while humans can “perceive” separate events, in a sequence that lasts as little as 20 ms, such ultra-brief experiences “*do not make life meaningful*” (Stern, 2004, p. 41). He argues that the “present moment” of experience is determined by “*the duration of a phrase*” (ibid, p.42), generally of the order of 2-10 seconds. This is consistent with the theory of Systemic Functional Linguistics where the clause, which provides context as well as content, is seen as the basic unit of language (Halliday, rev. Matthiessen, 2004; Butt et al, 2000). In an interpersonal context, Stern also relates meaningful experience to turn-taking, involving exchanges in cycles of 2-3 seconds, between 2 speakers. Ultimately these cycles, the timings of the clauses of language, are related to breathing, given that one cycle of inspiration and expiration takes about 3 seconds, on average. Stern also refers to the flexible encoding, neurally, of meaningful chunks of experience, via the “re-entry” loop described by Edelman (Edelman & Tononi, 2000). Stabilization of the re-entry loop requires that events in experience be sufficiently salient, that is have sufficient significance, as “measured” by the feeling / emotional accompaniment of the experience. “*The present moment is the time it takes for such a loop to be sufficiently stabilized to give rise to consciousness*” (Stern, 2004, p. 53) Here Stern is referring to not just a bare awareness of the environment, but awareness of that awareness, i.e. self-awareness.

This means that ultra-brief conscious states are not synonymous with mental states effectively available to the self, the situation closer to Stern’s “present moment”. Such states, available to self, might reasonably be termed “self-states”. A method of accessing and reporting on self-states in psychotherapy will be discussed in Part 3 (3.7.1). The periods of time that support reflective consciousness are the time scales of breathing, and vocalization. These are the conditions that allow for feeling, and thought, to be “seen” by the mind. Early on, this relates to the spans of time required for emotional, and vocal, reception and expression; and later to the timings of language, related to the breath, and to clause structures.

## **2.5 The relationship of language to the cardio-respiratory apparatus**

*“We sing before we speak”*

*Russell Meares*

Communication, between living creatures, is transmitted through various sense modalities. In humans, the modality of sound has become highly developed through language. Communication, between people, can be understood developmentally, as a resonating social exchange, with increasing semiotic differentiation, before it is expanded, in its scope, by the complex conceptual / symbolic network of the mother tongue. Humans respond in an

embodied way to significance, affectively, and through action, before they understand, specifically, what is “meant”, in experience. All responses involve the Autonomic Nervous System (ANS), and the cardio-respiratory apparatus. For example, the newborn cries: without “knowing” the reason, or questioning why such an outlay of effort, and arousal, has been made. The cardio-respiratory apparatus (CRA) can be seen as one functional unit, with a primary function of metabolic regulation. It is closely integrated with the ANS, which, in turn, is integrated with the central nervous system “*at all levels of nervous activity*” (Kreibig, 2010, p. 396). Moment-to-moment cardio-respiratory regulation is largely mediated through vagal regulation of the CRA, under normal conditions, because only vagal / parasympathetic mediation occurs with sufficient rapidity, to correspond to breathing cycles, in the timings of the “present moment”, as described previously: the parasympathetic nervous system (PNS) can exert a peak effect on the CRA over 0.5s, with a return to baseline functioning over 1s; whereas the sympathetic nervous system (SNS) takes 4s for its peak effect, and 20s to return to baseline (Appelhans & Luecken, 2006, p. 230).

Vocalization begins in humans, and other mammals, with the “cry” that occurs at birth. While this occurs, one might say, unconsciously, it is not without significance. It is “meaningful”, in its interpersonal context. While often seen as a sign of distress, the cry also serves a communicative function, and is referred to in scientific literature as the “separation”, or “isolation”, cry, or call (e.g. McLean, 1985). This makes the infant an (unconsciously) effective participant in communication. This evolutionary development relates to modifications to the respiratory, and auditory, apparatus (McLean, 1985), across mammalian species. In humans, these modifications have allowed the development of complex vocal expression. At least in its manifestation as physically produced sound, speech is a complex modification of breathing. The first breath also signals transition from the relatively passive relation to the environment, *in utero*, to an active one: breathing requires inspiratory effort, which must continue, if the infant is to survive. The isolation, or separation, call is of evolutionary significance for all mammals. It highlights the fundamental need for newborn mammals to be “accepted”, or “included”, into the family (species grouping), into which they are born.

Beyond the direct connection between speech and breath, there is an analogical relationship between breathing, and language. Both are “interpenetrated” relationships connecting individual and environment. Just as we are born into a world surrounded by air that we must take into (inspire), and let out of (expire) our bodies, for survival, so we are also surrounded by a peopled, and languaged environment that we must also “take in” (hear, listen), and “let out” (express, speak), for survival as effective social participants. While respiration is essential to our physical survival; language, and an effective voice, are essential to psychic survival, and the growth of self.

The capacity to participate in communication is present at birth. Apart from the separation call, infants are born with a capacity for vocalization, and turn-taking, that reveals rhythmic, narrative, and musical qualities, that has been termed “communicative musicality” (Malloch & Trevarthen, 2009). We are participants in communicative exchange, before we develop symbolic language. It has been said, “*the earliest speech of the child is.... essentially social*” (Vygotsky, 1934, p. 81). Narrative form is also evident in the vocalizing exchanges between

infant and carer, occurring in the neonatal period (Malloch & Trevarthen, 2009). The role of these interactions in modulating affect is evident from this early period. Interactions with carer engage the autonomic networks of the infant, with moment-to-moment regulation of feeling being modulated through the parasympathetic system, also thought to modulate the CRA during social engagement.

### **2.5.1 Developing hearts and minds**

The heartbeat is another bodily rhythm sometimes present to consciousness, although more intermittently so than breathing. Even *in utero* the rhythms of heartbeat, both of self, and mother, are likely to be, at times, present sensations to the developing foetus. In relation to language, it is of some note that sound units of speech (phonemes) correspond approximately to the range of intervals of the human heartbeat, while “meaning units” (clauses) correspond, approximately, to the range human breathing. After birth, variation of heartbeat occurs principally in relation to breathing, through the phenomenon known as Respiratory Sinus Arrhythmia (RSA). Variability of heart rate is of greater amplitude, when the individual is in a non-stressed condition (Porges, 2011). Heart rate variability is a vagally-mediated phenomenon, thought to be important in optimal metabolic regulation, under conditions of perceived “safety”.

Variability in heart rate occurring in relation to breathing was first recognized and measured in the 1733 by Stephen Hales, reflecting the increased availability of accurate timepieces (Hales, 1773; cited in Kenwright et al, 2008; Billman, 2011). The continual variation of heart beat intervals, known as Heart Rate Variability (HRV), has been shown to have implications for health. Reduced HRV is associated with increased cardiac and mental morbidity as well as reduced life expectancy (Billman, 2011; Kemp et al, 2010). Specifically, depression that doesn’t improve with antidepressant treatment, associated with higher cardiovascular morbidity, has been shown to correlate with reduced HRV (Kemp et al, 2010; Schwerdtfeger & Friedrich-Mai, 2009). Reduced HRV also occurs in the early stages of bereavement, suggesting a possible mechanism for increased cardiovascular morbidity in this period (Buckley et al, 2012). Slowing of the breath, through meditative techniques (Rubia, 2009), or using biofeedback (Gevirtz, 2003), has been shown to increase HRV. Conversely increasing respiratory rate has been shown to decrease HRV (Hirsch & Bishop, 1981). This raises the question of the possible effect of speech on breathing, and, in turn, on HRV, and autonomic activity.

This functional relationship, between breathing and heart rate, can also be seen in analogical terms that have communicative, as well as metabolic, significance. The infant is born and takes its first inspiration, involving effort. With the first expiration, the infant cries, an unconscious communication: the “separation” call. This communication is understood to facilitate social inclusion, across mammalian species. There is a creative analogy to be made between the physical act of inspiration, necessary for animation of the body, and the psychological experience of “inspiration”. Similarly the experience of expiration as “relaxation”, or “letting go”, bears similarity to the emotional / psychological process of “letting go”. When the expiration is oriented to communication, through speech, or emotional expression, there is an “expiratory”, communicative effort, subserving the same function as

the original “cry” of the infant. That function is to enhance social connection in the human social world.

The associated physiology reflects these functions: when we inspire there is a temporary “gate” on vagal influence, functionally meaning a relative preparedness for activation or mobilization; while with expiration there is reinstatement of vagal influence, consistent with relaxation / receptive function (Applehans & Luecken, 2006). However these influences, under non-stressed conditions, are small. Vocalization increases the effort of expiration, and is associated with a shortened RR interval, but does not, in itself, exert a significant influence on RSA (Kotani et al, 2007). This is consistent with vocalization and speech being activities compatible with a sense of social safety. In the context of an emotionally-engaged psychotherapy, conversations occur that will, at times, have significant emotional content. This can put participants in the position of experiencing significant mobilization of the ANS, and cardio-respiratory apparatus. Indeed, these areas of most emotional significance are likely to be important in the process of therapeutic change (Schore, 2012). For both patient and therapist management of these states is crucial to the outcome of the therapy.

Vocalization itself plays a part in the maturation of the respiratory apparatus, and is thought to contribute to the strengthening of the chest muscles, allowing the infant to shift from paradoxical breathing, to coordinated movements, involving chest and diaphragmatic musculature (Reilly & Moore, 2009). In turn this coordination is required, for the support of more complex vocalizations. The spoken word from carers, and the infant’s vocalizations, provide opportunities for resonance, important to the sense of social connection, long before the infant acquires language. In the first place vocalization, or pre-verbal expression, is primarily social. Spoken language *continues* throughout life to serve a primarily social function, in interpersonal terms. Notions of scientific, legal, or cultural “truths” come later and, even then, serve social functions additional, in the case of scientific truth, to any status as “fact”.

## 2.6 “Measuring” hearts and minds: Analogical Fit.

*"Humans are the measure of all things: of things which are, that they are, and of things which are not, that they are not"*  
*Protagoras, c. 440BC (Audi, 1995)*

This famous dictum highlights the phenomenal, and relative, nature of the human world:

*"the use of the word "χρήματα" (chremata: “valuable things”) instead of the general word "ὄντα" (entities) signifies that Protagoras was referring to things that are used by or in some way related to humans. This makes a great difference in the meaning of his aphorism. Properties, social entities, ideas, feelings, judgements, etc. are certainly "χρήματα" and hence originate in the human mind. However, Protagoras has never suggested that man must be the measure of the motion of the stars, the growing of plants or the activity of volcanos."*(Wikipedia, 2012)

The sense of “measure” here, relates primarily to phenomenal experience. That is, to knowledge acquired personally, or privately, rather than distanced forms of knowledge, such as forms of measurement utilized in objective description of a thing, or process, often

involving numerical, or instrumental, measures. Phenomenal “measures” include the sense of “liveliness” attached to experience: essentially a “felt” quality. It is the investment of the objects of the world with feeling that is central to the sense of connection with the world (Greenspan & Shankar, 2004). Protagoras also encompasses “things which are not”, and hence allows space for “negative”, or “absent”, qualities. This element of human experience is missing in a philosophically positivist account. By negative or absent, one is referring to “that which isn’t seen or sensed”. From an intersubjective viewpoint, however, much of what isn’t seen can be accounted for by a restriction of the view, implicit in the observation of the individual in isolation. In the experience of relatedness that forms the basis of “meaning” in human life, it is what happens “in relationship” that is of primary importance.

Interaction between people will be sensed as meaningful, even when there is no explicit statement of meaning (no verbal exchange). The phenomenon of “primary consciousness”, probably involves an automatic “selection”, of the past experience of “best fit”, assisting in immediate contextual evaluation (Edelman & Tononi, 2000). Although it makes use of implicit memory, this is a non-conscious operation. In developing his concept of “neuronal selection”, as a model of brain function, Edelman uses an analogy relating to operation of the immune system, where it has been demonstrated that the antibody response to antigens is recruited, not on the basis of a “precise” fit, but rather on the basis of “best fit”, given the individual’s *prior* exposure to antigens (Edelman & Tononi, 2000, pp. 82-3). From an experience-near perspective, the mode of primary consciousness is thought similar: *past* experience that gets recruited, would have elements of procedural – perceptual “readiness”, helping to orientate the individual to the present moment, without the individual’s awareness of these operations. The presence of feeling in experience confers a sense of value, with positive, negative or neutral valence, such that behavioural repertoires will be activated in a manner optimal for the individual, in a given context.

Such patterns may relate to experiences of knowing; connection; orientation; and familiarity, typically sensed, rather than conceptually defined. Where feeling-based evaluation is not operating optimally, the individual’s “measure” of situations, and consequently his, or her, response, may be deficient, or maladaptive. The concomitant of humans being affectively attuned to environment is that situations are experienced in terms of “matches” and “mismatches”, primed by past expectations. Danger-related mismatches are often processed over short time periods, with obvious value in terms of immediate survival (Williams & Gordon, 2007). However it is the “matches”, associated with reward-related stimuli, and situations, that “*may be considered relatively more important to safety and survival at a longer time scale*” (Williams & Gordon, 2007, p. 350). Rewarding experience is central to the development of a robust, mature self. Emotional processing seems to occur with greater rapidity in the right hemisphere than the left, throughout life (Schore, 2012). In a sense response to emotional cues, and images, comes into conceptual awareness (left brain processing) *via* the right hemisphere (Schore, 2012).

Edelman’s model argues that higher order consciousness, arguably the defining characteristic of the “human world”, is not possible without language (Edelman & Tononi, 2000, p. 102). The involvement of language, “owned” by speech fellowships, in higher consciousness means, for each person, the full realization of mental capabilities arises from an intrinsically interpersonal field, which is *a priori*, relative to the developing infant. The individual must learn the mother tongue, before language can take on a “life of its own” within, bringing reflective consciousness into being. When we imagine language as “a form of life” (Wittgenstein, 1958, PI 19), we make an analogy between language, and the forms of interaction that facilitate its development. Verbal choices made in spoken interaction are also likely to be influenced by a similar “selection” process to that outlined for primary

consciousness. The presence of feeling in spoken interaction contributes to its sense of value, although there are now also present the features typical of the human world: the symbolic, grammatical and conceptual elements, present in language, that bring with them knowledge beyond the indexical present, making the human world one of awareness of past, present and future, where the symbolic is interpenetrated with the real.

In the 21<sup>st</sup> Century there has been a growing shift away from the view of life as mechanism, towards the “*contemporary concept of life forms as self-modifying beings*”, coinciding with the shift from “*a mechanistic to informatics view of living organisms*” (Shapiro, 2011, p. 4). This view emphasizes the capacity for organisms, from single cell level, to complex life forms, to sense the environment, and actively transform themselves, on the basis of this information, even at basic levels such as DNA structure and protein production (Shapiro, 2011). The ebb and flow of the relationship with the environment, as exemplified in breathing and feeling-in-relatedness, is constitutive of an interpenetrated *living* relationship, not simply a mechanistic “processing”. In Freudian theory, pleasure is conceived of in relation to accumulation of “*unpleasurable tension*” followed by efforts towards “*lowering of that tension*” (Freud, 1920, p. 275); unpleasure “corresponds to an *increase* in the quantity of excitation” and “*pleasure to a diminution*” (Freud, 1920, p. 276). The *pleasure principle* was seen as central to motivation (Freud, 1911), even though pleasure was defined negatively (relief of tension). In contrast the CM argues for pleasure as positive well-being, experienced through the sense of connection, warmth, play and cooperative action with others that is primary to development of self (Meares, 2005). Where tension and relief speak of mechanisms within a solitary organism, conceived as a machine; ebb and flow implies reciprocal exchange with environment. For humans this is carried on through communicative exchange.

### 2.6.1 Measurement in psychotherapy.

For psychotherapy there is a task of finding measures that illuminate therapeutic process. These would need to be meaningful, at both individual, and interpersonal, levels. Methods that chart “*the movements of inner life.... Indirectly, through the study of language,... can discern shifts in the flux of personal being*”, which, coupled with direct measures of autonomic responsiveness, could inform study of the “*therapeutic interchange*” (Meares et al, 2005, p. 663). Statistical approaches that objectify experience do not inform us directly about an individual, or a particular relationship. Modern tendencies to standardize, and objectify, lead to a distancing from experience, and a de-contextualization of the individual: “*a push to ‘de-world’ the patient, transforming experience through the lived body into an objective body fully perceptible from the third person perspective*” (Frenkel, 2008, p. 72). One is left with a body, or mind, in isolation. Such measures may help to categorize people, but they do so at a cost, with loss of specific, affectively-based information. The embodiment of communication, means that spoken / heard language, cannot be considered separately from psychic experience (‘psychic’ being taken as ‘whole body/being’) (Stocker, 1996). The relationship is interpenetrated, with physiological homeostasis, as well as psychic equilibrium, being maintained by self-regulatory tendencies, constantly in play in interaction. These tendencies have the characteristics of flexibility and “non-stationarity”, i.e. “variable regularity”, rather than constancy, or fixity. It is not the case that language provides us with a symbolic medium, in which symbols can be manipulated in the mind, without attendant bodily changes. Rather, “*language cuts to the quick*” (Butt et al, 2007/10, p. 271), and accounts for what can at times be radical, and substantial, physiological shifts, over short periods relating to the “present moment”. The parasympathetic component of the ANS is implicated in this kind of rapid response, the sensing of “something not right”, mediating orientation to safety and threat, from within (Goehler, 2006).

For objective data to be psychologically meaningful in psychotherapeutic terms, it is desirable, not only to demonstrate shifts within the individual, but also *between* the two participants in the psychotherapeutic conversation. This is particularly so, since many psychodynamic theories, including the Conversational Model, are based upon an intersubjective (“2-person”), rather than an intrapsychic (“1-person”) paradigm. Growth in the therapeutic relationship is thought to precede growth of self (Meares & Jones, 2009; Schore, 2012). This is analogous to early development, where experience occurs *between* infant and carer(s), before a secure sense of “internal relationship”, is acquired. The form of matching, between patient and therapist, that is required is not exact imitation, or perfect fit, but rather one involving recognition, similarity, and “good enough” fit (Meares & Jones, 2009; Fonagy et al, 2002).

Scientific research, in both the physical, and human sciences, has relied considerably on probability theory. Probability theory rests upon assumptions of an “all or nothing” relationship: either one is or has a certain characteristic; or not. Statistical methods answer the question of the likelihood of such “set membership”. Philosophically it answers the question, “Is this object a member of set y?” In contrast “fuzzy logic”, developed by Zadeh as a method of handling data, allows “partial set membership” and “partial truth values”, more closely resembling human control logic (Kaehler, 1998). This allows the development of control systems that operate on the basis of approximate / partial values. In a metaphorical sense, variables can be treated like “the glass half empty”; or “the glass half full”.

The logic of human control systems is based in language, rather than strict numerical measurement. Instructions, in fuzzy logic, are based upon an “*if.....and.....then.....*” linguistic structure, applicable to various systems, such as temperature regulation. “*If the process is too cool, and the process is getting colder, then add heat to the process*”, can be applied as a regulating instruction to machines, in ways that are intuitively closer to the way a person would regulate temperature in a situation such as “having a shower” (Kaehler, 1998). Fuzzy logic, when applied to control systems, has the characteristic of providing successively better approximations, with further iterations of recognition, and “measurement”, of the ongoing process in question (Wikipedia, 2012). Many living processes involve iterative surveillance, and adjustment, with gradual achievement of greater precision, even at a cellular level: “*the most applicable cybernetic models are **fuzzy logic** control systems. In such systems, accurate regulation occurs by overlaying multiple imprecise (“fuzzy”) feedback controls arranged so each successive event results in greater precision*” (Shapiro, 2011, p. 14). This may provide an approach relevant to the ongoing processing of emotional interaction in psychotherapy, measured analogically against the language of the psychotherapeutic conversation, where repeated iterations of emotional configurations are to be expected. It is also consistent with the views of Wittgenstein, and Sapir, that much human behaviour, including habitual forms of communication and expression, are deeply embedded in language, social networks, and culture (Sapir, 1951; Wittgenstein, 1958). Complex behaviour cannot be understood at purely objective, or numerical, levels. Further consideration will be given to language as a form of analogical measure in relationships in Part 3.

The notion of approximate responses, that nevertheless have a positive relational intent, is well known in psychotherapy. Positive therapeutic intent was emphasized by Winnicott, making the analogy to the mother with caring intent, generally proving “*good enough*” for her infant (Winnicott, 1965). Following Winnicott, it has become common to speak of the “good enough” therapist. In psychotherapy, the patient is participant in an emerging relational experience, subject to continual “measurement” of an approximate, affective kind that includes the apperception of safety, i.e. the sense of the valence of interactions. Given that conversation is a clear focus of attention in psychotherapy, it would be expected that shifts in

the sense of self would occur around emotionally salient moments of conversation, and that this would be reflected in shifts in the ANS, reflected in variables such as heart and respiratory rate; HRV; and skin conductance. These shifts would be expected, not only in the patient, but also in the therapist. It is also possible that some degree of co-variance may be identifiable. Manifestations of the ANS are generally seen as non-conscious, or unconscious, psycho-physiological phenomena. Hence the development of techniques allowing their measurement could provide a window into unconscious interactions. A key issue, in terms of collecting data relevant to psychotherapy process, is to be able to identify changes that occur on the scale of the present moment (2-10s). This time scale represents a unit of experience accessible to self. Many current methods rely upon measures taken over significantly longer periods of time, making assumptions about the steadiness (“stationarity”) of rhythmic waveforms, like heart rate. In fact signals like heart rate are not highly regular. Indeed, the irregularity of heart rate is a matter of clinical interest, given the implications of HRV for health. An approach will be described (below, 2.8), with potential for meaningful measurement of HRV over psychotherapeutically significant time intervals, without assumptions of stationarity. However, before describing this method, the relevance of the ANS to social function, and its role in relation to spoken language, is considered.

## 2.7 The Polyvagal Theory

*“The sympathetic nervous system has long been associated with emotion and stress. The label sympathetic reflects the historical identity of this system as a nervous system with feelings and contrasts it with the parasympathetic nervous system, a label that reflects a nervous system that guards against feelings.”*  
(Porges, 2001, p.131)

The Polyvagal Theory, developed by Stephen Porges, is one of two major current psycho-physiological theories of autonomic function (Appelhans & Luecken, 2006). It relates autonomic flexibility to experience in social interaction, with a division of the vagal nerve providing fine-grained regulation of metabolic, and emotional, response (ibid.). The theory is based upon an evolutionary understanding of the development of the ANS, with emphasis on mammalian, and human, patterns of social engagement, whereas the other major theory, of Thayer (Thayer & Lane, 2000), takes a dynamical systems perspective, with emphasis on the role of the central autonomic network (Appelhans & Luecken, 2006). As Porges suggests (above), the polyvagal theory entails a significant revision of the understanding of emotional life, away from a focus on sympathetic arousal, towards recognition of the regulation of feeling, and metabolism, in everyday social life, mediated by the evolutionarily recent, myelinated division of the vagus nerve. Effectively it also provides a model linking brain to both body, and environment, allowing an understanding of the brain as providing a complex interface for reciprocal interaction with the environment, rather than serving as a central control system, as is the case in the Thayer model.

The 20<sup>th</sup> century view of emotion, largely related to sympathetic arousal, casts emotional life in primarily “defensive” terms, with frequent reference to activation of the hypothalamic-pituitary-adrenal axis. This may be appropriate to stressful, traumatic effects on the individual, but fails to capture the nuance of affective life. Porges argues that the polyvagal theory provides *“a bidirectional brain-body model that interprets the brain regulation of peripheral physiology... as providing a neural platform for emergent adaptive social and defensive behaviours”* (Porges S, 2011, p. 3). The emphasis is first on what is social, and normative, rather than on defence, or pathology. The lynchpin of the polyvagal theory is the “orienting” response, i.e. the orientation of the individual to perceived safety in the



environment. This allows people to deploy attention, and behaviour, in manners appropriate to the circumstances. From this standpoint, the system of feeling becomes understood primarily as an *evaluative* system, rather than a defence system, allowing flexible allocation of metabolic and attentional resources, to situations of social engagement, or, alternatively, to varying levels of challenge and threat.

The theory posits an evolutionarily-based hierarchy of autonomic function (ibid.). This hierarchy consists of: 1) the “smart” vagus (evolutionarily recent), subserving a function of social engagement; 2) the sympathetic nervous system (evolutionarily older), described as a “mobilization” system, adapted to activate efforts, in the face of threat or challenge; and, 3) the unmyelinated vagal system (evolutionarily ancient), subserving primarily a defensive function, activated in response to the sense of “life threat”, with relative metabolic shutdown. The “smart” vagus, so-named by Porges, consists of myelinated nerve fibres, with a distinct central nucleus in the brainstem, the Nucleus Ambiguus (NA). This part of the vagal nerve has a distribution, involving organs and muscles above the diaphragm. The unmyelinated vagus has, as its central nucleus, the Dorsal Motor Nucleus of the Vagus (DMNV), in the brainstem, with a distribution to viscera below the diaphragm.

Porges refers to the capacity for “neuroception”: the detection of conditions of safety, danger, and life threat, in the environment (ibid.). This concept seems similar to apperception, organized around the sense of valence, discussed earlier. The interpersonal environment is critical: the presence of a “safe other” makes a major difference to the likely perception of safety, consistent with many developmental theories in psychology (e.g. Bowlby, 1968). While threat may sometimes be overt, such as when a person is subject to imminent attack by a predator, it is important to note that, for humans, much of the sense of safety, or danger, is *communicated*, in everyday interactions involving language. Given that response is to *sensed* significance in relation to *self*, it is quite possible for spoken language to carry a devastating significance, for self, in the absence of explicit threat to life and limb. Indeed, such situations are more common than direct threats to life itself. Sometimes the autonomic implications may be similar.

In an evolutionary sense, these developments in the ANS are shared with other mammals, for whom characteristic nurturing bonds between parent (usually mother), and newborn, are critical to survival (Porges, 2011; Panksepp, 2012). Mammals, particularly humans, have also developed needs for physical, and psychological, closeness, with a behavioural repertoire that requires a degree of immobilization in the presence of others: sexual intercourse; breast feeding; and relational / conversational intimacy, being examples. Porges postulates that unmyelinated vagal circuits, subserving the defensive function of metabolic shutdown, via “freeze” or “death-feigning” behaviours in many species, have come to be co-opted, in humans and some other species, under the influence of the neuropeptide oxytocin, to allow, under safe circumstances, the experience of “*immobilization without fear*”, necessary for the formation of strong pair bonds (Porges, 2011, p. 178). More generally, recent research, in mice, suggests that the coordination of oxytocin activity with serotonin, in the central nervous system, is required, for the reinforcing, rewarding properties of social interaction to be evident (Dolen et al, 2013).

The myelinated vagus innervates the voluntary musculature of the face and neck, along with the closely associated pathways of the facial, trigeminal, accessory and glosso-pharyngeal nerves. Phylogenetically, these structures have a common origin in the branchial (“gill”) arches (Porges, 2011). While they have developed into the musculature, and organs, of social engagement, the ancient evolutionary role in metabolic regulation is not altogether lost: “*even when the gill arches evolve into the branchiomic muscles common to all mammals,*

*oxygenation of the blood through a coordination of breathing and heart rate during interactions with the environment remains a primary functional objective.*" (Porges, 2011, p. 38). These structures are responsible, not only for facial expression, but also for, orientation, and disposition of attention, through head-turning; prosody of the voice, sound production; coordination of feeding; and swallowing. The control of the smart vagus extends to the carotid body, directly involved in metabolic regulation, with chemosensitivity to oxygen and carbon dioxide. It also has direct regulatory effects on the cardio-respiratory apparatus.

### 2.7.1 Homeostasis.

In his discussion of homeostasis, Porges posits a complex feedback, or self-regulatory, system that he terms *interoception*, linked to higher order social interaction. In both physiological and psychological senses, *homeostasis* is to be understood as a dynamic, rather than static, concept. In terms of the lifespan, much, if not most, human activity can be seen as oriented towards maintenance. Interoception is identified as operating on four levels: Level I involves physiological systems regulating internal organs with bidirectional sensory and motor pathways between brain and organs: a level of operation that is "not seen", either to the consciousness of self, or other; Level II involves *"the integration of interoceptive responses with other sensory modalities and psychological processes"* requiring cortical conscious, and often motivated influences on brainstem regulation of homeostasis (Porges, 2011, p.78): this level of operation may to some extent be present to the individual self, but is not seen by others; Level III processes are observable behaviours that can be evaluated in terms of quantity, quality and appropriateness of motor behaviour (ibid.): here we are dealing with what can be seen, both by self, and other; and Level IV which reflects the coordination of behaviour, emotional tone and bodily state to successfully negotiate social interactions (ibid.): this level is seen but also **requires shared social understanding**. It is thought that during the first three months of life, infants master behavioural homeostasis, relating to Levels I and II above. Relevant to understanding this process is the fact that the vagus has a strong component of *sensory* as well as motor efferents (up to 80% of vagal neurones are afferent) (ibid., p. 82). This early period of life is thought to involve the recognition and coordination of perceptual patterns and memory as well as early motor skills. At 3 months infants have developed to the point of establishing organization at the level of a primary affective core (Emde, 1983), with a concomitant shift in the capacity to act as a relational agent.

In order to explain ANS regulation during social engagement, the *vagal brake* is postulated as a key functional mechanism (Porges, 2011, p. 106). The myelinated vagus fosters calm behavioural states, by inhibiting the influence of the sympathetic nervous system on the heart: this action is termed the "vagal brake" (ibid.). When an orienting response is elicited there is a transient release of this influence (i.e. down-regulation of vagal activity), resulting in *relative* enhancement of the sympathetic influence (without actual sympathetic up-regulation) putting the individual into a state of readiness. If safety is perceived then vagal tone is again enhanced, social engagement proceeds, and attention can be directed freely, with moment-to-moment cardiovascular regulation of metabolic needs via the vagus (ibid.). Where challenge is sufficient to be perceived as "a threat to be overcome", the organism will proceed to a greater engagement of the SNS (potentially up to the level of full flight or fight response). Blood is diverted away from the brain, and attention becomes narrowed, perhaps shifting consciousness away from an associative form of engagement, towards a goal-oriented, linear focus. If the threat is sensed as serious (imminent "life-threat") defensive regulation may go further, engaging the "shutdown" / "freeze" / "death-feigning" unmyelinated vagal system. Blood is diverted from the brain and there is general metabolic down-regulation, impairing attentional systems (ibid.). In extreme cases this may present a threat to life itself: "dying of fright" is thought to be mediated through such vagal effects. These shifts in consciousness and

response do not rely upon higher cortical or conscious appraisal, but rather operate on the basis of coordination of the “smart” vagus, with phylogenetically older parts of the nervous system, involved, amongst other functions, with primary levels of affective experience.

Porges advocates the measurement of respiratory sinus arrhythmia (RSA) as an index of vagal tone relating to activity of the myelinated division of the vagus. Higher RSA values reflect high amplitude of HRV, thought to have implications for health and well-being. Porges conceived of this measure as useful in a variety of clinical situations, stating, *“I had the vision that monitoring physiological state would be a helpful guide to the therapist during the clinical interaction”*. (ibid., p. 1).

## 2.8 Heart Rate Variability (HRV)

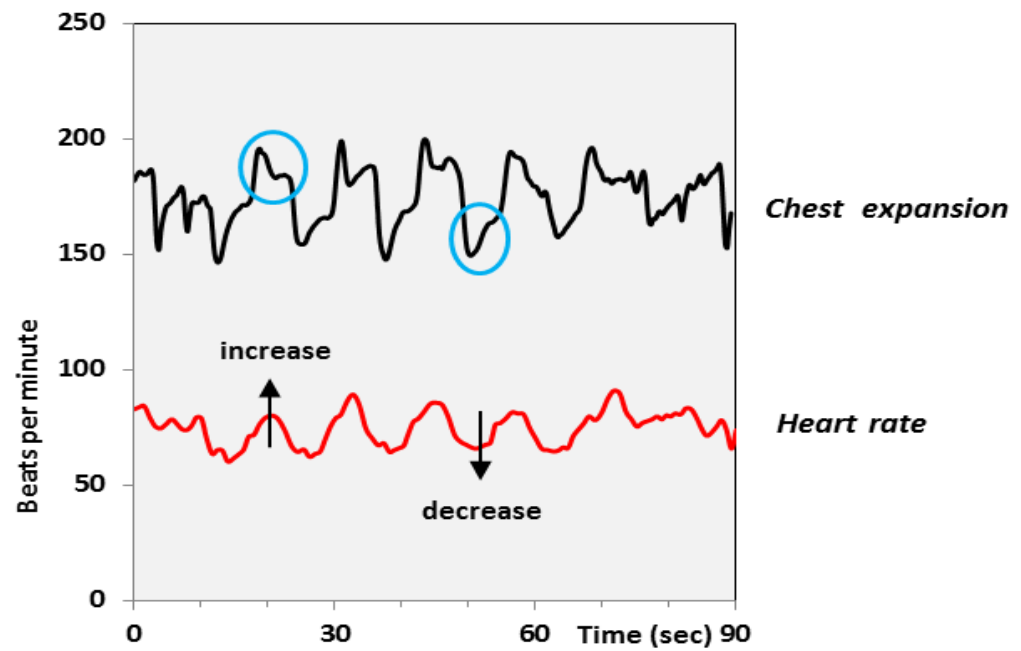
HRV is the measurement of the variation in interbeat intervals, usually defined as the “R-R” interval, on successive QRS complexes of the ECG. With improved digital signal processing techniques, it has become possible over the last 40 years to analyse subtle beat-to-beat variations in various parameters (Billman, 2011). Interest in HRV has grown since the demonstration that foetal stress was preceded by reduction in HRV, before any change in average heart rate could be detected (Hon and Lee, 1965; in Billman, 2011). In the 1970’s reduced HRV was found in the detection of autonomic neuropathy in diabetes (Murray et al, 1975), and reduced HRV was found to predict poor outcome post myocardial infarction (Wolf et al, 1978). More recent findings have found a relationship to other conditions, including depression, and obesity (Task Force, 1996). Greater HRV, thought to reflect parasympathetic influence on the heart, has been shown to have a protective effect, in relation to adverse cardiac events (Hughes & Stoney, 2000). Hence interest has grown in HRV as a positive marker of health status. Although the interpretation of HRV remains controversial in many areas, non-clinical applications have become widely used in exercise training, and monitoring of human performance (e.g. Tulppo et al, 1996). It is thought to be *“a measure of the continuous interplay between sympathetic and parasympathetic influences on heart rate that yields information on autonomic flexibility... (representing) the capacity for regulated emotional responding”* (Appelhans and Luecken, 2006, p. 230). A similar interpretation is made by Porges who argues that the amplitude of RSA, a relatively easily measurable component of HRV, provides a proxy measure for vagal tone reflecting the fine-grained influence of the “smart” vagus on the cardiac pacemaker (Porges, 2011). Figure 2.1 illustrates RSA, with its phasic variation of heart rate related to the respiratory cycle, using data from our study.

It needs to be noted that HRV is not a direct measure, so its interpretation remains a matter of debate. Current recommendations are for measuring heart rate averaged over 5 minute periods, although this method loses much fine-grained detail of HRV. Several approaches have been taken to measure HRV, a variability with phasic components. Broadly speaking these fall into 3 groups: measurements in time; and frequency, domains; and, more recently, approaches that utilize non-linear dynamics derived from Chaos Theory (Billman, 2011). Time domain analyses generally have been found to provide less information about specific components of HRV (Billman, 2011). There is currently no “gold standard” of measurement

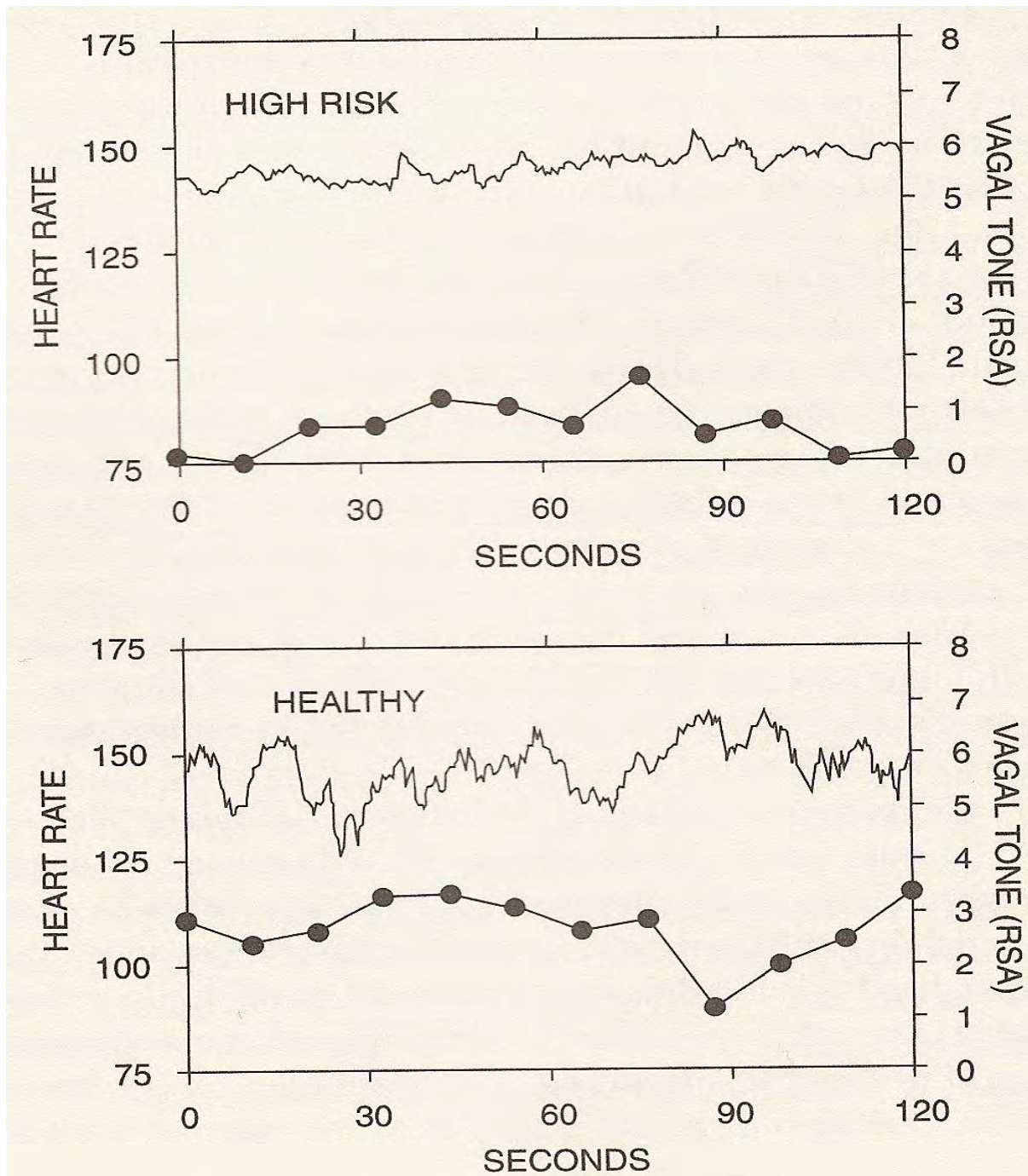
(Task Force, 1996), and, while, *“the vast majority of the clinical and the experimental studies demonstrate a strong association between the HF power spectrum and cardiac parasympathetic activity....this concept has also been challenged”* (Billman, 2011, p. 90). Frequency domain approaches are based upon analysis of the “power spectrum”, which views variability in terms of different phasic components that can be demonstrated to vary in their contributions to overall variability. Consistently identified features of this spectrum are a low-frequency (LF) component, centred around 0.1Hz (0.04-0.15Hz), and a high-frequency (HF) component, in the band between 0.15-0.5Hz (Task Force, 1996; Akselrod et al, 1981). In general the HF component has been thought to relate to vagal influence on the cardio-respiratory system, while the LF component is thought to reflect both sympathetic and vagal influence, although this relationship is less clear (Billman, 2011). The ratio of LF/HF is considered a more reliable indicator of relative changes in sympathetic influence, with higher LF/HF suggesting greater sympathetic influence. Other factors, including baroreceptors; the mechanical effects of respiration; and cardiac muscles, can exert non-autonomic influences on HRV. Porges’ method of measurement uses a filtering algorithm, to eliminate from analysis HRV influences extraneous to RSA (Appelhans and Luecken, 2006) (see also Appendix 1.1). He therefore refers to this measurement as RSA (Porges 2011). Figure 2.2 (below) provides an example of the clinical utility of Porges’ technique, in the situation of foetal distress.

While this discussion demonstrates that conclusions about HRV require caution, it is likely interest in this area, and its potential applications, will remain strong. The application to psychotherapy, in providing information about emotional responses, is new, although there has long been interest in autonomic response in psychiatric conditions. For the psychotherapy setting, it is argued that there is particular relevance in studying timeframes corresponding to experience available to the process of self-reflection. While this “present moment”, or “self-state”, of 2-10 seconds, relates to the timings of autonomic response; breathing; and language, it does not represent the minimal time for neural, or emotional, response to stimuli. It may reflect a minimum time for awareness of the significance of events to register, for the individual. It would be a considerable advantage if a method of measurement could be developed that could yield meaningful data over relatively short periods of measurement, significantly less than the 5 minute periods currently recommended. With this in mind we have developed such a method, allowing measurement over short recording windows, with demonstrated accuracy and reversibility, unlike techniques that require averaging. The method is outlined, and demonstrated, in a controlled breathing experiment (Melkonyan et al, 2012). However, its application in uncontrolled settings, with respect to breathing, will remain speculative in the current state of knowledge, with respect to normative data.

***Controlled breathing, 5 breaths per minute (bpm)***



**Fig. 2.1** Respiratory sinus arrhythmia (RSA): a naturally occurring variation in heart rate that occurs during a breathing cycle. In this illustration, taken from study data of controlled breathing at 5 breaths per minute, increase of heart rate during inspiration and decrease of heart rate during expiration are clearly demonstrated.



**Fig 2.2 RSA in neonates:** High risk neonate, as determined by signs of foetal distress, vs healthy neonate. The smaller degree of variation in heart rate, in the high risk neonate, is evident to visual inspection; there is also demonstration of a corresponding decrease in RSA, reflecting reduced vagal tone, in the high risk neonate (from Porges, 2011, p. 70). RSA values are in natural logarithm units per millisecond squared.

## **2.9 Increasing Sensitivity in the measurement of Heart Rate Variability: the method of Non-Stationary RR time frequency analysis**

(Melkonian, Korner, Meares & Bahramali, 2012)

This paper introduces a novel method of time-frequency analysis of non-stationary heart rate variability (HRV). This method represents an advance in measurement, allowing estimation of HRV over short periods. Significant areas of uncertainty remain in the field, as discussed above. The full paper is included in Appendix 1. A summary is presented below.

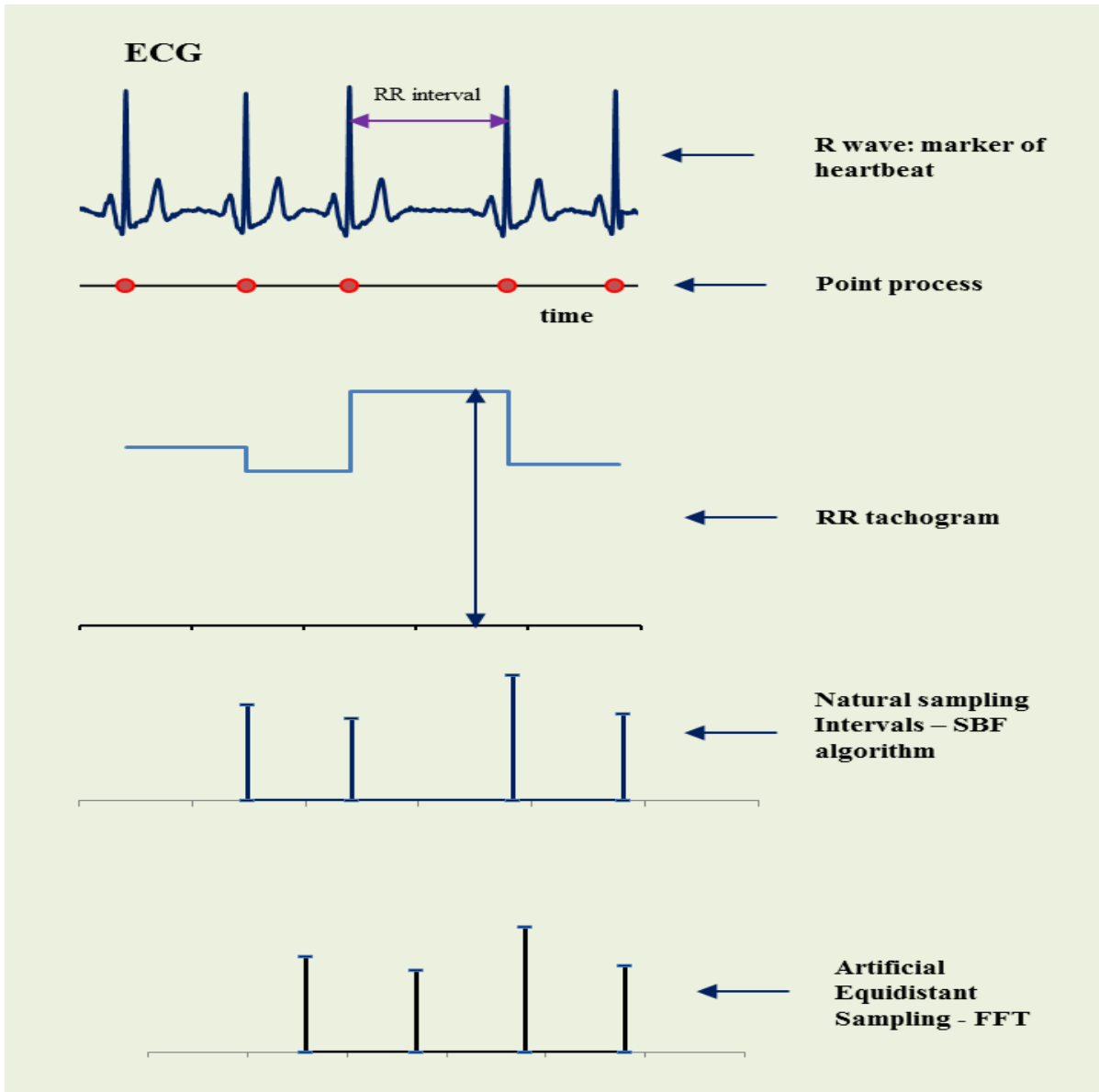
### **2.9.1 Summary of Method**

Currently most methods of HRV measurement using frequency domain measures, such as the “power spectrum”, make assumptions regarding the “stationarity” of heart beats, over certain time frames. This kind of mathematical approach is a necessary condition for application of the common technique of spectral analysis known as the “Fast Fourier Transform” (this technique decomposes the signal into an ensemble of sine waves). For example, the current recommendation for measurement of the power spectrum is to take measurements over periods of 5 minutes, assuming a regular process over this period, i.e. averaging heart beats over this period (Task Force, 1996). While this allows variability between successive standard time-frame periods (i.e. 5 minutes) to be measured, it involves altering data in such a way that information about the moment-to-moment variability of beats is lost. The mathematical technique of averaging effectively means loss of the original fine-grained variability. This means the dual relationship between time and frequency domain parameters is also lost. Compensatory statistical methods, like averaging, are also likely to produce distortions. This is a paradox, given that fine variability, and flexibility, of response, is the process thought to have physiological implications. It is also a limitation in recording information reflecting the nuance of emotional responsiveness between people, in social or psychotherapeutic situations.

The Similar Basis Function algorithm is a mathematical approach for the estimation of Fourier integrals, allowing measurement over short periods, by accepting both uniform, and non-uniform, intervals into the analysis (Melkonian D, 2009). It involves transcription to digital form, and is applicable to signals of arbitrary length. It has been applied to another physiological signal, the evoked response potential (ERP), providing data that differentiated a clinical psychiatric population, from control subjects (Meares et al, 2011). In the case of HRV, the sequential instances of “R” points constitute a univariate point process which, when referred to within a continuous time function, is referred to as a point event function (PEF) (Fig 2.3). Once the boundary points of a particular time series are selected, a complex spectrum of the PEF can be defined. This complex spectrum contains full amplitude, and phase, information necessary to restore the initial HRV signal: that is it retains both time *and* frequency domain information. A fragmentary spectrum, corresponding to different time samples, of arbitrary length, shows how spectral estimates evolve over time. Peaks in this spectrum demonstrate an underlying transient oscillatory component (TOC) (Fig 2.4.).

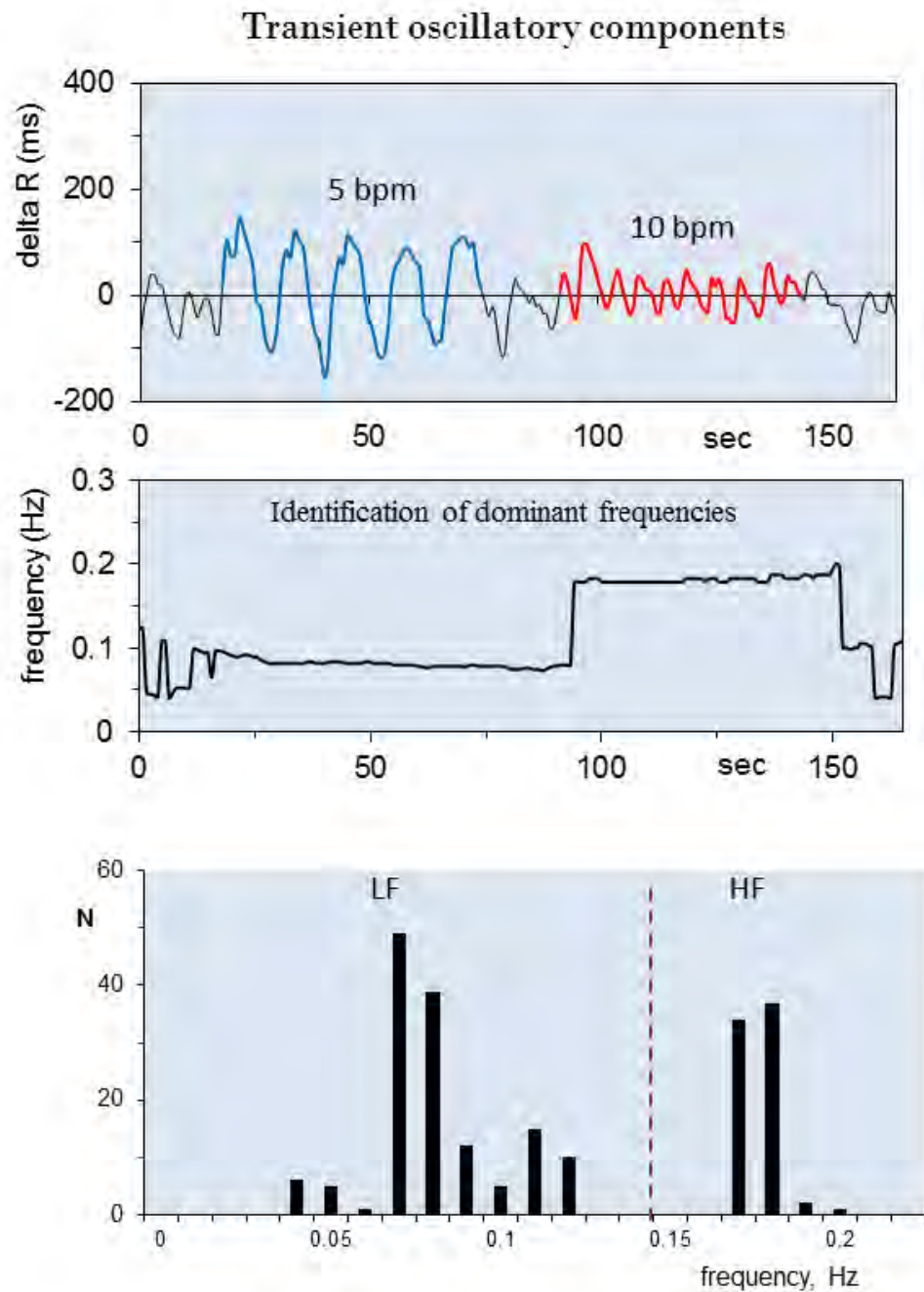
To eliminate distortions relating to baseline fluctuations of the time series, a technique was developed measuring deviations of RR intervals from the mean. This effectively corresponds to a flattening of the baseline, rather than using the actual intervals, with the effect of

increasing the sensitivity of spectral estimates, to the dynamics of HRV – this component technique is referred to as the “RR deltagram” (Melkonyan et al, 2012). Finally, an inverse Fourier transformation is used, restoring the original time series, with subsequent comparison to actual original data. While some key features regarding the method have been summarized here, the reader is referred to Appendix 1, for a more detailed description.



**Fig. 2.3 RR Sampling:** the upper panel shows how the timing of the ECG ‘R’ waves is converted to the point process with variable intervals, of which the RR tachogram is composed. The SBF algorithm is directly applied over these naturally occurring variable intervals, allowing transformation of the time domain data to the frequency domain, without loss of important phase information. By contrast, standard Fast Fourier Transformation (FFT) is only applicable to equidistant samples of the signal. The creation of an artificial succession of equidistant samples, illustrated in the lower panel, removes from analysis unidentified pieces of information which may contain important physiological information.





**Fig. 2.4RR Delta R; Transient Oscillatory Components:** Illustrates HRV frequency content during changing conditions in the controlled breathing experiment, when breathing rate was increased from 5 to 10 bpm. The upper panel shows the RR **delta R**, i.e. the time course of deviations of RR intervals from the mean trajectory. This form of HRV measurement provides clear evidence that, at relatively low breathing rates, the time course of the RR delta R reproduces breathing rhythms without time lags. The line in the middle panel illustrates dominant frequencies identified in the time course of the RR delta R using the time-frequency analysis. The boundaries of two different states can be clearly identified in this situation. The histogram in the lower panel shows the statistical distribution of estimated dominant frequencies. The height of the bar is the

number of dominant frequencies identified within a 0.01 Hz bin. The distribution indicates the two groups of frequencies, LF (low frequencies with 0.088 Hz mean) and HF (high frequencies with 0.181 Hz mean), which are separated by the dashed vertical line.

### 2.9.2 Summary of Controlled Breathing Experiment

In the process of developing the method described here, data had been initially been collected in the naturalistic setting of psychotherapy sessions, where breathing occurred spontaneously without controlled measurement. An outline of the overall experimental method, designed for application to the psychotherapy session, has been given in Part 1 (1.4).

In order to further assess the measures we had taken, it was necessary to do a study where the breathing was controlled, to verify the methodology could produce accurate measurements of RSA / HRV, and that the procedure could be reversed, demonstrating there were minimal distortions of the data using this approach. The procedure was carried out in an office setting (as it was for psychotherapy sessions) using the same Zephyr Bioharness device. The participant was aged 56 and was a male without any diagnosed cardiovascular disorder. In this experiment data was recorded from one subject only as the purpose was to look at the relation of breathing to HRV/RSA rather than looking at correlations between subjects. Throughout breathing wave form and R-R intervals were recorded to allow measurement of HRV, and derivation of RSA, following Porges' method (Porges, 1985; see also Appendix 1.1). Utilizing Porges' method allows comparison with available literature. For some of the following graphs (2.5; 2.8; 2.9) the time frame of 120 seconds was chosen to allow comparison with Porges' data (Fig. 2.2). In other cases, such as the series 2.6.1 – 2.6.4 a different (50s) time scale was used because it gave a better temporal resolution of the data.

His approach involves a filtering of the phasic components of HRV, in order to select the high frequency components, thought to relate more closely to vagal activity. RSA is considered a proxy for vagal tone, although this remains a matter of some debate.

To this end an experiment was devised where:

- 1) Respiratory rate was timed, using a metronome, with the following conditions: a) Resting / baseline (uncontrolled breathing); b) 5 breaths per minute; c) 10 breaths per minute; d) 15 breaths per minute; e) 30 breaths per minute; f) a recovery period (uncontrolled). The duration of the recovery period was approximately 2 minutes.
- 2) In addition, each of the conditions a-e involved a one minute silent component, followed by a one minute vocalized component, using the simple vocalization of counting out loud on each breath.
- 3) Respiratory waveforms and RR intervals were measured using a *Zephyr Bioharness* (for product details, see Appendix 1.2).

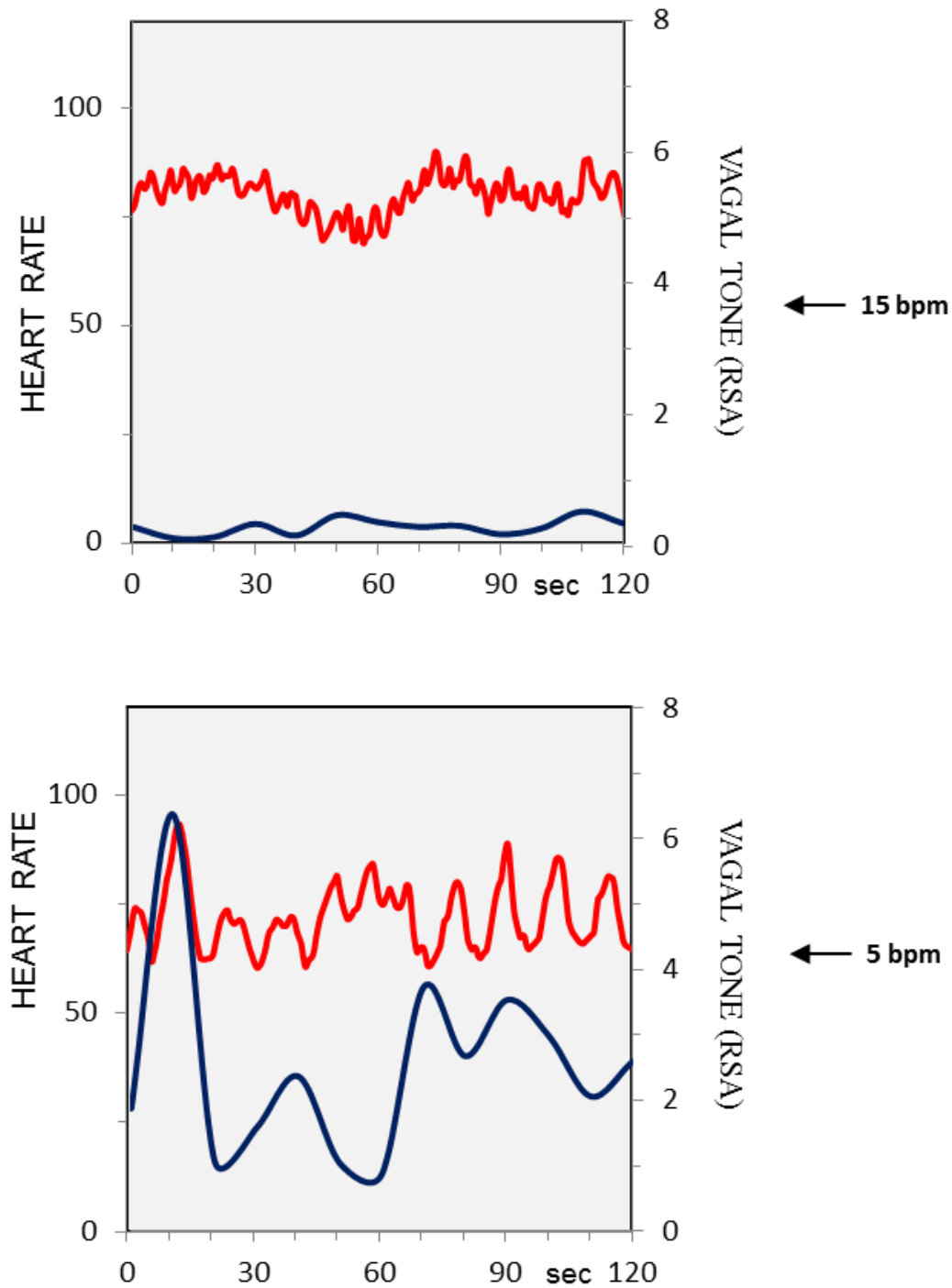
Vagal tone was expected, in this experiment, to be higher at rest; in response to the controlled condition of metronomic breathing, a reduction of vagal tone was anticipated, that would become evident at higher respiratory frequencies, reflected by reduced amplitude of HRV, and decreased RSA. Following such a controlled period it was expected that, after a brief

recovery period, an increase in vagal tone might again be observed. In individuals where vagal regulation is dominant, it is expected that the period to “release” the vagal brake, and the period to reinstate vagal tone, following the more stressed condition of controlled breathing, would be relatively rapid.

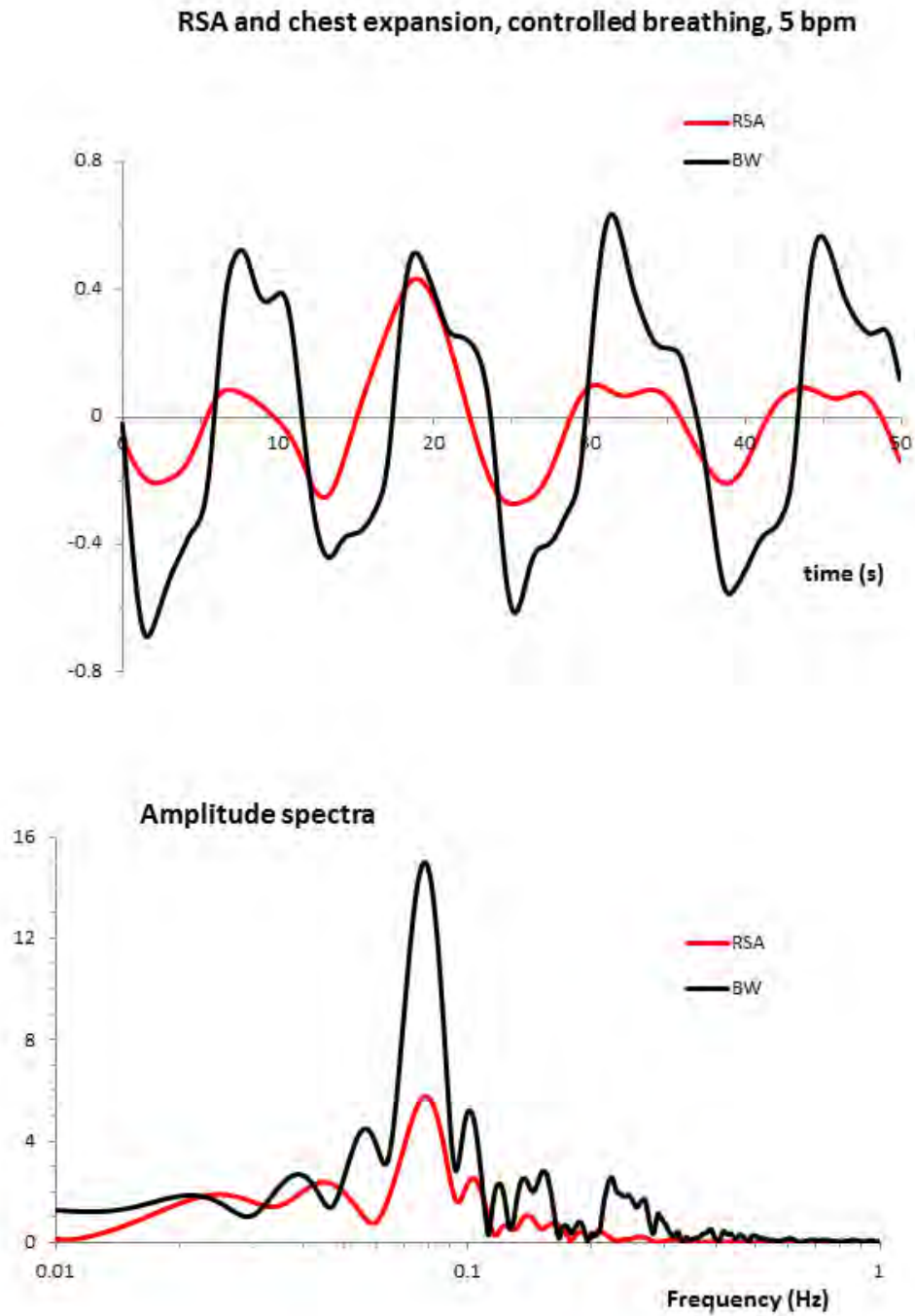
Figure 2.4 illustrates the distortion that is evident around boundary conditions, where there is a sudden shift relating to a change in breathing rate as illustrated by the rectangular waveform. The main findings of the study were:

- 1) Demonstration of decreasing HRV with increased respiratory rate, suggesting decreased vagal tone, consistent with other studies (e.g. Hirsch & Bishop, 1981) (Fig. 2.5).
- 2) Demonstration that HRV, here represented by the measure of RSA, following Porges’ method, measured over periods of known respiratory rate, shows dominant frequencies corresponding to the respiratory rate, consistent with the phenomenon of respiratory sinus arrhythmia. At lower breathing rates there is a strong relationship between RSA and breathing rates (5; 10 breaths per minute) (Figs 2.6.1; 2.6.2). This relationship is much weaker at 15 bpm (Fig 2.6.3); there is virtually no relationship evident at 30 bpm (Fig 2.6.4). In each of these Figures, the lower graph illustrates the frequencies of phasic variation, displayed in breathing and RSA, with clearly coincident dominant frequencies at 5 and 10 bpm.
- 3) HRV measured over short windows of time, was consistent with that measured over longer windows (Fig. 2.7).
- 4) Demonstration of shifts in RSA, associated with transitions in respiratory rate (Fig. 2.8);
- 5) Demonstration that the inverse (reverse) transformation restored the data, to closely correspond with the original data (see Appendix 1).

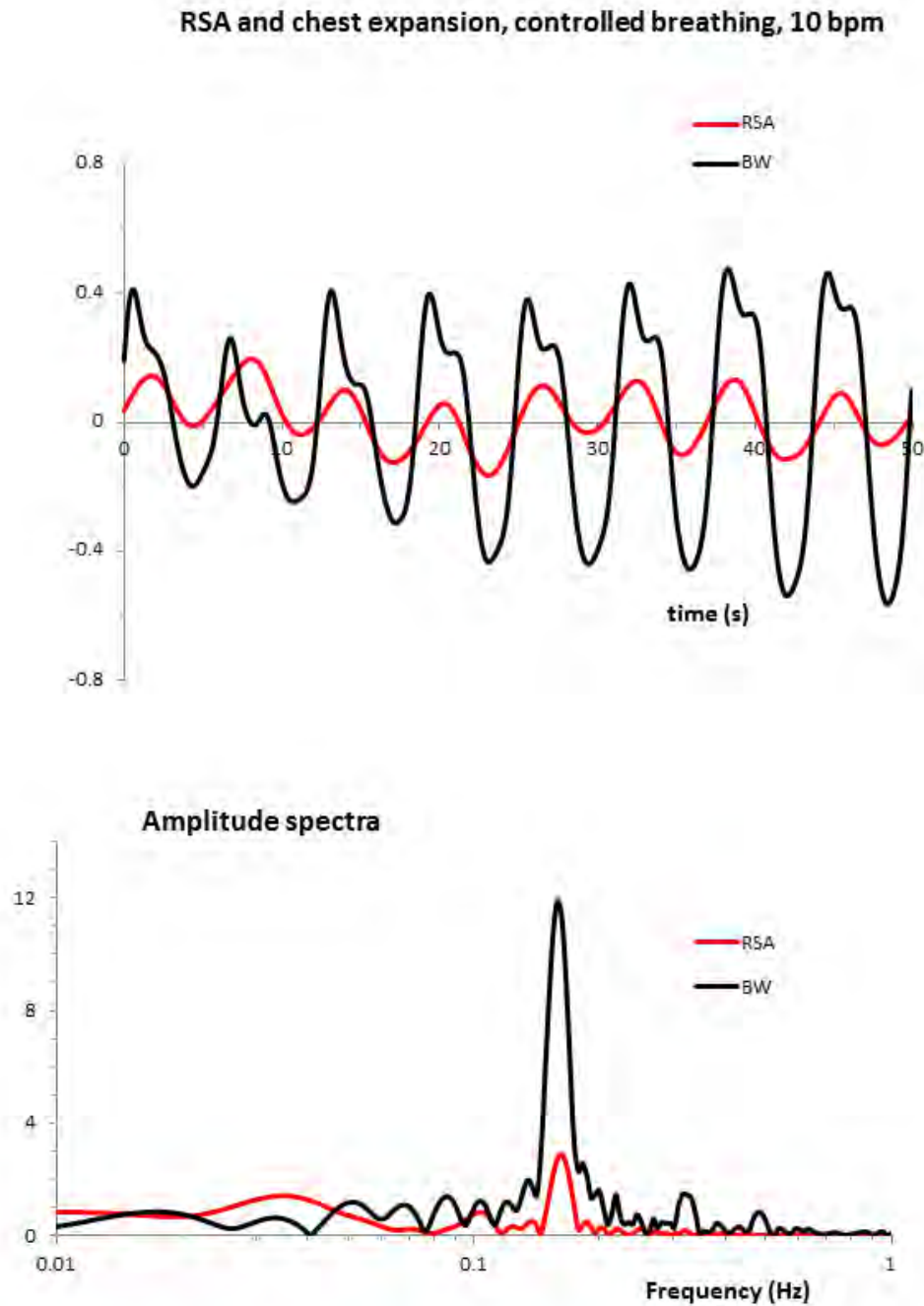
As with the previous section, the reader is referred to the full paper for a more detailed description of procedures and results. It is also worth noting that the vocalization condition did not substantially alter RSA, and, during the resting condition, conversation also did little to alter RSA (Fig. 2.9). Although there is a somewhat more pronounced waveform to the RSA during speech, the magnitude is similar to the resting level. These findings are consistent with data cited earlier, showing that, while vocalization has some impact on RR intervals, it does not have a statistically significant influence on RSA (Kotani et al, 2007). Indeed, it is likely that speech may have an influence on the neural planning of the respiratory system, along the lines that longer speech turns, necessitating larger volume inspirations, and expirations, are associated with slower breathing (Winkworth et al, 1995). The increased tidal volume associated with anticipation of such a turn would be expected to be associated with increased RSA, in contrast to the effect of increased respiratory rate.



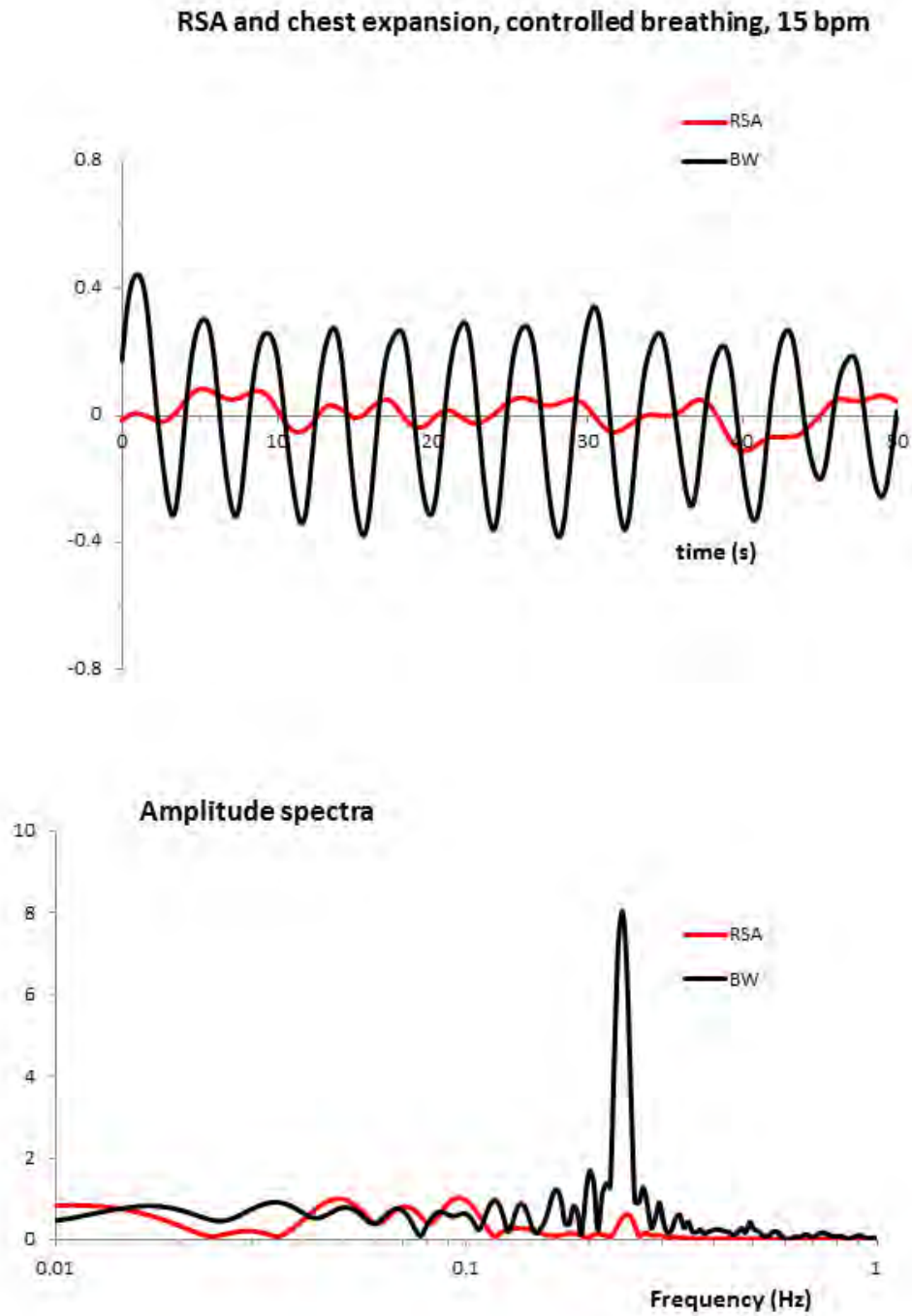
**Fig. 2.5** Illustration of change in RSA with increased breathing rate, demonstrating reduction as breathing rate increases (upper graph shows heart rate and RSA at respiratory rate 15 breaths per minute (bpm); lower is 5 bpm). There is associated reduction in the amplitude of variation in HR (red). RSA values are in natural logarithm units per millisecond squared.



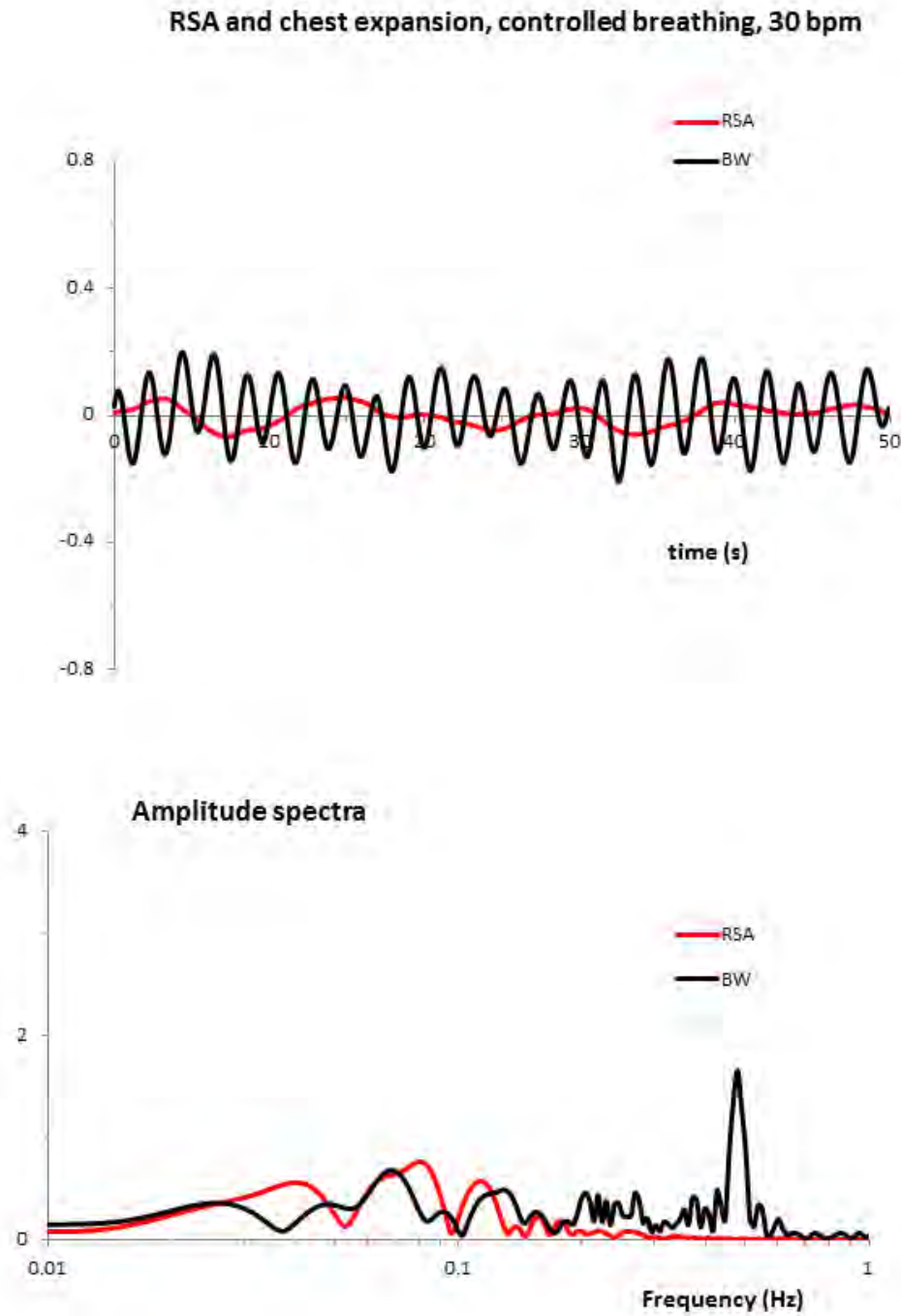
**Fig. 2.6.1** Breathing Waveforms (black), RSA (red); and Corresponding Frequency Analysis (below) at 5 breaths per minute, demonstrating coincidence of dominant RSA frequency and breathing rate.



**Fig.2.6.2** Breathing Waveforms (black), RSA (red); and Corresponding Frequency Analysis (below) at 10 bpm: demonstrating coincidence of dominant RSA frequency and breathing rate.

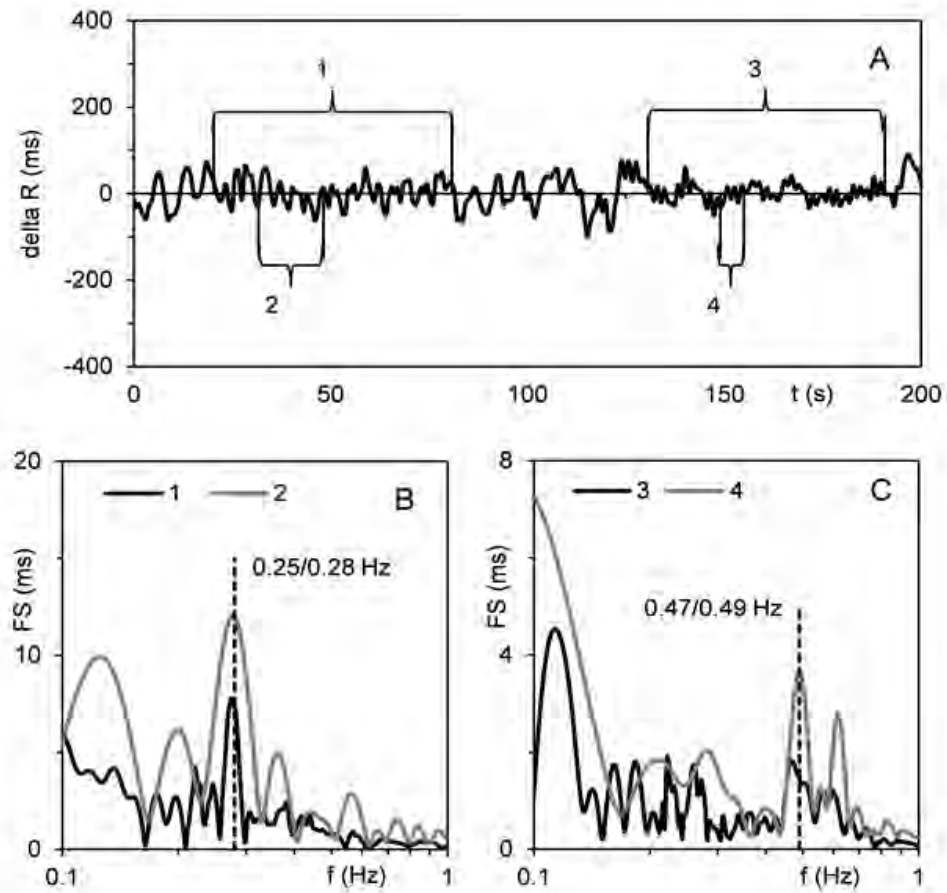


**Fig. 2.6.3** Breathing Waveforms (black), RSA (red) and Corresponding Frequency Analysis at 15 bpm: demonstrating absence of coincident dominant frequency of RSA, relative to breathing rate (the corresponding frequency is not a dominant peak).



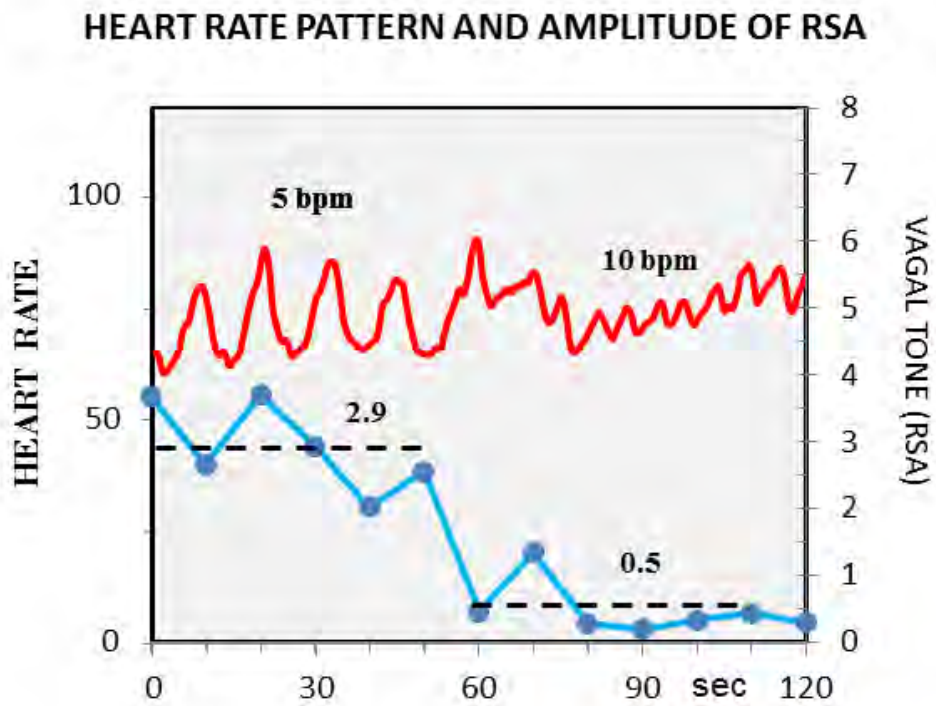
**Fig. 2.6.4** Breathing Waveforms (black), RSA (red) and Corresponding Frequency Analysis at 30 bpm: demonstrating absence of any RSA frequency corresponding to dominant breathing rate.



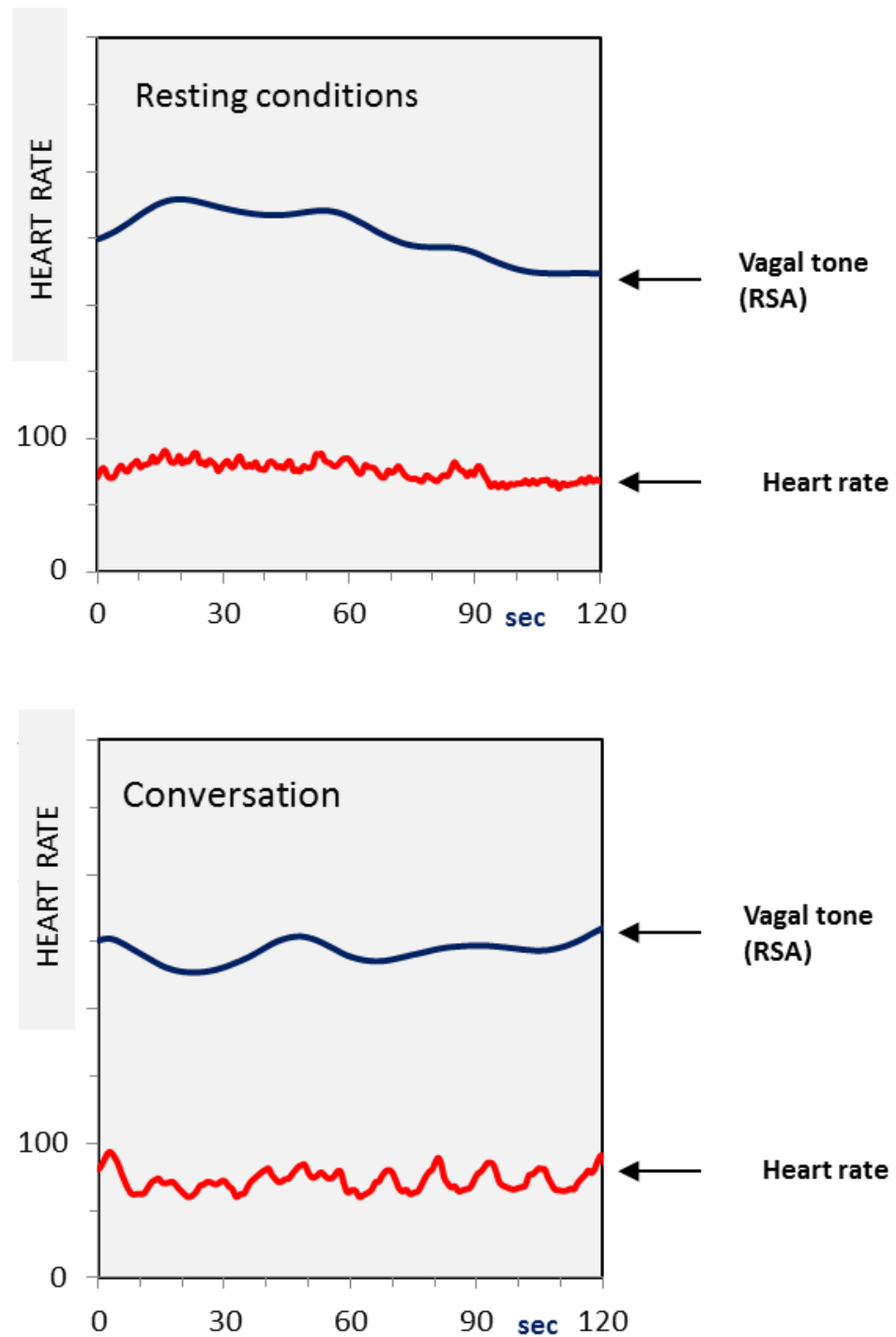


**Fig. 7**

**Fig. 2.7** (A) Delta R (ms) based on 200s record of 250 successive RR intervals. Segments 1 and 3 indicate two successive periods of controlled breathing with 15 bpm and 30 bpm rates. Segments 2 and 4 specify shorter segments within each of these periods. (B) Black (1) and grey (2) lines show fragmentary spectra compared from segments 1 and 2. (C) Black (3) and grey (4) lines show fragmentary spectra from segments 3 and 4. Graphs B and C confirm that the shorter segments (2 and 4) correspond to frequency of longer segments (1 and 3). This suggests that measurement over short periods of time is reliable in this experiment.



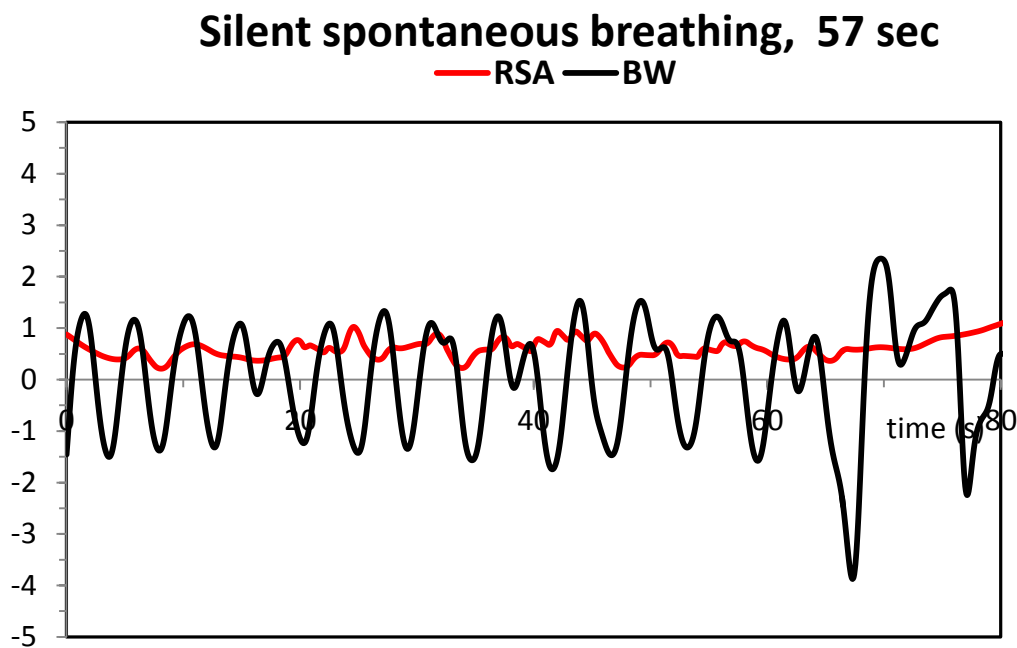
**Fig. 2.8** Illustration of transition in RSA, as subject alters rate of controlled breathing. Red: HRV; Blue: RSA. The amplitude of HRV is reduced as breathing rate increases; RSA is reduced in magnitude as breathing rate increases. RSA values are in natural logarithm units per millisecond squared.



**Fig. 2.9** Comparison of resting, and speaking, conditions (spontaneous breathing), showing RSA (vagal tone). RSA does not vary greatly, in this sample, between resting and conversational conditions.

### 2.9.3 Additional Data: Variable Controlled Breathing.

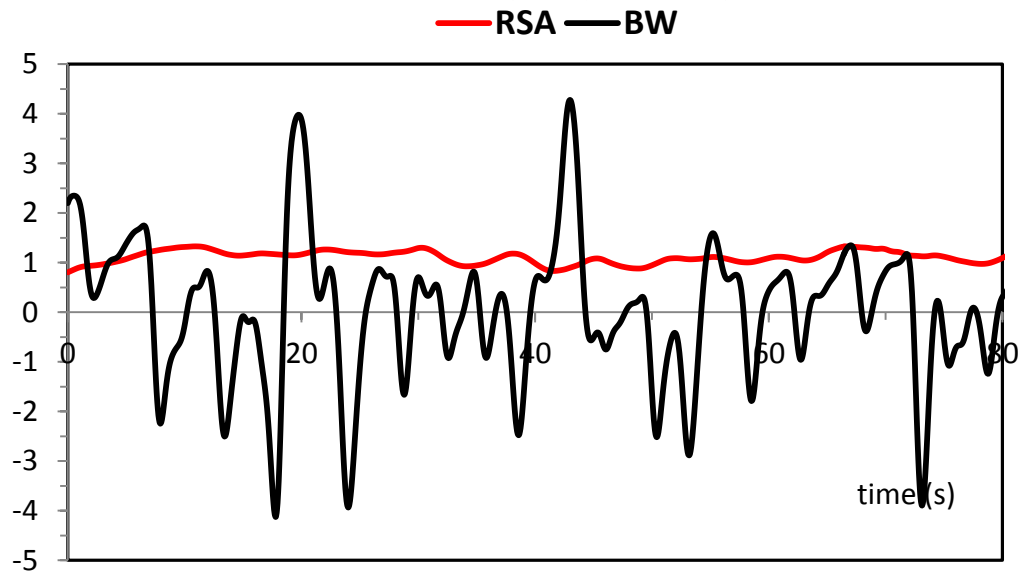
Some additional data from the study, not previously reported, are presented. In order to review the effect of “controlled breathing”, comparisons were made between breathing under resting and controlled conditions, at different rates of breathing. Correlations were also made with RSA. First a measure was made of breathing at rest, in silence. Next we measured an uncontrolled speaking condition. Then, measures were taken, during controlled breathing, at rates of 5; 10; 15; and 30 breaths per minute. Finally the recording of breathing, and RSA, continued during a short period of recovery. The participant was the same as in section 2.9.2.



**Fig. 2.10** Spontaneous breathing waveforms during silence (BW: breathing waveforms), and associated pattern of RSA. There is considerable moment-to-moment variability of RSA, although the overall level is relatively low compared to later measures (see Figs 11-14). Breathing waveforms are in relative units\*.

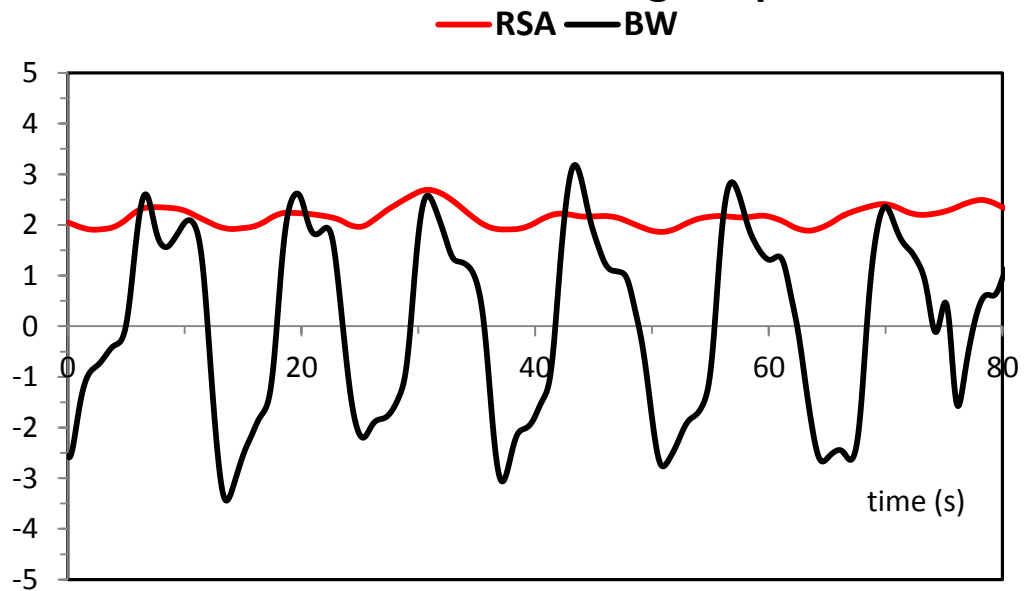
*\*The measurements of breathing waveforms in Zephyr Bioharness devices are expressed in numerical form. The range extends from zero to 4096. This is a measure of relative chest expansion, although one that cannot, with this device, be translated into a precise measure of girth or volume.*

### Uncontrolled breathing - speaking, 2 min 5 sec



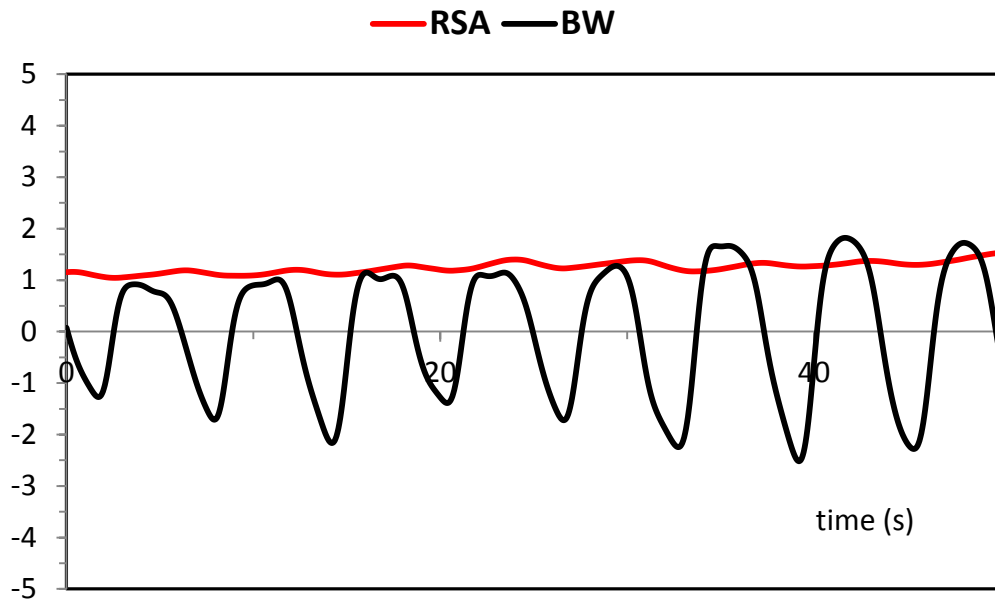
**Fig. 2.11** Spontaneous breathing waveforms during speech. RSA probably of slightly greater magnitude than in silent recording (Fig. 10), suggesting vagal tone is maintained, or possibly enhanced, under speaking conditions.

### Controlled breathing, 5 bpm



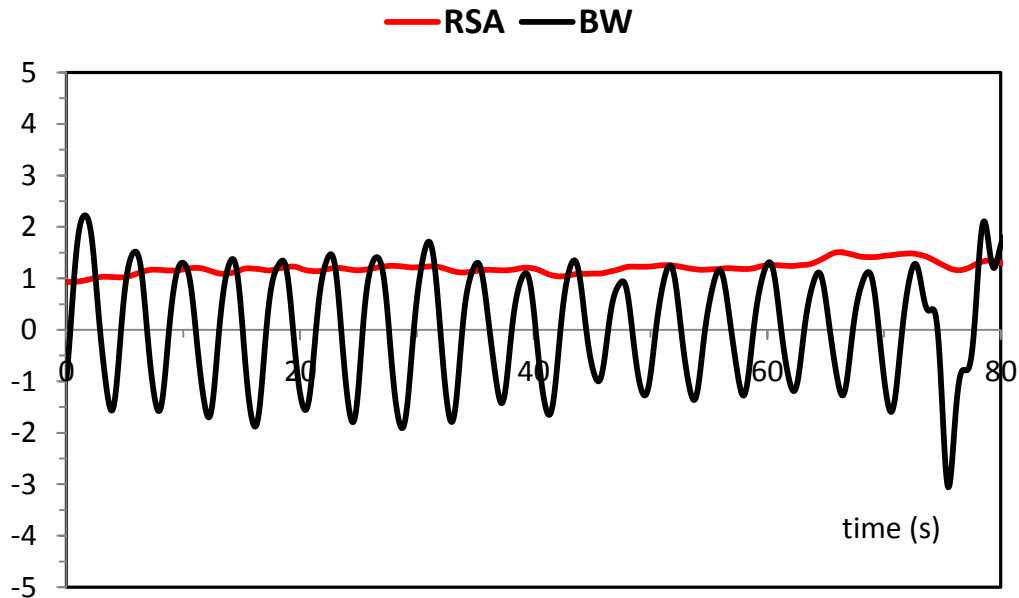
**Fig. 2.12** Controlled breathing and RSA at 5 bpm, showing significant elevation of RSA, suggesting increased vagal tone. There is also some correspondence of breathing waveforms (BW) and RSA phasic variation.

### Controlled breathing, 10 bpm

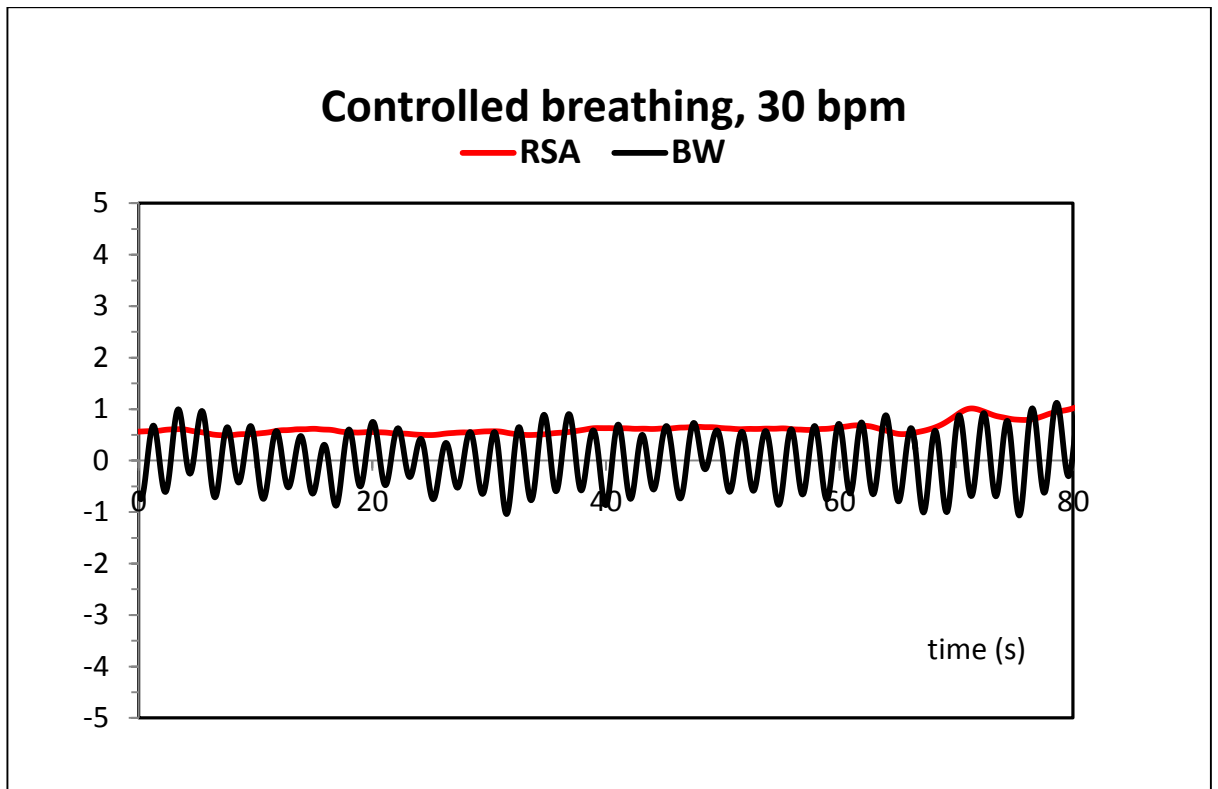


**Fig. 2.13** Controlled breathing waveforms at 10 bpm showing RSA of higher magnitude than resting recordings (Figs 10 and 11), but lower than 5 bpm (Fig 12), suggesting relatively high vagal tone. There is less evidence of phase variation of RSA corresponding to BW.

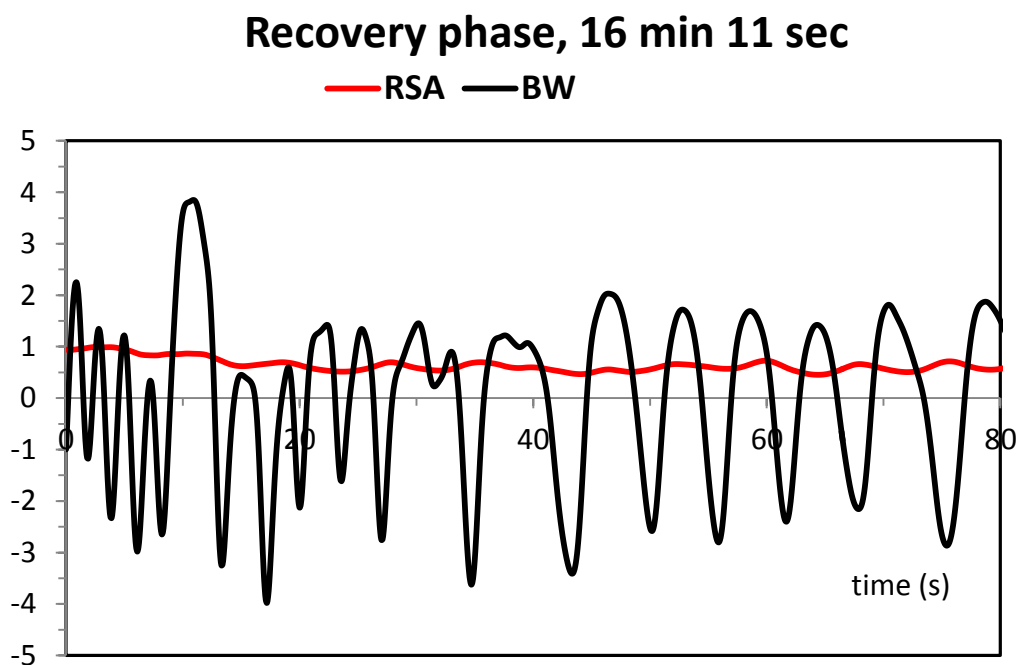
### Controlled breathing, 15 bpm



**Fig. 2.14** Controlled breathing, 15 bpm, showing similar level of RSA to 10 bpm (Fig 13). There is little correspondence between breathing and RSA phase variations.

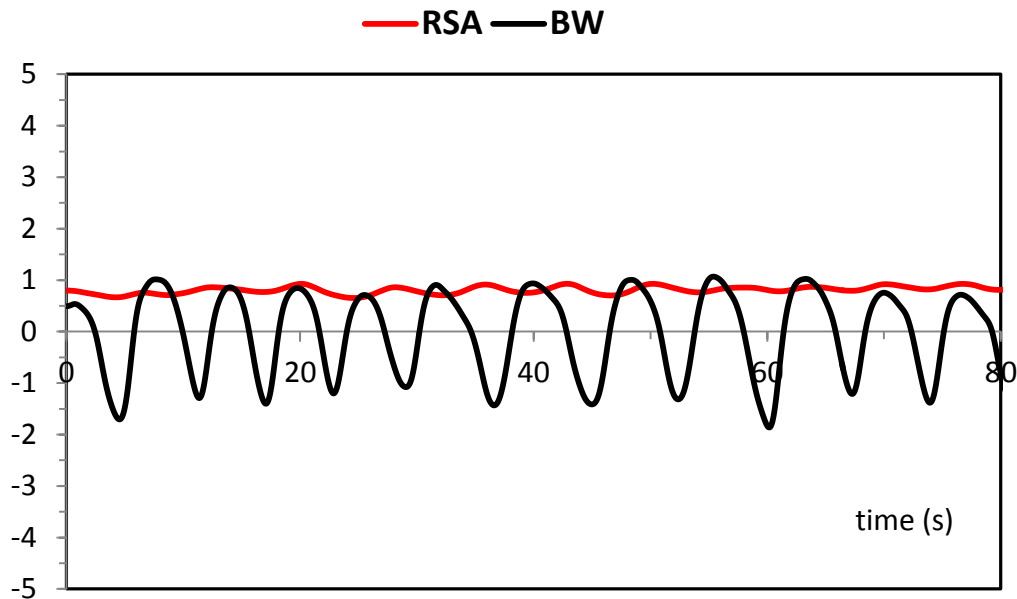


**Fig. 2.15** Controlled breathing 30 bpm, showing a definite lowering of RSA, suggesting reduced vagal tone. There is complete loss of correspondence between RSA phase variation (essentially absent) and breathing waveforms.



**Fig. 2.16** Early recovery phase (showing transition from 30 bpm), showing rapid slowing of breathing rate; relatively little change in RSA.

## Recovery phase, 16 min 50 sec



**Fig. 2.17** Established recovery phase showing levels of RSA similar to pre-controlled breathing (Fig. 11). There is some correspondence between breathing waveforms and phasic variation of RSA.

Observations of RSA under the various conditions were that initially RSA (Fig. 2.10; 2.11) showed considerable variability, with relatively low magnitude. The most significant change in RSA magnitude occurred in the 5 breaths per minute (bpm) (Fig. 2.12) sample, which increases more than twofold relative to uncontrolled silent and speaking conditions (prior to metronomic control of breathing). The level drops noticeably at 10 bpm (Fig. 2.13), although is still relatively high compared to all other samples, except 5 bpm. There is a slight further drop at 15 bpm (Fig. 2.14), bringing the magnitude of RSA into a range similar to the uncontrolled speaking condition (Fig. 2.11), and the later recovery phase (Fig. 2.17). When the maximal breathing rate of 30 bpm is reached (Fig. 2.15), there is noticeable reduction of RSA, bringing it to its lowest level of all conditions. There is also loss of variability of RSA, with the first 60 seconds of Fig. 2.15 being close to a “flat line” condition (the later part of this time series reflects breathing at 30 bpm with vocalization, which may account for some movement upwards of the baseline from 60-80s). There is correspondence, to visual inspection, between the shallow waveforms of RSA at 5 bpm (Fig. 2.12) (demonstrated more clearly in Fig. 2.6.1), to breathing waveforms, demonstrated by a corresponding frequency of RSA. This is weakly evident at 10 bpm (Fig. 2.13) (more clearly evident in Fig. 2.6.2), but difficult to discern at other frequencies, or in resting or recovery conditions. At the end of the controlled breathing (Fig. 2.16), there is a rapid transition to slower breathing (approx. 10 bpm). However, RSA is slower to recover, remaining low in Fig. 2.16. Recovery to pre-controlled breathing levels (Fig. 2.11) is evident within 20 seconds or so, with restoration of greater variability in RSA relative to the 30 bpm condition. There may also be some difficulties with observations during transitions when boundary conditions may affect calculations, as discussed in 2.8. The magnitude of RSA differences is not great: the clearest,



as stated, is the increase in RSA at 5 bpm. The clearest decrease in RSA is between the 15 bpm condition (Fig. 14), and the 30 bpm condition (Fig. 15). The 30 bpm condition is associated with lessened variability of RSA.

No firm conclusions can be drawn from this data. However, it is consistent with other literature demonstrating greater RSA (vagal tone) at lower breathing frequencies (e.g. Hirsch & Bishop, 1981). The detection of variability in RSA over short time frames also suggests that the “method of Non-Stationary RR time-frequency analysis”, using the SBF algorithm, may have utility in measuring moment-to-moment changes in RSA. At 30 bpm there appears to be noticeable reduction of RSA, with loss of this fine variability of RSA. Breathing at this rapid rate is a somewhat stressful condition, and it would be expected to be associated with reduced vagal tone: it isn’t possible to determine whether this simply reflects the influence of the “vagal brake”, leading to relative enhancement of the sympathetic component of cardiac regulation, or whether it reflects up-regulation of the sympathetic system. The relatively rapid recovery evident in Figs. 16 and 17 may suggest that the “vagal brake” is the more likely explanation, as significant sympathetic activation occurs over longer time frames (Appelhans & Luecken, 2006).

Overall the findings are consistent with reduced vagal influence at higher breathing rates with relatively rapid restoration of vagal influence upon cessation of controlled breathing.

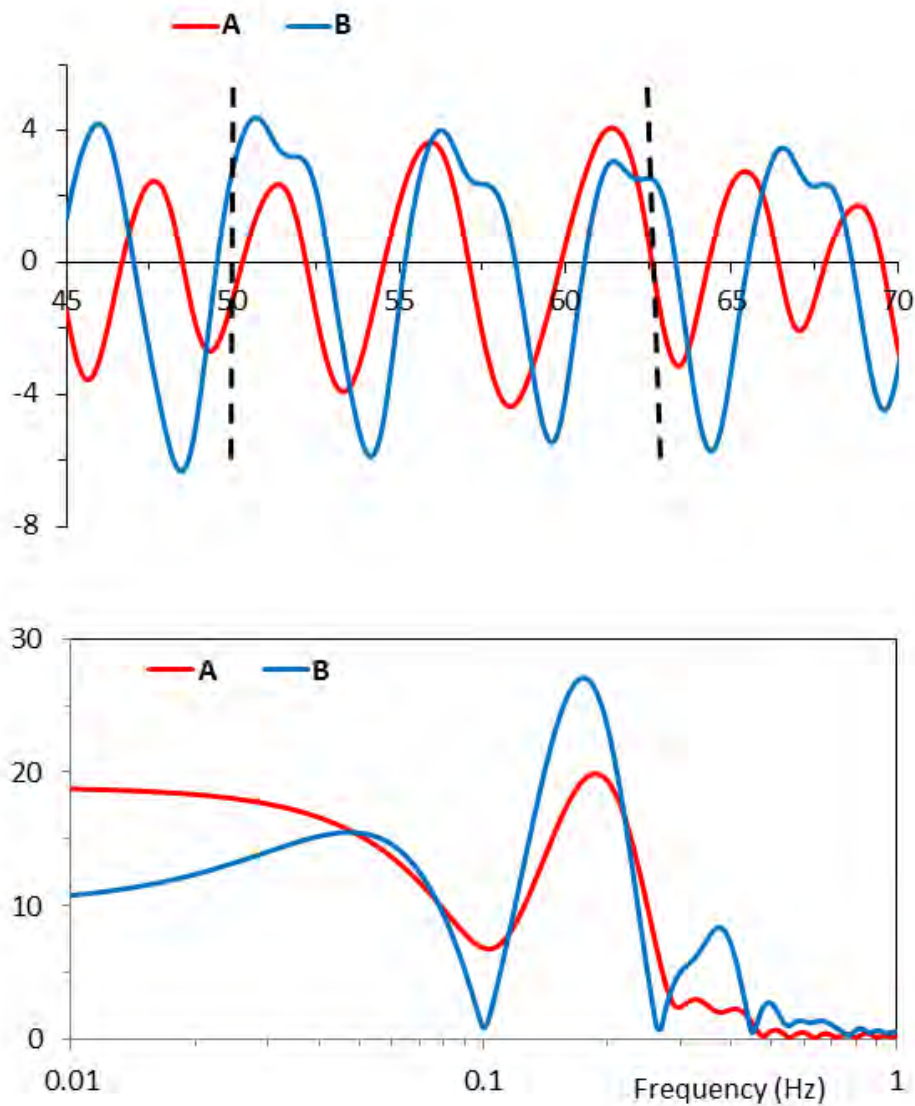
## **2.10 Further experimental work investigating the relationships between speaking, listening, breathing patterns, and RSA.**

In order to be clearer about the relationship of breathing patterns, speech and RSA, a session was designed with two participants aged 56 and 65 respectively (both male with no diagnosed cardiovascular illness). It was carried out in office conditions as described previously. In this session there was a silent resting condition; followed by one person speaking for about 3 minutes; then, the other person speaking for a similar period. The instruction in this case was simply to speak about whatever came to mind, with the interest being on the effect of speaking rather than on the semantic content (i.e. this was not an attempt to simulate psychotherapy). Although specific turns for speaking were *prescribed* in this session, the person was speaking to the other subject about matters of mutual interest: hence the condition was one of a conversation, where one person could be designated as “speaking” at a particular time, and the other person could be designated as “listening”.

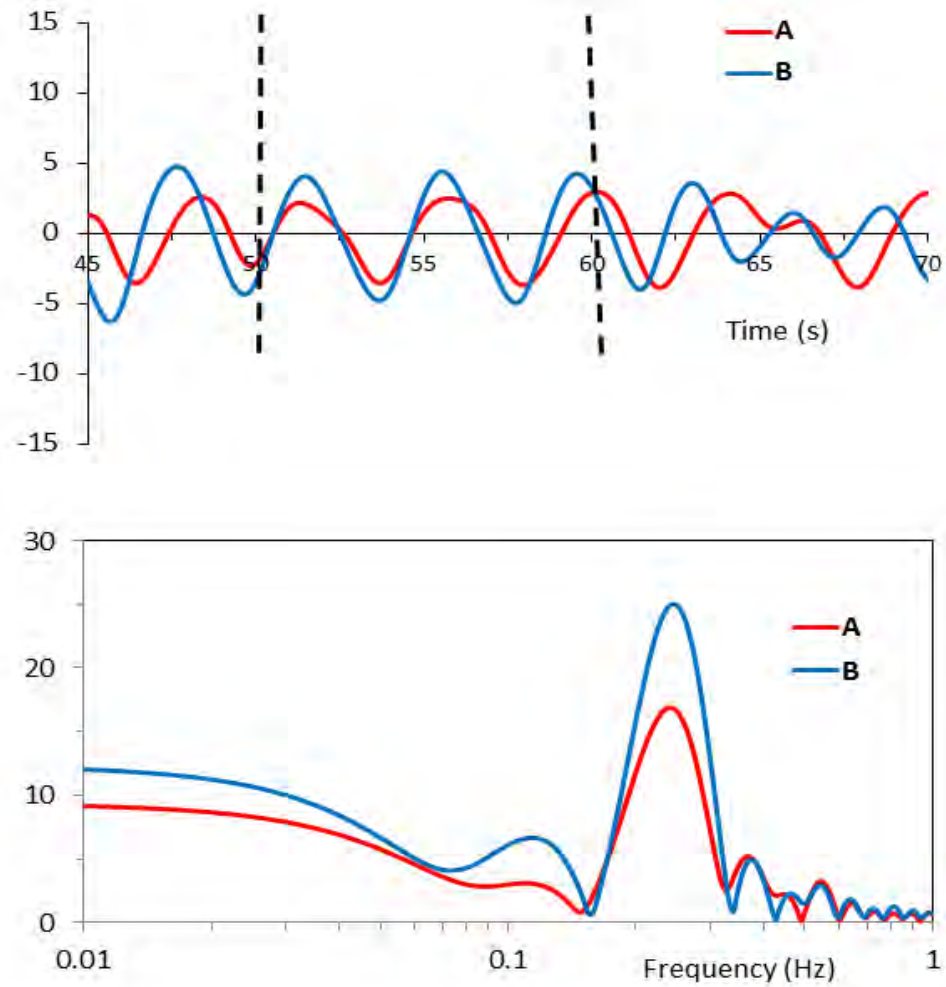
### **2.10.1 Breathing and RSA under specified dyadic conditions: silence; A speaks, B listens; B speaks, A listens.**

The experimental paradigm calls for measurement of respiration, and RSA, during psychotherapeutic conversation. Given that there are no established normative data for this kind of dyadic interaction, information collected under naturalistic conditions is difficult to interpret. In order to help establish identifiable patterns, a session was conducted where recordings of respiration, and RSA, were made for two subjects under 3 specified conditions. Firstly there was a silent phase, followed by one person (A) speaking while the other (B) listened, and finally by the reverse condition, where B was speaking while A listened.

During the silent phase, both A and B were breathing at a rate of 14 breaths per minute. Significant synchronies were evident in breathing, as illustrated by two graphs taken from this period: Figures 2.18 and 2.19. Synchrony is evident in both time, and frequency, domains.

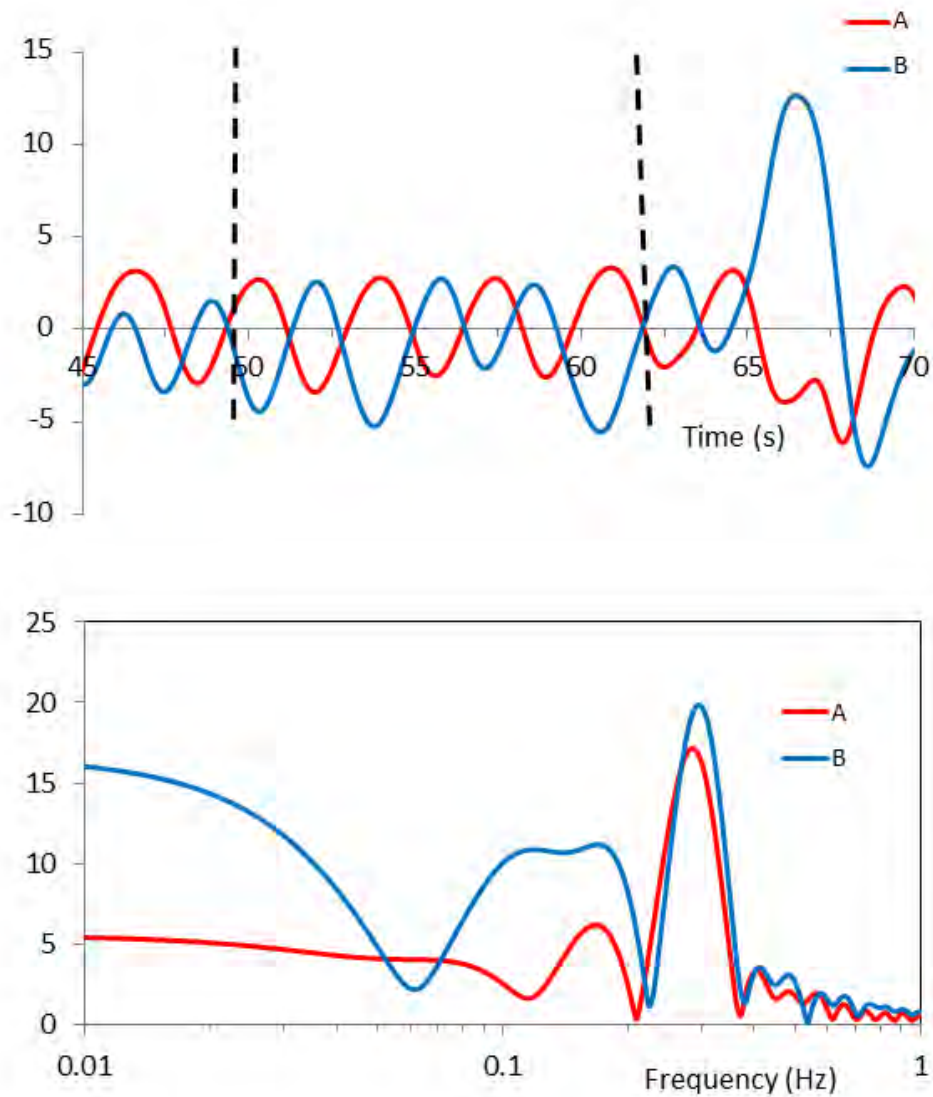


**Fig. 2.18** Dyadic breathing during silence; subjects A and B; silent phase (2m 16s). Top graph shows time domain; lower graph shows frequency domain.



**Fig. 2.19** Dyadic breathing during silence; subjects A and B; silent phase (2m 54s)

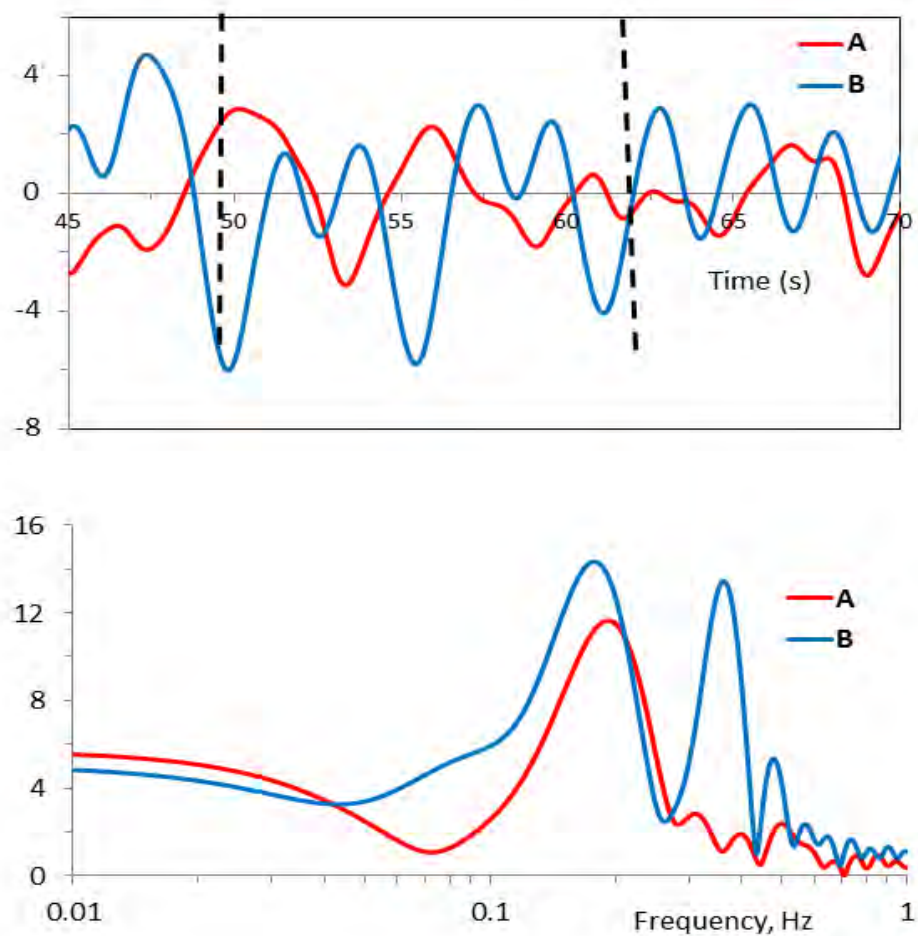
Immediately following the silent phase, synchrony was still evident, although now “out of phase”, as illustrated in Figure 2.20:



**Fig. 2.20** Dyadic breathing: A speaks; B listens (from 3m 52s), illustrating out of phase synchrony in transition phase.

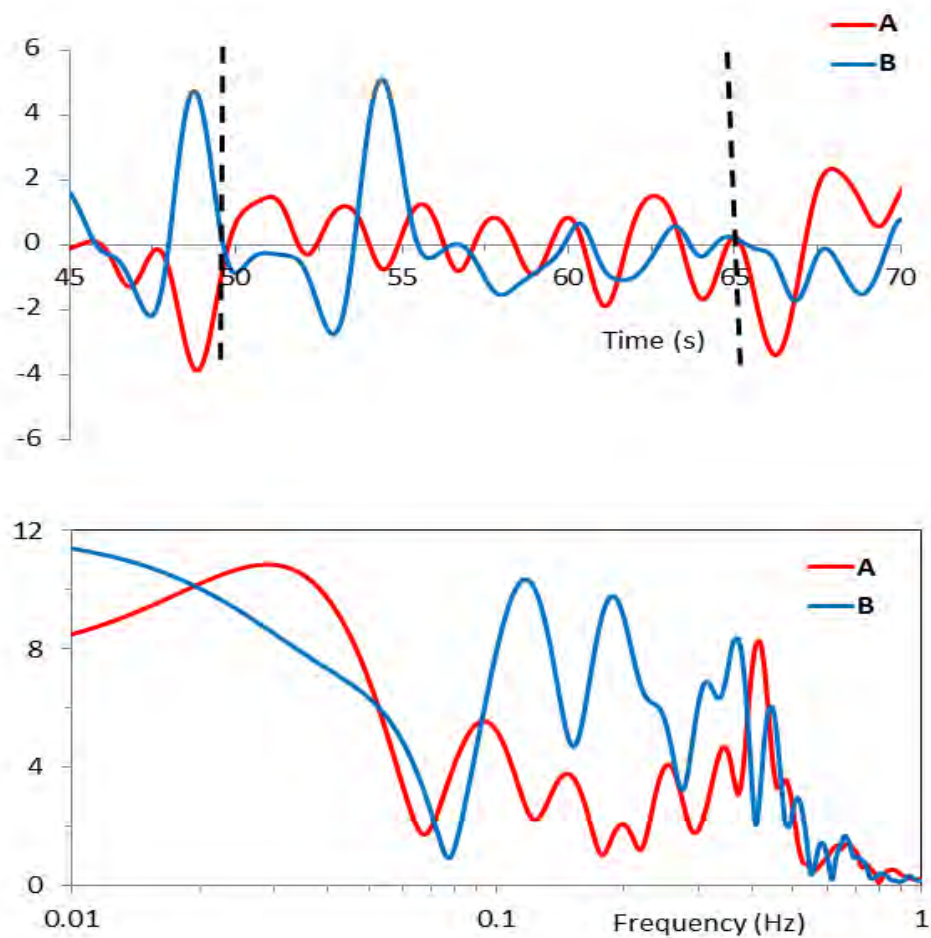
When A's speech turn became established, the synchrony between breathing patterns in the dyad was lost, with a shift, towards the slowing of A's breathing, while B's breathing

becoming more rapid. Over the whole speech turn A's average respiratory rate was 13 per minute compared to 19.3 for B. The loss of synchrony and relative respiratory rates are illustrated in Figure 2.21.



**Fig. 2.21** Dyadic breathing: A speaks; B listens (from 4m 53s) demonstrating slowing of speaker's breathing. The coincident frequency peaks in the lower graph at around 0.18 Hz are artefactual: the dominant peak for the listener B (approx 0.38 Hz) is not shared by the speaker.

Finally, when B speaks the situation is roughly reversed, although the difference between respiratory rates is smaller than when A was speaking. A's average respiratory rate is 14.7 while B's is 13.7. Again there is a loss of synchrony of the breathing patterns, evident in Figure 2.22. In the segment marked by the dotted vertical lines, the difference in breathing rates is pronounced, with A having 6 breaths to B's 3.

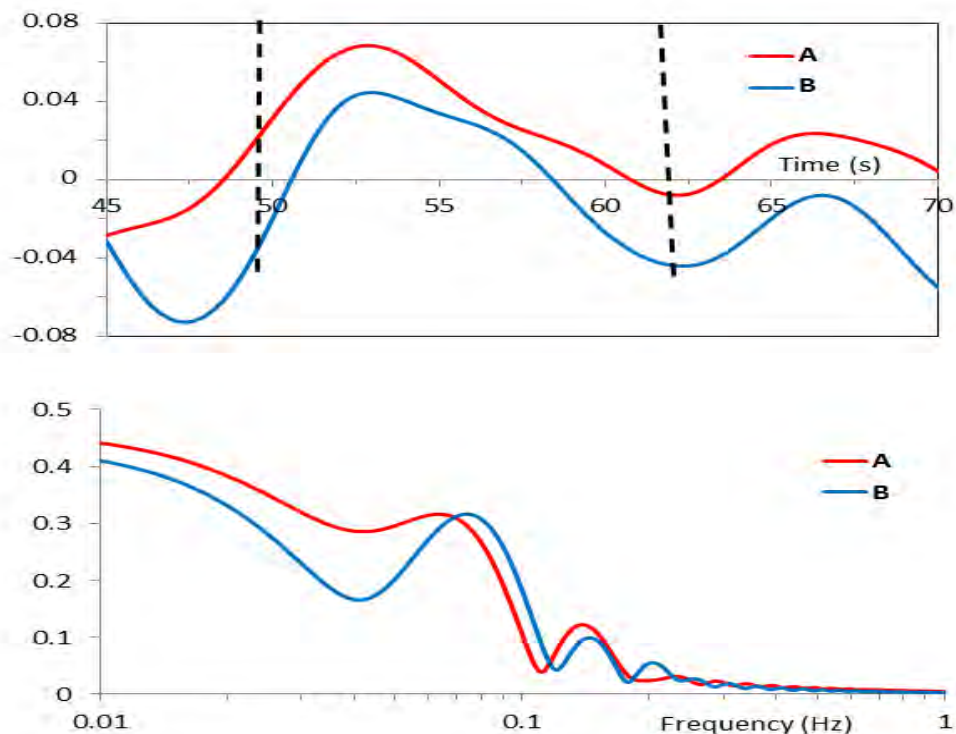


**Fig. 2.22** Dyadic breathing: B speaks; A listens (from 8m20s), demonstrating slowing of speaker's breathing. There is no shared dominant frequency peak.

In this session it was evident that speaking had the effect of slowing breathing, bringing it close to resting levels. Conversely, respiratory rates were more rapid when the subject was listening.

When RSA was examined, results were more difficult to interpret. However, there was no evidence that speaking reduced RSA. There were some periods of synchrony, and congruence, between the two members of the dyad, as illustrated in Figure 2.23, taken about 30 seconds into A's speech turn. This at least raises the possibility of autonomic synchrony, and congruence, during conversation.

The effect of speaking was not associated with reduction of RSA: it remained similar to the resting condition, with greater variability, in this sample. This is consistent with previous studies showing speech doesn't decrease RSA (Kotani, 2007). In the case of the "listening" condition, RSA appeared to show less amplitude variation, but there was not much change in absolute value. This finding is different to that obtained in the controlled breathing experiment, where there was a decrease in RSA with very rapid breathing (30 bpm). However, listening conditions in this sample, were associated with breathing rates below 20 bpm, perhaps suggesting that such breathing rates, under conversational conditions, remain consistent with predominant vagal regulation in both speaking and listening conditions. Data for RSA were less reliable in this study than breathing data, so conclusions about autonomic function remain speculative.



**Fig. 2.23** Dyadic RSA: A speaks; B listens (from 4m 6s), demonstrating synchrony.



### **2.10.2 Moving towards hypotheses regarding the relationship of speech to autonomic function**

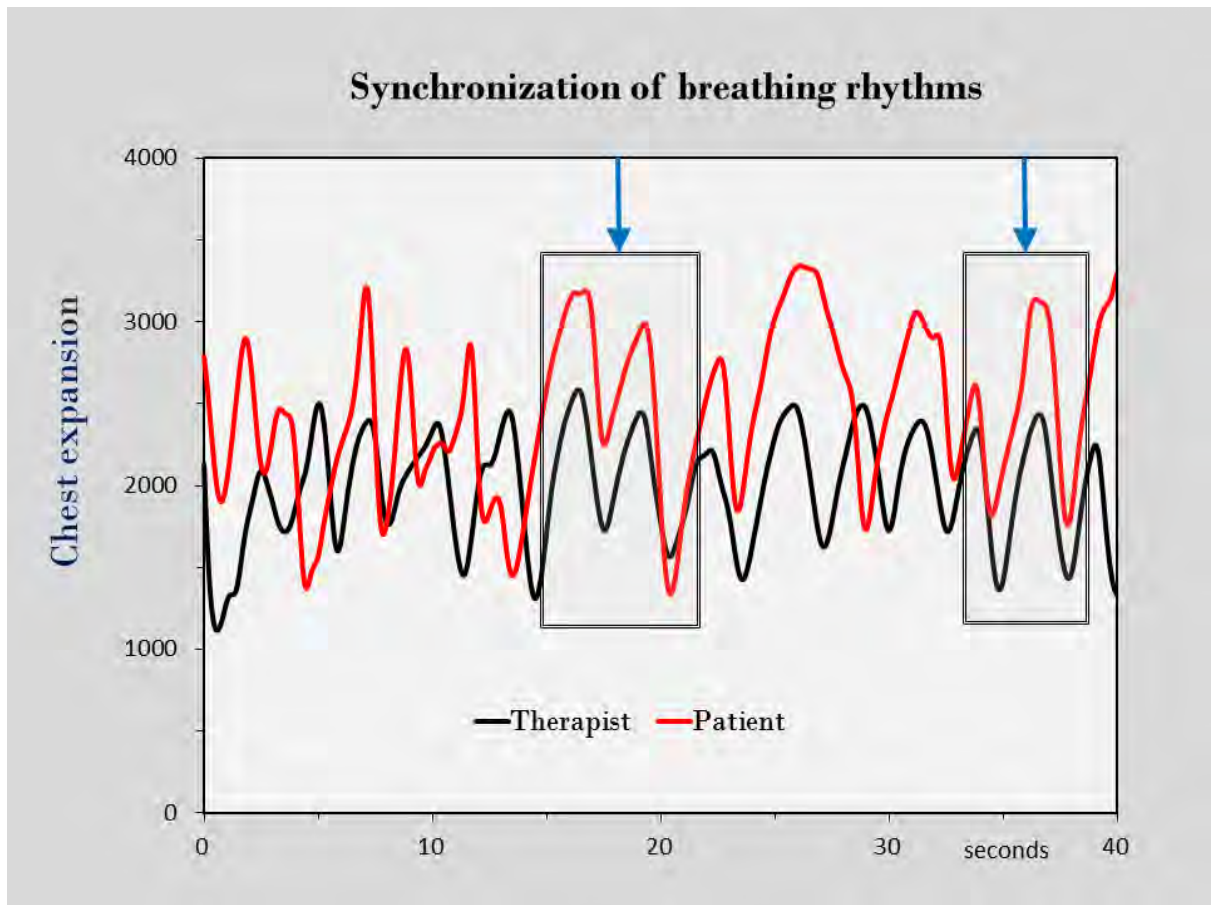
While it is not possible to draw firm conclusions from this data, the hypothesis that conversation may serve a metabolic function, in slowing breathing, is suggested. Slowing of the breath is a condition established as associated with higher vagal tone, possibly allowing more sensitive metabolic response to the environment. Moreover resonances are demonstrated, particularly in breathing, between people, in the dyadic situation. Under controlled conditions, these seem more likely to occur during periods of silence.

In one of the reported control (non-psychotherapy) conversation sessions (Control 5), one person did the great majority of the speaking (at least 80%). In this instance, the relationship of more rapid breathing when listening, and slower breathing when speaking, was replicated (see Part 5, Figs 5.10; 5.12). Data are also presented from Pilot 1.2 showing this relationship (Figs 5.1; 5.2; 5.3), although some with uncertainty relating to technical issues (synchronization of sound and respiratory data). Although these findings can only be considered preliminary, they are consistent with the hypothesis that conversation plays a role in autonomic, and metabolic, regulation. In an experience-near sense, this implies a role in affect regulation. The findings are also consistent with the idea of Porges that social engagement, mediated through a reasonably high level of vagal activity, is associated with rapid autonomic modulation of the cardio-respiratory apparatus. These findings would not be expected to apply to all conversations: a hostile argument, for example, would presumably have different implications. Meaning and context make a difference.

### **2.10.3 Illustration of breathing waveforms, in a non-controlled psychotherapy context; breathing as a variable of interest in social, and psychotherapeutic, relatedness.**

In preliminary work, patterns of breathing produced under naturalistic conditions, in the psychotherapeutic setting, were examined. Some further illustrations, of correlation between patient and therapist, were noted. An illustrative segment of breathing waveforms from an actual psychotherapy session is shown, in Figure 2.24, illustrating the potential of a non-invasive technique to measure breathing synchronies, and correlations, between people in a dyadic conversation, under naturalistic conditions. In this case the (naturalistic) experimental set-up was as described in Part 1 (1.4). It would clearly be of interest, and a demonstration of unconscious phenomena between people, if such synchronies can be shown to occur on more than a chance basis. Breathing shows great variability under naturalistic conditions, and recorded waveforms can have a lot of “noise”, making identification of the breathing signal problematic (Nemati et al, 2010). In principle respiratory waveforms are another example of a “non-stationary” signal, potentially amenable to a method similar to that here applied to HRV (Melkonyan et al, 2012), using the Similar Basis Function algorithm.





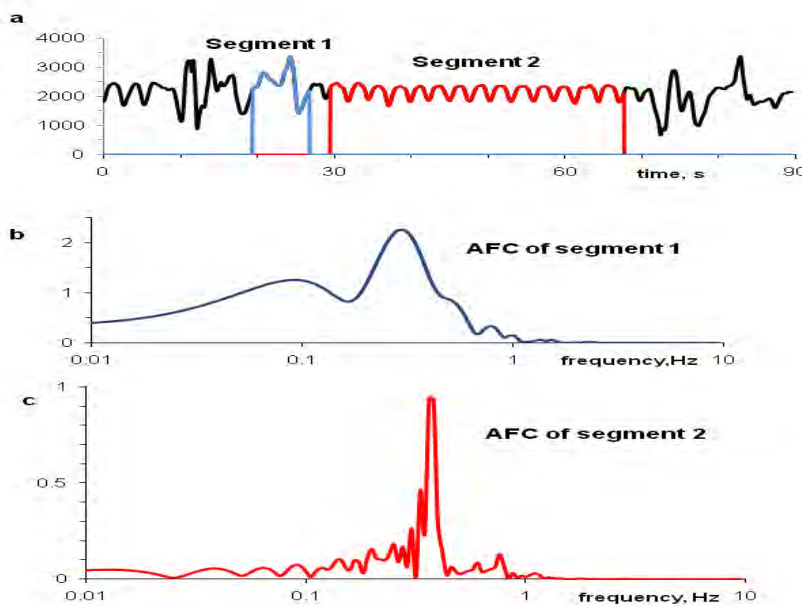
**Fig. 2.24** Illustration of synchrony in breathing waveforms between patient and therapist, during naturalistic recording of a psychotherapy session.

It has already been stated that breathing provides continuity in consciousness in a manner analogous to feeling. Respiration is driven largely, although not entirely, by non-conscious central nervous system centres, in the brainstem, and elsewhere (Cole, 1975, p. 64). In a quiet state, breathing is likely to be regular, although there will also be considerable variability in relation to body movement and psychological state. The setting of psychotherapy is a situation where it is anticipated that breathing rate, and form, will be influenced by a variety of factors including posture, bodily movement and, perhaps most significantly, emotional state. It is a situation where there are generally two participants, and it would therefore be expected, there may be some relationship between the two participants, in a number of ways. Therapists quite frequently note synchronies, or mirroring, of physical movements and posture in therapy. This kind of synchrony is likely to be seen as at least open to conscious, willed motives. Similarities between bodily functions whose control is largely via central, and autonomic, regulation, such as breathing and heart rate, would suggest “unconscious” influences at play between the two participants. The method developed for measurement of HRV, and potentially for breathing, offers hope of more detailed appraisal of this kind of interaction.

When breathing patterns were examined under these naturalistic conditions we noted considerable variability, as would be expected. Predictably, there were regular segments in the breathing. When one examines these segments graphically, they have the appearance of a sine wave, typical of a “resonating” system (Fig. 2.25). This leads to speculation that breathing

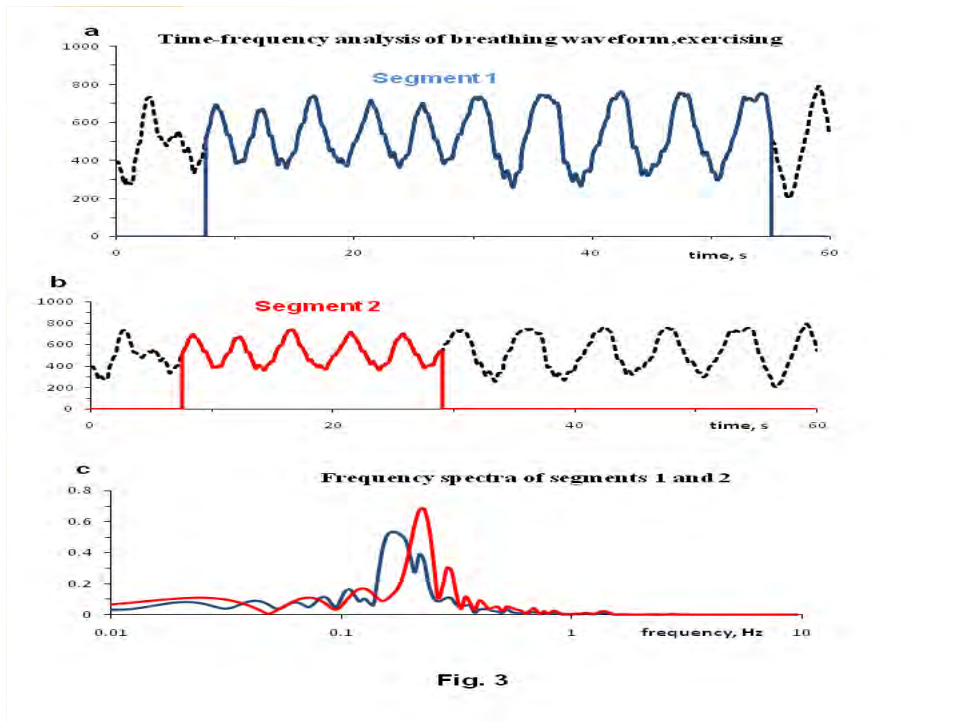
might be considered a form of macro-resonance. It is commoner for us to apply the term “resonance”, to sound and soundwaves. Yet, as has already been argued, speech and human sound production have a basis in breathing. This relationship perhaps might allow us to see the nuance of vocal production and communication as a form of “micro-resonance”; while breathing synchrony, such as illustrated in Fig. 2.24, could reflect “macro-resonance”.

The “sine wave” form of breathing regularity can also be seen under conditions other than the resting state: for example in exercise (Fig. 2.26). Breathing patterns during speech can display regularity, although more often show irregularity of waveforms (evident in Figs 2.21 & 2.22). These observations lead us to the hypothesis that it may be possible to demonstrate varying degrees of synchrony, in breathing patterns, between people in conversation.



**Fig. 2.25** Segment of Respiratory Waveform during psychotherapy illustrating relatively regular breathing, “close to” sine wave characteristics (Segment 2), with a corresponding dominant peak frequency (narrow spike, lower figure, red); contrasted with flatter frequency analysis of more irregular breathing (Seg. 1). “AFC” = Amplitude Frequency Characteristic”; a = continuous trace of breathing waveforms; b = AFC of Segment 1 (blue); c = AFC of Segment 2 (red).

\*The Respiratory Waveform in ‘a’ is in the time domain signal. The Fourier Integral transform (spectral analysis) transforms the time domain signal to the frequency domain. The essence of spectral analysis is signal decomposition into the sum of sines (harmonic components) with different frequencies. Each sine is characterized by the two parameters: the amplitude and phase. Conventional measures are the AFC itself (amplitude spectrum is a synonym); or the square of AFC, termed the power spectrum. In an ideal case, of a purely periodic sine wave, the AFC would simply be a vertical line indicating the pure frequency of the sine waveform. In biological systems, however, waveforms are not pure and the AFC discloses the time signal as a mixture of sinusoidal components. Where there is a dominant frequency as in ‘b’, there is a closer approximation to the pure sine wave than in the case such as ‘c’ where the AFC is flat and spread out.



**Fig. 2.26** Time – Frequency analysis of breathing waveform during exercise (data: courtesy of Zephyr Bioharness Corp)

## 2.11 Discussion: physiological correlates of self, and feeling, in the investigation of psychotherapy process.

Feeling, as the element in mental life providing continual analogues of value, is central to the sense of self, and the prospective experience of relatedness. Since it can't be directly measured, but only expressed in approximate, analogical ways, psychotherapeutic research struggles to find objective methods, to help define this dynamic aspect of mental life. The positive re-appraisal of the role of affect, and emotion, provided by the polyvagal theory, leads to the consideration of markers of autonomic response as potential physiological correlates of self. The myelinated “smart” vagus may be a physiological correlate of social engagement, key to affective life. Both breathing and RSA/HRV are physiological parameters continually varying, in context-sensitive ways, throughout life. As continuous variables, correlated with autonomic function via vagal pathways, they are promising markers of shifts in relatedness that occur in psychotherapy contexts. In this study breathing synchrony has been demonstrated in the psychotherapeutic setting (Fig 2.24; see also Figs 5.1; 5.2). Illustrations of breathing (Figs 2.18; 2.19; 2.24), and RSA (Fig 2.23), synchrony have been provided. Illustration of the slowing of breathing during speech, leads to the hypothesis that talking in relational settings, including psychotherapy, may serve metabolic, as well as expressive-affective, regulatory functions. Breathing patterns, and RSA, show promise as markers of affective change in individuals, during interaction: a matter of interest in psychotherapy.

The complexities of emotional responsiveness and interaction between people in the psychotherapy setting, and other social contexts, attest to the inter-relation of mind and body.

While the attention of each person is typically focused on the meaning of interactions, and the sense of self in relation to other, there is much that is happening at an unconscious, or non-conscious, levels in terms of physiological, autonomic and neuronal activity. Investigation of such phenomena requires a two-person paradigm. A sole focus on the responses of the patient leaves out half of the relational equation.

Interaction involving language is only meaningful in terms of the network that language provides: the speech fellowship and relationships, in which it is used. The exchange of meaning can never be precise, or externally defined. Emotional cues, and triggers, are personalized, often highly specific to a particular individual, and unpredictable, in the context of intense emotional exchanges, such as can occur in psychotherapy. The extent to which autonomic responses can be contained, and kept within limits that allow processing, and eventual reflection, is likely to be closely related to outcome in psychotherapy (Schore, 2011, pp. 79-95). The polyvagal theory informs us that attention needs to be paid to autonomic regulation between people. Language may itself serve this function, as evidenced by work showing vagal tone can be maintained during conversation (Kotani et al 2007); and also by the demonstration of slowing of respiratory rates during speech in this study. However for some people, particularly those prone to trigger into traumatic states, of hyper-, or hypo-arousal (Schore, 2011, pp. 79-95), additional work relating to enhancement of vagal tone, perhaps involving meditation, biofeedback, or other modalities, may facilitate optimal care.

Since humans respond to meaning, psycho-physiological measures might relate, both to the language of the conversation; and the sense of self, of each participant, in order to enhance the possibility of correlating physiological variables, with psychologically meaningful experience. In Part 3 one method of identifying pivotal moments, based upon the individual rating of shifts in self-experience during psychotherapy, is presented, with reference to data drawn from dyads in the study sample. Correlations derived in this way are “approximate” in nature, in part because the sense of self relates to a process that is constantly evolving, not a physical object. Moments so identified may give clues, based on the “private” data of self, to relational and personal dynamics, that could predict concomitant autonomic changes.

A major reason, for difficulty with full quantitative evaluation of data, relates to the lack of established methods of analysis. A new approach to the measurement of HRV has been presented, with the advantage of applicability to time frames relevant to the psychotherapy context. However it cannot yet be considered an established technique. There is no gold standard in continual autonomic measurement, and no reliable normative data. It may be that in the future, real-time quantitative evaluations of autonomic data are standardized across populations, providing normative values. However, although this may inform clinical care, it would still fail to capture the idiosyncrasies of personal affective reality, or the ongoing, evolving dynamics experienced in relationships. The linking of physiological variables, to self-report of change, may not provide information that can be generalized, but probably does provide information with validity for the particular psychotherapeutic relationship.

The cultural evaluation of emotional life in human experience may be changing, perhaps, amongst other things, reflecting the influence of the polyvagal theory. Beyond this theory, there has been increasing recognition, in recent years, of the importance of feeling to the development of self (Meares, 2005; Schore, 2012; Panksepp & Biven, 2012). This is thought

to relate to fundamental differences, between emotional (Right brain), and conceptual (Left Brain), processes (Schore, 2012). If feeling is seen as integral to what is meaningful in human lives, with a central role in evaluation (provision of a sense of value), crucial to the growth of self, then psychotherapists may be encouraged to respond genuinely, rather than defensively (i.e. affectively as well as intellectually), to the expression of emotion by patients. In Parts 3 and 4, the relationship of affect and language, is considered further, particularly in relation to interpersonal context.

### **2.11.1 Fuzzy ending.**

To conclude this chapter on a slightly, light-hearted, “fuzzy logic” note, perhaps the 20<sup>th</sup> Century, unconscious, view of emotion could be characterized as “*If I notice a feeling or emotion and it gets stronger then I better hide it or escape, or even shutdown completely*”; whereas an emerging 21<sup>st</sup> Century “fuzzy” view might be “*If I notice a feeling or emotion and there is no threat that can be seen, then I am free to direct my attention as I please*”.....

On a more serious note, the “fuzzy” scripts above might be considered illustrative, of how the language we select, can affect our apperception of basic psycho-physiological phenomena. In turn, this may influence the experience of these same phenomena.

In the 20<sup>th</sup> Century view the emphasis was on emotion relating to arousal, signalling danger or defence; while safety was identified, at least to some extent, with the lack of “emotion” impinging upon the mental state. In the “21<sup>st</sup> Century view” there is a more positive evaluation of feeling, with its correlation to the sense of liveliness and social engagement, under conditions of perceived safety. This makes affect a marker of personal value guiding interest and attention, necessary for the development of a positive sense of self; while maintaining appropriate recognition of a variety of challenges, that might require the individual to mobilize; and the recognition of genuine threat, requiring a full defensive response. The language of emotion in this vision is more normalizing than has typically been the case in scientific literature over the last century.



**Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

## **Part 3**

### ***Language***

**Making Meaning:**

**The realization of self through analogical exchange  
in embodied interactions**





## **Making Meaning: The realization of self through analogical exchange in embodied interactions**

### **3.1 Introduction and summary**

*“If to ‘metaphorize well’ is to possess mastery of **resemblances** then without this power we would be unable to grasp any hitherto unknown relations between things. Therefore, far from being a divergence from the ordinary operation of language, it is the ‘omnipresent principle of all of its free action’”.*  
*Paul Ricoeur, 1977 (p. 92)*

The development of self occurs significantly, although not exclusively, through processes of communicational exchange where resemblance and recognition allow likenesses, and distinctions, to form in the stream of consciousness. For the Conversational Model (CM), *self* is defined in terms of flow of experience in the form of the stream of consciousness. Self is realized in a network of relationships: both in the actual relationships of experience and the language we use to relate to, and understand, each other. Although self is a private dimension of experience, it is inseparable from, and dependent on, feeling, relationship and language.

In the Part 2 it was concluded that a shift in our conceptual understanding of feeling would not alter basic physiology, but may well result in alteration of the way we understand and value affect and emotion. Such shifts are also possible at the individual level, reflecting change in an underlying “script” (Tomkins, 1995; Meares, 2000); or “internal working model” (Bowlby, 1969, 1973, 1980). For each person, “self” is an essentially private process that, paradoxically, develops in a public space (Meares, 2005), notably the interpersonal communicative space. Self is a construct of meaning. In living persons, self has a voice.

In Part 3 language is explored in relation to the concepts of synchrony and diachrony, along with implications for development of self. Conversation is seen to emerge through phases of primarily iconic and indexical exchange, before reaching the level of knowing symbolic exchange. The bodily experience of communicative exchange provides an affective, as well as a conceptual, basis for maturation of self. Self grows through processes of exchange, to be understood as a developing, partially expressed text. Timings for meaning exchanges relate to the timings of language in conversation, therefore tending to be longer than individual self-states. These units of meaning exchange are described here as “narrative units”, since they serve the purpose of developing the patient’s narrative in therapy. The interpersonal domain of language includes felt and contextual elements, unseen in purely semantic descriptions of verbal language. An approach is described for operationalizing self-experience, the Change in Self-Experience Rating Scale (CSERS). This instrument is designed to be applied to conversational transcripts. Preliminary data, using CSERS, are presented. The data support the notion that “self-state” is of a different order to minimal phenomenal awareness.

Through their “ways of living”, people seek an embodied order organized around language. The notion of “Embodied Symbolic Order” (ESO) is proposed as a potentially operationalizable concept linking language to autonomic physiology.

### 3.2 Synchrony and diachrony: the Saussurean view of language

*"We are such stuff as dreams are made on; and our little life is rounded with a sleep."*  
*William Shakespeare, The Tempest Act 4, Scene 1*

Ferdinand de Saussure, a contemporary of Freud and William James, was a seminal figure in modern linguistics: *"the impact of Saussure's theory of the linguistic sign has been such that modern linguists and their theories have since been positioned by reference to him: they are known as pre-Saussurean, Saussurean, anti-Saussurean, post-Saussurean, or non-Saussure"* (Hasan, in press). Saussurean influence extends to many academic disciplines. In the modern world, *"Language is no longer regarded as peripheral to our grasp of the world we live in, but as central to it."* (Harris, 1988). Some of the central tenets of Saussure's *Course in General Linguistics* (Saussure, 1916) are discussed briefly.

Saussure contrasts what he terms "static linguistics", with "evolutionary linguistics", on the basis of the effect of *"the intervention of the factor of time"*, creating *"difficulties peculiar to linguistics"* (Saussure, 1959, p. 79). He highlights two axes relevant to the understanding of linguistic phenomena: *the axis of simultaneities*, standing for *"the relations of coexisting things and from which the intervention of time is excluded"*; and *the axis of successions*, where *"only one thing can be considered at a time but upon which are located all the things on the first axis together with their changes"* (ibid., p. 80). Subsequently he frequently refers to the axis of simultaneities as "synchrony", while the axis of successions is referred to as "diachrony" (ibid.).

Language, for the linguist, is seen as *"a system of pure values"* determined in a network of language relationships: words and phrases are not determined in a positive sense but only take on meaning because of the contrast with other value terms in the network of language (ibid., p. 80). When it comes to speech, both speaker and observer (linguist, psychotherapist, persons generally) are confronted with a state: the history of successions (changes of meaning) is not relevant to the speaker, who is concerned with expression of a state. Saussure saw contemporary linguists prior to his work, as being *"completely absorbed in diachrony"* (ibid. p. 82), that is with the process of change and the history and development of language, rather than instances of expression. While he considered it essential to examine both axes in the study of linguistics; in the individual, in the instantiation of speech acts, one is always dealing with a state rather than an evolution (ibid.).

In Lacan's application of Saussure to psychoanalysis he contrasts Saussure's description of *'langue'* as *"the social and collective institution of language as a system of signs possessing certain values and beyond the conscious control of the individual"*, with *'parole'* *"the individual act of combination and actualization of speech"*, seen as, *"an essentially conscious use of unconsciously determined structures"* (Lacan, 1968, p. 204). He also refers to synchrony having the quality of timelessness.

When we refer to "states" in the way described above we are clearly not referring to a situation outside of time: speech acts still require time for their utterance. Indeed in Saussure's discussion of static and evolutionary language he speaks in a relative way. In the case of the synchronic dimension, language itself, and its internal network of relations, constitute the object of study. In the diachronic dimension it is the change in language over time that is of interest. A given language or cultural group may be relatively "static" (i.e. the language and customs relatively unchanging) over long periods of time, or, as is the case in many modern developed communities, the pace of change can be such that attention is drawn to the evolutionary, rapidly successive changes of language and culture. When there are

clashes of language “state” between cultures, the stability of relatively static language/culture groups may rapidly break down. As an example, an Australian Indigenous elder speaks of “*the end of the Jukurrpa*” (“The Dreaming”) for Indigenous Australians, with the arrival of a technologically and culturally dominant colonizing group (Napaljarri & Cataldi, 2003, p. xx). Since that time, although “The Dreaming” continues as a cultural reality, it can no longer be all-encompassing in the sense of a total worldview, but rather it has become interpenetrated with other languages and views introduced by the colonizers (Korner, 2011). Some language groups have proved relatively resistant to outside influences. For example the Pirahas tribe in the Amazon area has maintained stable language and culture in the face of external influences that have had profound effects on neighbouring groups (Everett, 2008). This seems to relate to a culture which places great value on immediate experience, being reluctant to accept second hand experience as real, or valid (Everett, 2008).

An analogy can be made in individual development, with the psychic “states” developed under initial conditions of communicative exchange with carers and familial subcultures, and the later developments that occur in the context of an increasingly broad public exposure for the growing individual. In the CM, Meares contrasts two communicative (thought) spaces: one essentially non-linear, associational, and personal in form, corresponding to poetic language; and one that is linear, logical, goal-directed, essentially impersonal in form, corresponding to the language of objectivity and adaptation (Meares, 2005; Vygotsky, 1934). The first form is essentially that of play, most closely related to self, while the latter linear form is related to instrumental action and public manifestations of language, such as the law, that apply, impartially or impersonally, to all. In adult life both of these forms of language are “mixed up”, experienced and expressed in interpenetrated ways, largely unconscious to the individuals concerned.

It is evident that there has been a historical trend towards larger and more complex societies requiring development of institutions, bureaucracies, separation of powers, and other measures, in order to overcome corrupting influences stemming, in more ancient communal organizations, from familial ties, and personal connections associated with favouritism (Fukuyama, 2009). The net result for individuals is a world of increasing psychological complexity where it becomes more difficult to find one’s place and purpose than it was when communities were small, relatively culturally homogeneous, with limited role expectations, such as in tribal life (McWilliams, 1999). While IQ tests may mislead us into thinking that we are becoming “more intelligent” (the so-called Flynn effect) (Flynn, 1984), there is little evidence that modern societies are associated with greater happiness or improved mental health for their individual members. The Flynn effect; and greater familiarity with images and language abstracted from immediate environmental experience have been shown to result from changing patterns of education rather than increased intelligence (Hasan, 2005). In modern urban communities, for example, it is far more common, for infants to be familiar with “pictures of horses in books” than with actual horses. In everyday language this translates to more people in developed communities living life on the basis of mental operations (“living in our heads”) rather than living through the development of concrete physical skills. We are also, in these brave new worlds, increasingly confronted with a wealth of linear language, with respect to our legal and institutional systems, that often seems to lack personal relevance to individuals, and may be alienating.

When Shakespeare says, “*We are such stuff as dreams are made on; and our little life is rounded with a sleep*”, the *little life* referred to could symbolize the personal self, with timeless and dream-like qualities. The particular self, with individuated values and associations, born of life in communicative exchange with the environment, can be seen largely as a resource contained in the “synchronic” dimension of language. Personal

expression, feeling exchange, play, and intimacy are phenomena that shape the sense of value for individuals, held within this axis of simultaneities. On the other hand, linear language is more in keeping with the “diachronic” dimension of language, describing the world of external appearances; of events “one after the other”. In its pure form, this impersonal, logical and goal-directed language has instrumental value, particularly in relation to the development of ways of utilizing the environment. This is language in the public domain reflecting the larger society, in contrast to the *little life*. This contrast is accentuated by the sheer scale of the world that each individual confronts in the global era. For the individual, this kind of language describes observable characteristics and external identity, rather than the private inner world of self.

### 3.3 Signs and Symbols in the Psychotherapeutic Context.

For the CM, as well as for Saussure, and Systemic Functional Linguistics (SFL), **conversation** (i.e. instantiations of speech between people) is the natural form of language. This incorporates synchronic language (the expression of states of self, drawn from the axis of simultaneities) in the turns taken by individuals, reflected in the timings of the “present moment”, as discussed in Part 2. The conversation includes the response of the other, introducing a diachronic element involving the introduction of something “new” vis a vis “self” (i.e. the expression of the “other”). Developmentally, verbal vocalization is preceded by non-verbal vocal exchanges that already exhibit characteristic “narrative form”. The following section considers the identification of units of communicative exchange, including, but not confined to, verbal exchange, that would be appropriate for the study of self-states. Because the situation of conversation, in individual psychotherapy, is a two-person one, it is expected that the moments of exchange (and hence “change”), in a social and psychological sense, would be longer than individual self-states, because *reciprocal* processes of recognition and affective expression are involved.

In psychotherapy what is felt can only be approached analogically, as a matter of similarity or likeness, rather than one of identity. The therapist requires the medium of language to approach the private self of the patient, seeking understanding of his or her personal world. Language was defined by Saussure as a system of conventional and arbitrary signs that provide us with a network of value discriminations. He also took the view that “symbols” were not arbitrary, giving as example the “balancing scales” as symbol of justice (Saussure, 1959, p. 68), where there is a “likeness” (analogy) between the symbol and its referent. In practice, humans live in a world where language provides a medium that is both symbolic and non-symbolic, and where the task of sorting the symbolic from the actual is not always straightforward, since both forms of communication affect us in embodied ways. Therapists find that certain gestures, or communications, evoke unexpected responses in patients, suggesting the person of the therapist becomes a “symbol” to the patient, over and above any semantic content of the verbal exchange.

Jung refers to the symbolic in communication as, “*the best possible formulation of a relatively unknown factor which cannot be more clearly or characteristically represented, is symbolic* ..... *The symbol is alive only insofar as it is pregnant with meaning*” (Jung, 1923, p. 344). This is closer to what is conveyed in poetic or mythic forms of language, requiring a capacity for apprehension, referred to as the *symbolic attitude* (Jung, 1923). Where this is applied in the psychotherapeutic setting it allows metaphorical exploration in a manner that feels alive. Ricoeur, similarly, emphasizes the role of metaphor more generally in language, in creating vivid, living expression with new meaning (Ricoeur, 1977). In a particular

therapeutic dyad, certain metaphors may be found to “fit” experience, shifting and developing over time: *“a moving metaphor opens up depths of experiencing ‘where silence reigns’. It is one kind of living symbol.”* (Hobson, 1985, p. 61).

The Peirce-ian distinction of three fundamental relationships between a sign, and its object, enters the following discussion. These are, 1) the indexical relationship, denoting a physical or existential relationship between the sign and its object, meaning that such signs are tied to an “indexical present”; 2) the iconic relationship where there is a resemblance between sign and object; and 3) symbols where the relationship is without motivation, rather based upon convention and rules (Peirce, 1897). Peirce’s usage of “symbols” is somewhat similar to Saussure’s “conventional and arbitrary signs”.

In the process of psychiatric assessment and psychotherapeutic intervention, the development of narrative form, through formulation, is an important aspect of any psychological intervention. This involves development of a “story” rather than simply a “history of facts”. As such, it requires use of language that is personally meaningful and expressive of the emotional life of the person, rather than a dry recounting of events (Korner, 2010). Units of conversation with interpersonal significance are also likely to have potential in the ongoing development of personal narratives. An effective formulation involves rendering of a state into a dynamic (“moving”) form, with the sense of an evolving story implying future growth of self.

Saussure asserts that we cannot study both the diachronic and synchronic simultaneously (Saussure, 1959). At any given time we can focus on one or the other. In a sense this prefigures Heisenberg’s Uncertainty Principle, relating to measurement in physics: *“The more precisely the position is determined, the less precisely the momentum is known in this instant, and vice versa.”* (Heisenberg, 1927). This deals with the influence of the observer on the observed, now considered essential to an understanding of quantum physics, and its contrast with classical physics. As it is commonly understood, quantum physics refers to the world and its objects, either in terms of wave properties or particle properties, but cannot do both at once. Taking this quantum perspective as a metaphor for linguistics, it could be said that the diachronic dimension refers to man as communicative object (“particle”), experiencing one thing after another, both at the level of individual-environment interaction, and internal relatedness; whereas synchrony refers to the quality of that experience (what it is like), and how it is realized cumulatively in embodied communications. It is made real, psychologically, by felt processes of resonance (“wave”), and recognition, at any given time, understanding that any given state reflects a personal reality and context. The role of psychotherapy is to assist with elaboration of the complexity of the personal, allowing a broadening of consciousness and enhanced affective engagement with the world.

### **3.4 Communicative Beginnings: iconic exchange in the field of play.**

*“The spirit begins... as instinct, as an instinct to the word, that is, as the impulse to be present with others in a world of streaming communication, of an image given and received”*

*Martin Buber, 1947*

*“Symbolical transformation is a primary need of man. It goes on all the time throughout life, within and beyond awareness. It is the mind’s recreation and its re-creation”*

*Robert Hobson, 1985*

Proto-conversation precedes proto-language. Proto-conversation is a responsive interplay, between infant and carer, fostering the infant's capacity for play. From the beginning the infant has need to be "*present with others in a world of streaming communication, of an image given and received*" (Buber, 1947, p.230). The iconic exchange of images becomes organized into a flow of experience. Development requires "*symbolical transformation*" (Hobson, 1985, p. 85). Both refer to the basic need of people to find meaning, not only for its own sake, but also for the sake of organizing themselves as effective participants in the human social world. Symbolical transformation occurs primarily through the medium of conversation (communicative exchange) that occurs first at a proto-symbolic level, in the infant-carer dyad; then within the internal "I-me" relationship of self, once this is sufficiently established (usually by age 4) (Meares, 2005). It is more likely to be realized in therapy when a *symbolic attitude* is operating (Jung, 1923; Hobson, 1985).

At birth, physical separation from mother marks the start of a long journey of growth mediated through the infant's network of relationships, beginning with primary carers. This network carries human significance throughout life, both for the infant, and others with whom the infant is connected. Physical immaturity at birth, and the prolonged period of relative dependency during development accentuate, for humans, the need for sustained personal bonds facilitated through interpersonal communication, and the symbolic medium of language. An adequate early environment is one where the responses of carers approximately match the communications and needs of the infant; whereas a traumatic environment is characterized by: 1) impingement that exceeds the infants capacity to receive or respond; 2) neglect that leaves the infant isolated; or 3) failure to provide the field of play necessary to growth of the child's imagination and self. While discrete traumatic events occur only too often, the process of development will be most significantly affected by ongoing relational conditions that constitute forms of trauma not necessarily remembered as specific events (Meares, 2005; Meares 2012). In the early environment, images, such as facial expressions and vocalizations, gestures, and movements, are the initial contents of the flow of experience and become iconic for the emerging self, the basic sense of being-in-the-world. Where affect is too intense for the infant, the capacity to hold images, and experience flow, is likely to be impaired: there is disruption to the sense of "going on being" (Meares, 2005). In circumstances of severe neglect there may be insufficient exchange of images for an effective flow to be initiated.

While almost all children born into a "speech fellowship" (Firth, 1964) will acquire the mother tongue, it is clear that early developmental circumstances influence the manner of language acquisition, and hence the individual's internal relationship to language, manifested in speech behaviours. Early influence remains evident in adulthood, and can be identified using instruments such as the Adult Attachment Interview (Main, 1985), based upon evaluation of linguistic coherence of the person's speech reports, regarding self and family.

The experiential dimension of life isn't either objective or subjective in any pure sense. The "*place where we live*" (Winnicott, 1971, pp. 104-10) has elements of both. The world as it presents itself to infants is the world of persons, initially in the person of the carer(s). It is the area of personal existence that concerns us in psychotherapeutic practice. The initial conditions of experience play a significant role in determining how the world is sensed, and the worldview that individuals form, based on their own pre-reflective, pre-conceptual experience of the world into which they have been born. This worldview is typically taken, although often mistakenly, to represent "the facts" of the larger relational world (Korner, 2011). Where conditions are of a sufficiently "holding" environment accompanied by sufficient maternal absorption and emotional availability to the infant (Winnicott, 1956, pp. 300-05), and a suitable degree of support for that mother or carer, conditions are adequate for

the provision of the *necessary illusion* of safety, allowing psychological growth; attainment of trust and confidence in relationships; and exploration of the world (Winnicott, 1971). In contrast to Freud, who saw, “*the ego pitted against two tyrants: instinctual wishes and external reality.... Winnicott.... accepted reality as the ally of the maturational process in the infant and examined..... the character of the environmental (maternal) provisions towards the personalisation of the infant’s ....psychic potential into selfhood*” (Masud-Khan, 1975, p. xxxvii-xxxviii).

The sequence that occurs at birth can be taken as paradigmatic of cycles that occur between infant and carers at a communicative level, subsequently iterated with enormous variation, leading to the development of particular personalities, and relationships. The infant is born and with the first breath *cries*. This surely is paradigmatic as a *mood sign* (Bateson, 1954), in terms of its interpersonal significance. Although the infant is not aware of doing anything in an intentional sense, unconsciously (*iconically*) this is a communication, of a type shared with other mammals, which has significance, and is therefore referred to as the *separation* or *isolation call* (McLean, 1985; Newman, 2003). For the listening carer this cry is usually at the forefront of consciousness. It is an “*image given and received*” (Buber, 1947, p. 230), even though the “giving” of the infant, requiring physiological effort, is unconscious. Although the cry is not always understood as communication, often being seen as a signal of distress, it is undoubtedly one of the most powerful communications in the human repertoire, typically driving those in the vicinity to *act* by taking measures to comfort and settle the infant, involving being held; warmed; or assisted in any manner necessary at the time. Such measures are characteristic of normal way carers respond to distress, and generally to displays of discomfort or “negative” affect in the infant: something needs to be done. These can be contrasted with responses that characterize states where the infant is expressing well-being or interest in the environment where normally the carer tends to match, amplify or otherwise encourage the infant, allowing development of a field of play (Meares, 2005; Meares & Lichtenberg, 1995; Meares & Jones, 2009). Distress, and “non-distress” (well-being), are effectively two different systems handled in distinct communicative ways (Meares & Lichtenberg, 1995). Similarly to the “cry”, the “smile” could be considered paradigmatic as a mood sign representing the system of well-being. The “cry”, nevertheless, is the first act of the infant as communicant (Brazelton, 1979).

Although it is the case that the cry represents the first, and therefore, paradigmatic affective communication, the notion of *mood signs*, as described by Bateson, refers to increasing differentiation of signs occurring in particular relationships, as the mother/carer gets to know more specific signals that the infant is making, and the infant develops an increasingly specific repertoire. Once it is understood that signs are not invariably linked to real danger, signals become recognized as “*only signals*” and therefore as having communicative significance (Bateson, 1954, p. 132). There is an emergence of communicative space, and the differentiation of the actual, from play. Carers typically contribute to communicative interaction by “marking” their responses to infants (Fonagy et al, 2002), demonstrating playfulness, the absence of danger and the sense of interest in, and connection to, the being and well-being of the infant. Marking typically involves exaggerated facial responses and vocalizations, with emphasis and amplification relating to the intonations of spoken language characteristic of the mother tongue to which the infant is acclimatizing. Many of these interactions proceed without conscious intentionality, being forms natural to the circumstance. Exchanges involving resonance and play, with the creation of a relationship that includes recognition and safe difference (as in the “marked responses” of the carer) have been referred to as the *shared third* in psychoanalytic literature (Benjamin, 2004). If an atmosphere of play is sustained, there will be a sense that what is “only play” has not only a sense of safety, but also an element of revocability: that which occurs is not associated with the risk of damage

and irreversibility. Within such an environment, the infant's tolerance of affect is likely to be broadened. Without such an experience of play, even apparently minor interactions, like a raised voice, may be felt as a blow, carrying the sense of irrevocability that inhibits growth of self.

Marking responses draws the attention of the infant, and perhaps conveys "something new" that can be received. Even before words are understood, the principle of exchange is developing with the sense that the carer's tone will herald new information in an affective sense. This principle will continue once verbal language is established through the tonal emphases, rhythms, and musicality of language. Iconic tonal, melodic, and narrative forms begin to structure the exchanges of the proto-conversation.

Much of the knowledge of mood signs that develops in relationships is implicit knowledge, thought to be mediated through right hemispheric processes, which are of dominant importance relative to left hemispheric processes in the first two years of life (Schoore, 2012). These processes are inaccessible to declarative consciousness. Hence conscious intent is often not relevant, and should not be so attributed. In the current state of knowledge of "voluntary" action (i.e. involving 'voluntary' muscles), Bennett comments "*it is patently absurd to claim that before each voluntary act there is a separate act of willing*" (Bennett, 2009, p. 294). Interaction with carer involves the infant's brainstem and diencephalic structures, well developed by birth, allowing coordination with the autonomic nervous system and body generally, given that some of these nuclei (locus coeruleus; serotonergic raphe nuclei; dopaminergic nuclei; cholinergic; and histaminergic, nuclei), "*project diffusely to huge portions of the brain...(leading us to designate) them collectively as **value systems***" (Edelman & Tononi, 2000, p. 46).

The importance of mood signs(affective expression) is increasingly being recognized as crucial to the development of language (Panksepp, 2008; Shanahan, 2007). Where a capacity for play has developed adequately it will be more possible for individuals to process stimuli at an "as if" level (i.e. 'within the brain'; bypassing high degrees of bodily arousal), economical in terms of energy expenditure (Damasio, 1994, pp. 156-7); as opposed to the experience of individuals, often with traumatic backgrounds, where stimuli, including linguistic stimuli, are more likely to recruit bodily defence systems, with associated energetic costs.

These types of communicative interaction contribute to the development of a field of safety where the infant's instinct to play can be realized (Freud, 1915; Meares, 1990). While play is a form of interaction in common with other mammals, in humans the capacity for *symbolic* play greatly augments the range of participation in play. Even in other mammal species, it is evident that there are implicit rules: in the rough and tumble play, say of monkeys. Specifically both parties understand that "play combat" is not real combat or that a "playful nip" is not a "real bite" in the sense that it is "*not meant to harm*" (Bateson, 1954, p. 133). The development of a field of play leads to a situation where actions are understood as "not serious" or "not fully meant", although they retain the sense of "*standing for*" something that could be meant seriously, or require a defensive response (ibid.). This formulation of play allows us to see the interpersonal interactions that occur between infant and carer as a forerunner of symbolic and imaginative worlds, necessary to development of a self competent to engage with, and live in, the human world.

Where development proceeds in good conditions, infants show a capacity to switch between the world of play, imagination and pretence; and the world of actual events: a parent, for example, is observed playing with a child who is eating an 'alphabet soup', communicatively "marking" the "bits" in the soup as "*horseys*" in a way that engages the toddler in a game, yet



the child is not confused that these bits are “*real horseys*”, and proceeds to eat them as part of the game, retaining a grasp on reality (Emde et al., 1997). Under such conditions there is likely to be an element of pleasure in communicative exchange. In all cases there will be times when, at the boundaries, play may spill over or switch into “serious” interaction with sudden loss of the sense of safety. Analogously, psychotherapy felt to be significant by the participants, may also have some sense of risk: people will feel themselves to be working at the boundaries, on occasions, of what can be tolerated. If negotiated successfully, the effect will be a broadening of affective range.

The *shared third*, referred to above, is one way of characterizing the necessary provision of effective intersubjective communication that is a prelude to the development of symbolizing capacities, not only in development, but in the context of psychodynamic psychotherapy (Benjamin, 2004). This can be understood as engagement in a field of play that begins to take the dyad beyond the constraining indexicality of present affective exchange, towards the symbolic resources of language, allowing for more flexible participation in relationships. From the point of view of self, the “third” could be taken to reflect the “myself” that emerges in the non-linear, relational field, between people. “*Self is not only ‘inner’ but is found, or at least manifest, in this metaphoric (play) space*” (Meares, 2000, p. 26).

In most animals perceptions are responded to by movement and action, without significant delay. Where a human infant can perceive the other without taking action, he or she is left with a “*freestanding image*” which becomes “*seasoned with more and more emotional experiences*” (Greenspan & Shankar, 2004, p. 27). It is “*on its way to becoming an internal symbol*” (ibid.). In such a way we can see how significant others take on iconicity in early development, as does the infant for carers. This creates a situation at the same time actual and symbolic. The type of emotional signalling that is creative of self requires warmth: “*the baby needs to have been wooed into a warm pleasurable relationship...so that there is another human being towards whom he experiences deep emotions and, therefore, with whom he wants to communicate*” (Greenspan & Shankar, 2004, p. 28-9).

Under less than adequate conditions, parents are less emotionally available, and will tend towards a more primary focus on necessary actions such as doing something when the child is distressed; making sure that the child is fed, etc. Under severely traumatic conditions even these actions may be compromised and the field of play will be grossly deficient or absent. However in all relationally inadequate situations there is attenuation of the conditions required for playful interaction, and the positive regard and interaction necessary to play. Traumatic consciousness is asymbolic, limiting the capacity for symbolic play and development (Meares, 2012, p. 302). The result may be that the experience of language and communication is more closely related to actual events that take place, with less opportunity for social pleasure through communication, and development of imaginative capacities.

### 3.5 Proto-language and indexical exchange.

In the detailed observation of communicative / language patterns that developed between a male infant and his mother, Halliday noted the development of what he termed “*proto-language*” in the child between the ages of 9-18 months (Halliday, 1975). This corresponds roughly to the period of development of the sense of the “intersubjective self” (Stern, 1985), and is well after the establishment of the “*proto-conversation*” (Trevarthen, 1974) which can be observed to some extent from birth and, under good conditions, is well established by three months. Interestingly, Halliday observed that this “*proto-language*” is not specifically related

to the mother tongue, and that, while functional in specific contexts, it lacked grammar. Hence it is to be understood as an indexical form of communication, tied to the present, that nevertheless serves a variety of functions. Halliday enumerated these, in the particular case, as 1) Instrumental (glossed as, “I want that”); 2) Regulatory (“do that”); 3) Interactional (“hello, pleased to see you”); 4) Personal (“here I come”); 5) Heuristic (“tell me why”) and 6) Imaginative (“let’s pretend”) (Halliday, 1975, pp. 19-20). Of these the first two are to be understood as primarily practical or pragmatic in function, whereas the next two are primarily interactional / social, and the last two would seem to be related to the development of differentiating and imaginative capacities. The first to develop, under what appeared to be reasonable conditions, were the “interactional and personal” functions. It might be expected that under inadequate conditions it is likely the “pragmatic” functions would be first to develop. This would entail less opportunity for play; less space for the separation of object and action; and for development of reflective function.

At the level of proto-language, specific meanings are differentiated, although remaining bound to present experience in the infant-carer dyad. The players in this communication are subjects of each other’s attention in the immediate context. However the infant hasn’t become a grammatical subject, capable of locating him, or her- self in the broader conceptual world of the speech fellowship. Although a participant at iconic and indexical levels, the infant is still an “unknowing” actor in the symbolic medium of language. The acquisition of grammar, as the infant begins using the mother tongue, marks the initiation of “knowing” engagement with the conceptual world. Although competence with the mother tongue involves the child as active participant in a symbolic medium, it is not equivalent to development of a symbolic mode of thinking.

### 3.6 Conversational exchange and the narrative unit: building personal meaning.

Systemic Functional Linguistics (SFL) divides the notion of subject, fundamental to all Western grammatical traditions, into 3 parts: *theme* (*psychological subject*); *subject* (*grammatical subject*); and *actor* (*logical subject, doer of action*) (Halliday & Matthiessen, 2004, p. 57). In turn these distinctions are used as the basis for identifying three invariant (always present) dimensions of functional meaning in language: *theme* corresponds to *clause as message*; *subject* to *clause as exchange*; and *actor* to *clause as representation* (ibid., p. 58-9). Broadly speaking these can be understood as the function of imparting information (message); the “interactional doing” of language, and its affective accompaniments, that effectively provide a “warrant” of what is being said (exchange); and the image / concept meant and received that reflect processes in ongoing human experience (representation) (ibid., p. 58-9). Representation is seen as corresponding more closely to discrete concepts or chunks of meaning, termed a “segmental organization”, while message is seen in terms of “*culminative*” patterns of communication that have personal narrative form relevant to the development of coherence (ibid. p. 61). The exchange characteristics of language, on the other hand, are most evident in the prosody, and affective qualities of linguistic interaction, sensed as continuous, rather than discrete, forms of expression, probably contributing to the sense of continuity of self. The more personal dimensions of language, and hence more closely related to development of self, are *clause as message*, and *clause as exchange*; whereas *clause as representation* is more related to language as a system of value discriminations with existence independent of any given individual.

In turn these three dimensions of the clause relate to what SFL terms “metafunctions” (ibid.). These (also) invariant properties of language consist of 4 basic functions: the “*experiential*”

which involves “*construing a model of experience*”; the “*interpersonal*” which involves “*enacting social relationships*”; the “*textual*” which involves “*creating relevance to context*”; and the “*logical*” involving “*constructing logical relations*” (ibid., p. 61). The first 3 of these are related to the 3 clause functions in the preceding paragraph: the experiential metafunction corresponds to the clause as representation; the interpersonal to the clause as exchange; and the textual to the clause as message. The fourth is often grouped together with the “experiential” as the “Ideational Metafunction” (Butt et al, 2000). It relates to constructions that increase in complexity as growth proceeds, depending upon “iterative structures” rather than culminative, discrete, or continuous structures (Halliday & Matthiessen, 2004, p. 61).

The *interpersonal* metafunction is of particular interest to the significance of action and interaction in psychotherapy: the “doing” of therapy. In interpersonal terms, reflecting speech roles, all linguistic communications can be reduced to having properties of the “giving”, or “demanding”, of either “goods and services”, or “information” (ibid., p. 107). These are set out in the table below giving a 2 x 2 range of possibilities for any given communication.

	Goods and Services	Information
Giving	Offer	Statement
Demanding	Command	Question

Table 3.1 *Transactions in the Interpersonal Linguistic Realm* (after Halliday & Matthiessen, 2004, p. 107; Fine, 2006, p. 52)

The process of exchange is already been present in the proto-conversation. Giving and demanding will be significant in shaping personality. Where the environment is not sufficiently responsive, the infant may try escalating demands which, if successful, may become an established strategy. Alternatively if the environment remains unresponsive, the infant may become withdrawn and apathetic, superficially “undemanding”. The anxious, or immature, parent may perceive ordinary gestures as demanding and have difficulty seeing the infant’s behaviour as having any “giving” component (all that seems to be given is the same “burden” or demand). A well-adjusted parent, on the other hand, may delight in the expressions the infant “gives”, or simply in its vigour or contentment: “new” experiences that relate to this new relationship. For psychotherapy, the “goods and services”, or “offer”, of the therapist is of attention, and relative warmth in affective exchange; while the “command” relates to the limits, or framework, of the therapeutic relationship, which usually includes some form of payment. On the “information” side, it is clear in Table 3.1 that information in the form of statements is likely to be experienced as “giving”; while questions are often found to be “demanding”.

The “giving” and “demanding” of information occurs more at the mental-relational level; whereas goods and services often implies material exchange. Much that occurs at the informational level is not strictly seen or observed, particularly by those external to the interaction, who lack access to the same body of referents that make sense to the participants. Even within the conversational dyad much that goes on at this level is unconscious, related to “mood signs”, and gestures, not directly encoded in verbal language. Conversational analysts see “*the basic unit of language as the turn constructional unit*” (Schumann, 2007, p. 281) which is to say that conversation is basic to language, constituting the interaction from which “*grammar is an emergent property*” (ibid., p. 281).

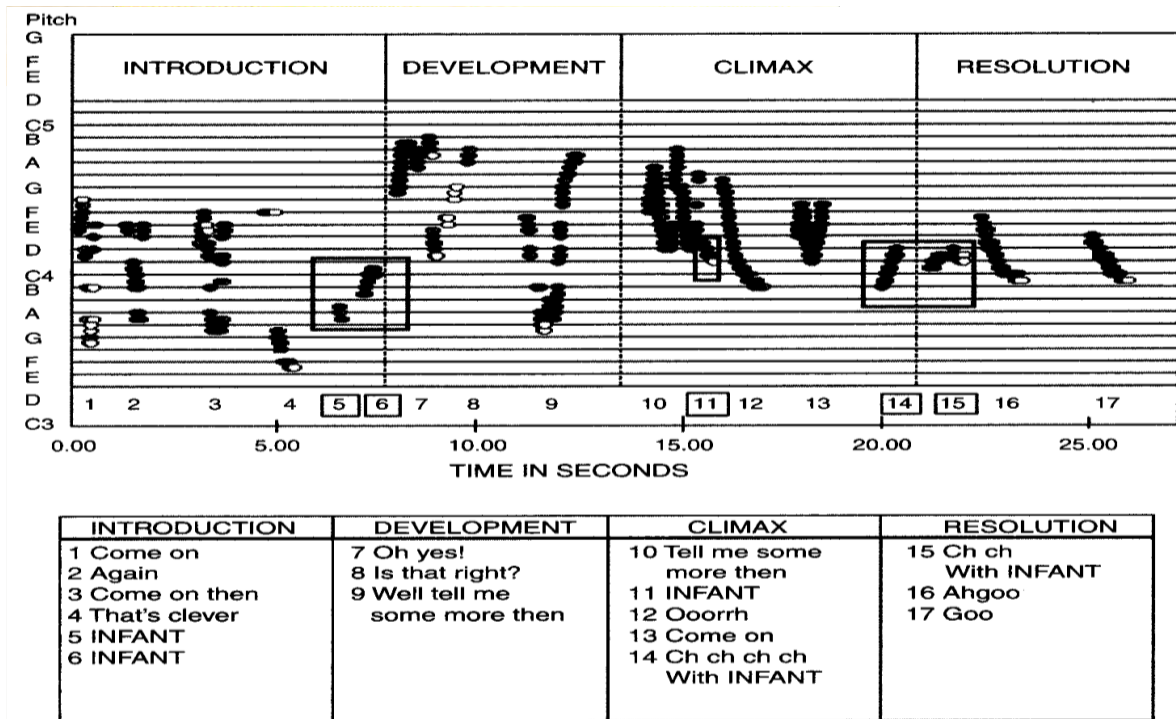
Language provides resources for organizing the flow of discourse: grammatical / structural units on the one hand; and units of text on the other. Texts vary greatly but would usually

have narrative qualities. Intonation, rhythm, and emphasis in spoken language divide expressions into marked segments that don't necessarily correspond to clauses or grammatical structures. This marking, or tone group, will be taken to denote significance regardless of the grammar, with the segment so marked being considered a "unit" by the listener. Narrative form, apart from its grammar, may be evidenced in these units by melody / pitch contours denoting a musical phrase, with beginning, middle, and end. Halliday refers to these non-grammatical textual resources as "information units" where he considers the basic informational unit as involving "*an obligatory New element*" and "*an optional Given*" (Halliday & Matthiessen, 2004, p. 89). One is the focal point of the communication and the other reflects a matter "already known". The "given" can be left out sometimes because the "known" referent can be assumed in communications. "Given" and "new", also correspond, generally, to "theme" and "rheme". 'Given and new' reflect the "listener's perspective", while theme reflects the "speaker's point of departure"; and the rheme reflects the speaker's way of developing or adding to the subject introduced in the theme (ibid., p. 93). In unmarked written language it may be hard to discern emphasis, and meaning may relate more closely to grammatical structure. However where the written word is personally known (e.g. by the author of the text, or where there is familiarity with the text) information units not strictly related to grammar may still be discerned.

The "information unit" thus described seems like an appropriate unit for textual analysis in psychotherapy. Given that psychotherapy is an asymmetrical relationship with a focus primarily on the patient's world, it is relevant to consider "information units" from the point of view of the patient, although clearly in conversational units they could be considered from the perspective of either party. The transmission of information in a conversation requires processes of reception, response and recognition to constitute "an exchange". Such exchanges are continuous in human lives across, in the larger scheme of humanity and language, an infinite number of "information units".

From the patient's perspective a minimal unit of exchange, relevant to growth of self, would relate to a communication; a response (not always verbal, perhaps gestural or 'mood sign'); and recognition of that response by the patient (again not always verbal). As discussed, this would relate to a longer period of time than the "present moment" (spans of experience accessible to self) because it involves at least one other person. A clue to what such a meaningful span of time may be in human experience is provided by observations of infant-carer vocalizations.

In his classic description of the component of felt experience termed "vitality affects", Stern emphasized the rhythmic, surging, fading, pulsatile and melodic properties that accompany human interactions (Stern, 1985). In observations of a mother with her baby, who was still in the neonatal period, the following pitch contours and melodic patterns were recorded (Fig 3.1):



**Fig 3.1** Pitch and time contours of vocal interaction between mother, Laura, and baby (from, Malloch & Trevarthen, 2009, p. 5)

In analysing this exchange a classical four part narrative structure is evident with “Introduction, Development, Climax, and Resolution” (Malloch & Trevarthen, 2009). This is seen as an inherently musical structure, also seen in other forms of interaction that become manifest in play (for example physical movement has dance-like rhythmic properties), leading to the proposition that *“it is our common musicality that makes it possible for us to share time meaningfully together”* (ibid. p. 5). This example demonstrates “musical” vocal information transfer that precedes verbal / conceptual (segmentally structured) information transfer. Rather its central phenomenon is affective interplay and continuity, aspects of the interpersonal dimension of language. The timings of *phrases* within this narrative structure correspond roughly to the timings of the present moment discussed in the previous chapter (Mazokopaki & Kugiumutzakis, 2009; Gratier & Apter-Danon, 2009). However narrative-like episodes of vocal exchange last between 12-30 seconds (ibid., p. 302) or, in their more complex forms, minutes or longer (Osborne N, 2009, p. 548). These timeframes are thought to relate to *“the creative interpersonal coordination of expression in time generated by the brain and active body, constitut(ing) a crucial basis for subjective experience”* (Gratier & Apter-Danon, 2009, p. 302). These patterns emerge spontaneously: *“Infants, like jazz musicians, may create their spontaneous music within any ‘grammatical’ structure of the musical culture that they have absorbed”* (Bannan & Woodward, 2009, p. 474).

Timeframes, relevant to meaningful conversational exchange, and the emergence of narrative structure, will be referred to as **narrative units** in this study. This is based on the conclusion that “information units” (in language) and “narrative units” (in language; music; and embodied interactions) are related. Moreover, the relevant time for examination of such units relates more to a sense of inter-subjective time than it does to the timings of a one-person system. Simple units of 12-30 seconds, and more complex units of varying length, might conform to the sense of a narrative which, in its simplest form, has a beginning, middle and an end. For the purpose of the present study, units of time reflectively accessible to a particular self will be taken to be in the range 2-12 seconds, and the timings of simple *narrative units*

will be taken to be 12-30 seconds, broadly consistent with the reviewed literature. Such simple narrative units could be considered the minimal unit of exchange for co-creation of narrative, an activity at the heart of psychotherapy.

In the next section a measure relating to the inter-subjective field of “self and other” is put forward. The intent is not to come up with a “standard” measure to gauge against a normative sample, but rather to engage patient and therapist in a reflective process that has the effect of “thickening” or expanding the available information in the synchronic (contextually-based) dimension of language. This is consistent with a psychological form of research that seeks not only to reveal new data, but also contributes to the therapeutic process by actively engaging patient and therapist in the research process.

### 3.7 Measuring Self-State

During a brief discussion I had with Gerald Edelman, following a lecture he gave on the subject of consciousness in 2006, he described his view of consciousness as a “resonating system with digital characteristics” (Edelman, 2006). This could refer to the resonating characteristics of affective life; and the circumscribed properties of conceptual life. Elsewhere, he compares consciousness to a sequence of discrete images (specific ‘digital’ units) on a film that, when played, give the illusion of continuity of movement (aliveness; ‘resonating’ interplay) (Edelman & Tononi, 2000, pp. 20-34). These discrete units of consciousness can be very short to the extent that much of the stream of consciousness inevitably does not get integrated into memory or the stream of self-awareness. In this thesis it has been argued that the present moment, related to the rhythm of breathing, and the linguistic rhythms of phrases or clauses, is an appropriate unit of study. However because higher consciousness requires interpersonal, intersubjective processes (involving language), for significance to be felt, it is also necessary to consider the larger *narrative unit*, as necessary to understanding the interactive, conversational level of experience.

In considering the way in which self operates interactively, it should be remembered that initially the carer serves an important homeostatic function for the infant (Bowlby, 1969, ’73, ’80; Lichtenberg, 1989; Schore, 1994). Others continue to play a role in regulation for the self throughout life (Kohut, 1971), although the individual becomes less dependent upon a specific carer. Homeostatic dynamics attempt to maintain individuals in a zone of comfortable functioning, both physiologically and psychologically. In interpersonal terms, as described by Piaget, individuals will prefer to *assimilate* interpersonal, and other environmental information into pre-existing internalized schemas where possible; while processes of *accommodation* normally come into play when stimuli cannot be so assimilated (Piaget, 1954). The bias towards assimilation will mean, in relation to conversation, that not every piece of what is new in spoken “information units” (Halliday & Matthiessen, 2004) will be responded to as if it is really “new”. The self that sticks to a pre-existing (unconscious) schema will not “see” what is new, in the other’s offering. This constitutes an aspect of difference in perspective, between one person and another, in relation to many messages shared in conversation. While the “representation” (semantic meaning) may be known to both, the precise message will often have different shades of meaning for each. These factors will affect the frequency with which shifts in self-state are experienced.

In this study an instrument has been developed based on the notion that all human experience can be considered to vary in its sense of “liveliness”, or “aliveness”, from high degrees of liveliness to experiences that feel deadening, or even incompatible with sustaining life (i.e.


overwhelming / intolerable). This variable has been chosen because it is likely that it corresponds in a meaningful way to affective experience from the beginning of life as a separate being (from birth). In a previous paper, a reformulation of Freud's two principles of mental functioning, the pleasure and reality principles (Freud, 1911), was made, utilizing the principle of liveliness (Korner, 2000). Liveliness as a term does not make assumptions about discriminations between "good" and "bad", inappropriate to early stages of development (Korner, 2000). It is relevant to interpersonal / intersubjective phenomena, whereas Freud's theory was more focused on a one-person (intrapsychic) system.

The seven-point scale and associated instructions are set out on the following page (Fig 3.2) (also Appendix 2). The selection of "seven" as the number of points is common in psychological testing, possibly reflecting an aspect of human discrimination and judgment propensities (Miller, 1956). It is designed for independent use, by both participants in dyadic conversations. It offers the potential to bring additional information, related to affective and contextual experience ("self-state experience"), to the written transcript; as well as information about correlations between experiences of the two individuals. Hence it provides a measure with personal, "within subject", as well as interpersonal, "between subject" (intersubjective) dimensions. Although there is an element of "forcing choices" for subjects in any instrument or questionnaire, providing the subjects with the option of choosing their own word descriptor for the shifts in self-state leaves room for independent specification of experience, while still asking for the subject to mark a point on a seven point scale. The subject is also free to choose *where* in the transcript choices are made.

Given that it takes time to reproduce a transcript for rating, there is a necessary interval between the original experience and the rating. This brings into play differences between the experience as it occurred originally, and the "re-experience" of reading the transcript, mimicking natural reflective processes, and re-creation of memory in the context of present experience. Memory, itself, is a creative process influenced by present contexts, rather than a strictly reduplicative process (Edelman & Tononi, 2000). At least in theory, it might be expected use of this type of scale actually contributes to self-knowledge, and hence the process of therapy, in contrast to scales that provide information without opportunity for reflective consideration.

### 3.7.1 Change in self-experience rating scale (CSERS)

Choose one word and one letter to describe changes in the experience of your-self on the scale below at the points where you notice these changes as you read the transcript. If you cannot find a word that fits with your experience, use a word of your choice that corresponds to one of the letters. Mark them at the side of the transcript.

- a. Enlivened – lively – moved
  - b. Excited – surprised – touched
  - c. Interested – engaged in – affected by
  - d. Accepting of – unaffected by
  - e. Disinterested – bored – unengaged – distracted
  - f. Upset – threatened – enraged – offended
  - g. Devastated – shocked – horrified – annihilated
- 

**Fig 3.2** Self-state rating scale: CSERS

Using this scale brings word descriptions to an element of conversation not normally seen: the realm of private self-experience (self-state). The nature of self-experience is that this can only be done in an approximate way: there simply is no way of being precise in this field. Commonly used quantitative methods that seek to bring precise definition in terms of “either” - “or” paradigms of set membership can be misleading when it comes to experience in the “*intermediate zone*” (Winnicott, 1971, p. 105). The uncertainty and vagueness of much human experience was acknowledged by James with his emphasis on the centrality of feeling to self-experience (James, 1890). The need for modes of measurement of control systems that



have a “language base”, rather than a strictly numerical paradigm, was discussed in the previous chapter, with reference to “fuzzy logic” (Zadeh, 1965). In fact complex human levels of organization and culture can be attained without the development of complex numerical bases (Sapir, 1951). CSERS is a language-based measure. It combines elements of previous approaches taken to the study of micro-process in therapy: “interpersonal process recall” (IPR), and “conversational analysis” (CA) (McLeod, 2013, p. 57). In this pilot study, conducted with CSERS, three patient-therapist dyads and four control dyads utilized the instrument, allowing collection of data discussed in the next section.

### 3.8 Preliminary Data on Self-State: some objective elements

	Number of shifts reported	Time range of shifts-approx.
<b>Pilot 1 – Patient rating</b>	<b>21</b> (rated 12 / 18 pages)	<b>4 secs – 4 mins</b>
Pil 1 – Therapist rating	<b>21</b>	<b>10 secs – 6 mins</b>
<b>Pil 3 – Pt rating</b>	<b>54</b> (29 indicating change)	<b>9 secs – 9 mins</b>
Pil 3 – Th rating	<b>34</b>	<b>11 secs – 4 mins</b>
<b>Pil 4 – Pt rating</b>	<b>14</b> (rated 15/18 pages)	<b>30 secs – 8 mins</b>
Pil 4 – Th rating	<b>37</b>	<b>20 secs – 3.5 mins</b>
<b>Control 1 – Subject rating</b>	<b>14</b> (short recording 23m)	<b>20 secs – 3 mins</b>
Con 1 – Interviewer rating	<b>14</b>	<b>10 secs – 3.5 mins</b>
<b>Con 2 – Sub rating</b>	<b>66</b> (39 indic. change; 15/17p)	<b>4 secs – 4 mins</b>
Con 2 – Int rating	<b>23</b>	<b>15 secs – 6 mins</b>
<b>Con 3 – Sub rating</b>	<b>13</b>	<b>25 secs – 12 mins</b>
Con 3 – Int rating	<b>74</b> (59 indicating change)	<b>4 secs – 4 mins</b>
<b>Con 4 – Sub rating</b>	<b>11</b>	<b>85 secs – 12 mins</b>
Con 4 – Int rating	<b>52</b>	<b>3 secs – 4 mins</b>

**Table 3.2** Frequency of self-state report, and time ranges between self reports, for study and control dyads.

Subjects were asked to rate typed transcripts, in most cases from a session recorded approximately a week earlier. This, in effect, gives the subject an independent, personal voice in relation to the “public” data of the verbal transcript. 30 minutes was allowed for the rating using the scale in Fig 3.2. The 30 minutes rating time was chosen so the rating could be completed, along with recorded feedback on the procedure, within the span of a normal psychotherapy session. This minimized disruption of the therapeutic framework and

maximized the applicability of the method to a naturalistic psychotherapeutic setting, bearing in mind that sessions were conducted at regular times and were 50 minutes in length. Some people did not complete the rating in this time – where it was clear that the rating was incomplete this is indicated in Table 3.2 which reports on the number of shifts reported by different subjects and the time range between shifts. The total number of shifts recorded in the transcript ranged from a low of 11 to a high of 75. The range of *shortest* time between changes in self-state for all subjects varied from a minimum, in this series, of 3 seconds up to a maximum of 85 seconds. The *longest* time between changes in self-state for all subjects ranges from 3 minutes to 12 minutes. While these data are considered illustrative only, with no attempt to claim statistical power or generalizability of the data, some further comments on these results are made at the end of this section, in the light of the theoretical framework, and findings, discussed earlier.

### Valence of responses      Synchronous responses

<b>Pil 1 – pt</b>	<b>18 + (2a;6b;10c); 1+/- (d); 2- (2e)</b>	<b>6/15</b>
<b>Pil 1 - th</b>	<b>17 + (4b;13c); 4+/- (4d)</b>	
<b>Pil 3 – pt</b>	<b>32+(1b;23c;8c/d);17+/-;5-(4d/e*)</b>	<b>16/32</b>
<b>Pil 3 - th</b>	<b>6+(1b;5c);5+/-;23-(10e;9f;4g)</b>	
<b>Pil 4 – pt</b>	<b>1+(1b);3+/-;10-(1e;9f)</b>	<b>8/14</b>
<b>Pil 4 - th</b>	<b>17+(2a;5b;10c);5+/-;15-(9e;6f)</b>	
<b>Con 1 – sub</b>	<b>13+(5a;6b;2c);1+/-</b>	<b>7/14</b>
<b>Con 1 – int</b>	<b>14+(5b;9c)</b>	
<b>Con 2 – sub</b>	<b>65+(39b;26c);1+/-</b>	<b>18/23</b>
<b>Con 2 – int</b>	<b>21+(5b**;16c);2+/-;1-(1g**)</b>	
<b>Con 3 – sub</b>	<b>12+(2a;3b;6c;***);1+/-</b>	<b>10/13</b>
<b>Con 3 – int</b>	<b>70+(24a;25b;20c;***);1+/-;2-(1g)</b>	
<b>Con 4 – sub</b>	<b>11+(1a;3b;7c)</b>	<b>8/11</b>
<b>Con 4 int</b>	<b>33+(2a;4b;27c);11+/-;8-(6e;2f)</b>	

**Table 3.3** Valence of Responses and episodes of Synchrony

Valence: + (positive a,b,c range on scale); +/- (neutral d on scale); - (negative e,f,g on scale)

Synchrony: approximate, here defined as responses occurring on the same speaking turn or within one turn where that turn is brief.

**Additional notes re table:** \* patient 3 had a somewhat idiosyncratic style of using the scale and frequently gave ‘in between’ ratings (c/d; d/e). These have been treated as mildly positively valenced in the case of c/d, and

mildly negative for d/e. Additionally a response marked “confused”, without a letter from the scale, was treated as ‘negative valence’. \*\* the interviewer in Con 2 made a simultaneous rating of “b” and “g”. \*\*\* the interviewee in Control 3 made a comment, without using the scale, indicating “change shift” (i.e. a distinct shift). Given that the subsequent rating was “a” this seems to have been a positive shift and has been treated as such. The interviewer in Control 3 made several ratings using words only: of these “clarified” was treated as ‘positive valence’; “wistful” as ‘neutral’; and “confused” was treated as ‘negative valence’.

In Table 3.3 the valence of subject responses and occurrence of synchronous responses is set out, with an explanatory note: ratings of a,b,c are in the positive hedonic range; d is neutral; and e,f,g are in the negative hedonic range. Synchronous responses are considered to occur when a rating is made on the same speech turn, or when made by both parties on consecutive turns where those turns are brief (usually implying ratings in the same narrative unit). The maximal frequency with which synchronous responses could occur is determined by the member of the dyad who makes fewer responses. In these cases it is necessary to eliminate one subject’s responses from the denominator, at the point where the other subject has ceased making ratings on the transcript. As with Table 3.2, data are considered illustrative only.

### 3.8.1 Comment on results

**Table 2:** the shortest time intervals between alterations in self-state rating would be expected from the earlier discussion to relate to the timings of the present moment. The findings here are consistent with this range, with the majority of subjects recording shortest gaps between shifts (10/16) within the range 3-12 seconds. Of course, even in these cases, the majority of self-observed shifts are longer, often in the range of minutes. Some of these shifts are likely to correspond to “narrative units” which, in their most simple form, are expected to take from 12-30 seconds. The universal bias towards assimilation of new stimuli, and towards homeostasis, in a psychological (and linguistic) sense, makes it unsurprising that many intervals are substantially longer, up to 12 minutes in this series. It is likely that, within such long intervals there would be smaller narrative units that are formed into more complex units. The data do support the idea that *shifts in self-experience that can be accessed by individuals do not occur on the very brief time scales (20ms-150ms) that characterize brief conscious states (transient attentional “blinks”)*. As such the data lend face validity to the notion that **“self-states” are experienced on a time scale distinct from minimal conscious states**. Given that this scale relates to the timings of breathing and language, it is also reasonable to speculate that a sense of self is realized through the medium of language, and that self can only be *understood* through this medium: hence self, as far as it can be understood, is realized as a text, although one that can only ever be partially expressed. At the same time language, in its lived verbal and affective dimensions, involves an accompanying brain-body state at any given time.

**Table 3:** It is noted that, overall, there is a greater tendency towards positively-valenced responses under control interview conditions. This is not surprising, since this was set up so as not to be challenging, whereas patients are seeking help for perceived problems. There is variation in the range of valences shown which may relate to personality, and mental state factors. Patient 4, for example, who gave the most consistently negative ratings, had state features (depression) that would have affected her ratings. Where there is a broad spread of ratings it may reflect expressiveness, or, alternatively, affective instability. Overall only one participant found the process somewhat problematic, not in the sense of distress, but rather

because of a perceived connection to the other participant (see discussion in 5.4.5). This participant was one of the “control dyad” participants. Some of the variations observed, in terms of the specific ratings made, will be discussed subsequently, using small sections of transcript as reference. The frequency of synchronies ranges from 40% (Pilot 1) up to approximately 80% (Control 2). This appears to be more than would be expected by chance, although of course a conversation is not a situation of mere chance: it is expected that responses relate to each other. Responses are, in fact, “motivated selections” with relational effects (Butt et al, 2012). There are no normative data for comparison, to my knowledge. However, identification of synchronies in self-state could be employed to examine correlations between linguistic, and physiological, co-incidences and phenomena, as will be demonstrated, in a preliminary way, in Part 5.

### 3.9 Bodily processes, self, and the symbolic: “embodied symbolic order”

*“A whole is that which has a beginning, a middle and an end.”* *Aristotle, Poetics*

The simplest form of spoken language, perhaps suggestive of the manner in which language began in humans (although this is unknown), involves three sorts of word: 1) words for physical things: notably body and body parts; animals; objects; kinship terms (father, mother, etc); 2) words for simple actions (run, throw, eat, etc); and, 3) a third small group of “pointing words” (this, that, etc) (Deutscher, 2005, p. 213). These provide the capacity for making the distinction between objects and actions, laying a foundation for the development of more complex communications, and for symbolic language (ibid.). Verbal ‘pointing’ reflects a capacity for shared attention and understanding (Tomasello, 2010). Development, in the carer-infant dyad, of knowledge of the infant’s signals, leads to a gaining of “space” in the knowledge that a signal is often “just a signal”, not a sign for immediate action (Bateson, 1954). The beginning of separation between objects and actions, through vocalization, becomes established before verbal language. The creation of mental space requires both safety, and an affectively enlivening field of play, allowing for participation in communication.

Humans are the only species to have developed a reflective function, as far as is known (Greenspan & Shankar, 2004, p. 17). The process of language acquisition and symbol formation requires affective investment: *“relevant emotional experiences must invest symbols as they form.”* (ibid., p. 25). These symbols arise in the actual people and objects provided for the infant by the environment. The second developmental condition for symbol formation is that *“a symbol emerges when a perception is separated from its action”* (ibid., p. 25). Relevant emotional experiences become incorporated into the emerging sense of self. Even before proto-conversation, there is a *proto-self*, consisting of body image, and the sense of movement in space (Damasio, 2000, pp. 153-60). Emergent relational experience and capacities gradually become integrated with the proto-self, as it gradually takes on affective properties, becoming a vehicle for symbolic communication as it develops, by stages, into a mature self.

The human world does not exist apart from its symbolic values or meanings. This is true even when a person is not conscious of his, or her, symbolic contributions to communicative exchanges with others, as has been discussed in the case of infant with carer. Indeed we are never fully conscious of all possible “meanings” that may be conveyed in a particular message. Even in death significance is read into facial expression by the observer. The relationship between symbolic and actual is interpenetrated: the infant’s need for care demands response, but at the same time exert influence through the significance of the infant’s expressions. The symbolic level offers order, and ways of organizing life, both consciously and unconsciously. At the same time the individual is affected by messages, and symbols, that impact the affective-physiological level, as well as the conceptual level.

Language can impinge upon us in unexpected ways, where we lose the sense of mental space, allowing us to separate object and action. Barthes’ in a discussion of the story *Sarrasine*, refers to the “asymbolic code”, where an experience may shock one out of conventional interpretation of a scene. A woman is preoccupied with someone whose appearance she finds strange, being subsequently reassured by a companion:

*“Is he alive? She reached out to the phenomenon with that boldness women can summon up out of the strength of their desires but she broke into a cold sweat, for no sooner had she touched the old man than she heard a cry like a rattle. This sharp voice, if voice it was, issued from a nearly dried up throat..... ‘Come’ I replied, ‘you are being ridiculous, taking a little old man for a ghost.’”* from, ‘*Sarrasine*’ (de Balzac) (Barthes, 1974, p. 64-7)

This brief passage corresponds more or less to a relatively simple narrative unit, describing a communicative gesture (“*reaching out*”), a response (“*a cry like a rattle*”) and what seems to the woman like a disturbing kind of recognition, or failure of recognition, with autonomic accompaniments (“*cold sweat*”). It illustrates the embodied nature of communicative interactions, and the time required to respond, or recover from responses.

Some additional prose examples of simple narrative units are given prior to consideration of vignettes reflecting narrative units in the psychotherapy context.

- 1) *“He opened the envelope. Saw the first word. Everything else was irrelevant. Went to black. People were with him, talking. He didn’t respond. He wasn’t there. They asked him if he was OK. He said, ‘I don’t know, I’m numb’”*. (Anon.)
- 2) *“That was my first time too. He frowned, looking straight ahead. His face was white as a plastic bag. Then a change came over it as though he was going to be sick. Then his face changed again and he smiled, but now the smile only affected his mouth”*

(from, “*Cartagena*”, in “*The Boat*”, Nam Le)

Both of these vignettes, similarly to the extract from *Sarrasine*, involve an action, or gesture, and a response, in an interpersonal context. In the first example bad news is received and the man is “hit” by a physiological response: he is “beside himself”, having temporarily lost his sense of self, with sudden alteration in bodily feeling accompaniments. In the second, the scene is of a man, accompanied by an accomplice, who has engaged in a murder. The man appears to be overcome by the strength of the autonomic response; he weathers this storm,

with the final “mouth-only smile” suggesting self has survived, but is changed (the ‘mood sign’ is transformed). In both cases there is a simple narrative form, with a protagonist whose experience has an internal dimension of relatedness, as well as external relationship: they are “served beings”.

### **3.9.1 Dynamic symbols embedded in autonomic physiology.**

According to the polyvagal theory, evolution has contributed to primacy of the social engagement system in human interaction, provided there are conditions of safety. The theory, described in some detail in Part 2, invokes the evolutionarily more recent division of the parasympathetic nervous system as an important physiological mediator in this process. Under these conditions a nuanced affective life comes into its fullest expression. Moreover physiological systems have arisen supporting “closeness / immobility” without fear. Everyday examples of this kind of behaviour would include sexual intimacy, breast-feeding, and nurture, or affiliative closeness (e.g. friends confiding or sharing close company when they feel safe). When these states are achieved they tend to be associated with pleasure. Pleasure, from an intersubjective perspective, is more about doing things together with a sense of fellowship and collaboration, rather than consummation of desire or aggression. Perception of safety is central to such experiences. Creation of a sense of personal safety is a central psychotherapeutic goal. It should be noted that “safety” in this context is an apperception, not a linguistic or verbal concept: we share this kind of evaluation of safety with other mammals. The difference is that other species do not react to linguistic communicative symbols in embodied ways, as do humans.

The emphasis in the polyvagal theory is on: 1) a release of the “vagal brake” when there is a perception of threat, allowing the “orienting response” to occur; 2) shifts back to social engagement mode when safety is perceived; 3) shift to “mobilization” when continuing threat is perceived; or 4) shift to “shutdown” mode when “life threat” is perceived (Porges, 2011). The polyvagal theory also points towards quiet, meditative, or low stimulus states as assisting maintenance of a healthy vagal tone supporting social engagement. When safety is maintained consistently, oxytocin may play a role in pleasurable affiliative states (ibid.). The Conversational Model predicts that states of social engagement, and reverie, are important to the development of self.

In contrast, the “drive-defence” model that dominated psychoanalytic thinking in the first half of the 20<sup>th</sup> Century depended upon an understanding of emotions and drives, in conflict with “external reality”, leading to states of arousal and distress. The emphasis was on “arousal” and the sympathetic nervous system was seen as the primary mediator of emotion, with the associated perception of emotions (and emotional life) as having a basis in defensive action (Porges, 2011; Redding, 1999). This gave “emotions”, one might say, a “bad name”, associated with defence; contrasted to calmness and rational thought. For the polyvagal theory, emotions are seen as subserving social engagement and evaluative functions. For the CM there are two systems affecting states of consciousness: the system of self, and that of trauma. Nuanced feeling supports growth of self.

From a first person perspective, this is consistent with affect, feeling and emotion primarily serving a function of “providing value” in personal experience. For self they are firstly an intrinsic value system; with defensive manifestations having value in relation to survival. The orienting response involves evaluation, allowing the individual to see where to deploy attentional resources. The “giving of attention” amounts to focusing or shedding light on the environment, in a manner that permits exploration and growth of consciousness (Edelman & Tononi, 2000), and hence self. When defensive physiological systems *do* come into play there is a constricted focus of attention, with diversion of metabolic resources away from the central nervous system (Porges, 2011), and a shift to self-protection, often associated with traumatic experience: either 1) mobilization of the “fight-flight” response (sympathetic nervous system) associated with high arousal; or 2) the “shutdown” response (freezing, death-feigning, dissociating) associated with (potentially dangerous) hypo-arousal or hypo-metabolism (linked to the phylogenetically older unmyelinated vagus) (ibid, 2011).

The development of language is associated with more complex systems of social engagement, and with higher forms of consciousness, mediated through the verbal, conventional, symbolic system of language (Edelman & Tononi, 2000). Language constitutes an essential part of the human maturational environment. It is not an abstract “added” element. Language is engaged with developmentally in many ways before linguistic and conceptual competence is attained. Turn-taking, rhythmic responses, narrative form and tonal matching and amplification are all evident from very early in life (Malloch & Trevarthen, 2009). The physiological systems that support social engagement are already operational from birth, long before linguistic competence is in place. If, on occasions, “language cuts to the quick” (Butt et al, 2007/10, p. 271; Butt et al, 2012), then it must be recognized that symbolic systems impact upon physical states, causing not only radical and rapid shifts in feeling, but also, at times, in overall physiology. This is particularly true of spoken language. While this can occur in a fraction of second, it takes longer periods for such shifts to be reflectively available to self. Initial response can, at one extreme, be both a psychological and bodily “shock”. With written language, it is easier to sustain the illusion that language is “abstract”, or “distanced” from the body (although a good book with which one is engaged may also bridge this distance, and be felt in immediate, embodied ways).

Conversely it is also plausible that the body’s physiology influences the “symbolic orders” that get realized in language. “Symbolic orders”, it can be argued, in a pragmatic sense are organizations of ideas, behaviours, and modes of relating, that represent a “way of living”, in sense similar to “language games” (Wittgenstein, 1958). In the dynamic interplay of life, autonomic systems become engaged in patterns of behavioural interplay and affective expression, that could reasonably be termed “embodied symbolic orders”, relating to particularized bodily experience as well as language.

When the social engagement system (“face-brain-heart”) is operational there may be a sense of social harmony: language is likely to emerge that is relatively cohesive; has personal significance; and displays an affective range that is expressive, but not excessively disruptive, to the individual. The sense of safety allows disclosure, and attunement to the “other”. It also facilitates processes such as recognition and realization, dependent in part on “active listening” capacities. Of course the sense of safety is often maintained in the “spaces”

between interpersonal contacts (i.e. in solitude), where much reflection and realization occur. Symbolic representations related to this kind of physiological system (social engagement), might be expected to include themes of resonance and harmony; the “good”; the “sacred”; “social pleasure”; and others.

When the sympathetic system is engaged (mobilization; defence) metabolism shifts away from the brain and towards muscular systems. Hence one would expect a more restricted range of language to be used in these circumstances, with themes relating to conflict, fear and aggression being dominant. Of course *mobilization* systems are necessary, and people may be trained in the deployment of these forms of behaviour. For example soldiers and sportspeople may be trained in “controlled aggression”. Within the overall society, such behaviours are often idealized. Within subcultures, or in deprived circumstances, opportunistic behaviours may be rewarded, involving aggression and risk-taking. These elements of behaviour and physiology are likely to be manifest as heroism; egotism; authoritarianism; criminality; or cowardice (amongst others), depending on the context and qualities of the particular protagonist(s).

Finally when the phylogenetically ancient “shutdown” system (unmyelinated parasympathetic) is in operation, we are thought to be responding to the sense of “actual” life threat. Death becomes a dominant symbolic motif. The person may have a sense of “something dying” internally. In many ways the experience is sensed as outside the social order. Hence one might refer to symbolic orders of “alienation”; “horror”; or the ‘non-order’ of “chaos”. These states, as experienced from within, may often be beyond words, perceived as “worse than death” on occasions. The disruptive effects on the internal sense of “self” may be so great as to motivate “mobilization”, or “fight-flight” behaviours, to “get away” from the internal (dissociated) state, in ways that don’t make sense to an outside observer. Where mobilization proves possible, there may be a temporary restoration of a sense of cohesion, although ultimately such efforts tend to be futile, because there is “no getting away” from oneself. For others prevailing “worldviews”, or behavioural repertoires, may be inconsistent with mobilization, leaving individuals in fragmented, traumatic, “not-me” states experienced as “outside” self.

### **3.9.2 Operationalizing “Embodied Symbolic Orders”**

For the purpose of operationalizing the notion of “Embodied Symbolic Order” (ESO), it would make sense to consider characteristics that might apply to the particular individual, in terms of the physiological systems in operation. In this study the broad physiological states that have been described are: 1) the social engagement system, mediated by the myelinated parasympathetic nervous system; 2) the mobilization system mediated by the release of the ‘vagal brake’, leading to relatively increased dominance of the sympathetic nervous system; 3) the orienting system that involves release of the ‘vagal brake’ and appraisal of threat which if prolonged may be associated with anxiety and uncertainty; 4) defensive mobilization, mediated by the sympathetic nervous system (fight or flight); and 5) the defensive shutdown system, mediated by the unmyelinated parasympathetic system.

For self, the social engagement system is characterized by the sense of safety. States of self that are “socially engaged” (SE) or, when the individual is comfortable alone, “internally



engaged” (IE) would describe the physiological situation of smooth functioning, mediated through autonomic regulation of the myelinated vagus. When mobilization, in a non-defensive sense, is the state, the implication for self is of a narrower focus of attention, and increased goal-directed activity that could relate to internal (e.g. planning a strategy), or external (e.g. participating in team sports), matters. Hence one could speak of “internal mobilization” (IM) or “external mobilization” (EM). Where the orienting response is sustained leading to experience of anxiety, there is a sense of “insecurity of self” (IS).

The engagement of the sympathetic nervous system for defence would similarly involve mobilization, although in this case to perceived threat. From the point of view of self, threat tends to be perceived as external, although with great variability in terms of what a particular self finds threatening. However certain autonomic states may be so distressing (involving marked dysphoria under the influence of the “shutdown” system), that the sympathetic nervous system may come into play, as a means of mobilizing self, under conditions where the sense of self has been lost. Hence it would be relevant to speak of “mobilization to external threat” (MET) and “mobilization to internal threat” (MIT). When the “shutdown” system is engaged, bearing in mind it may be activated by the sense of “life threat”, there is likely to be a subjective sense of alienation and disconnection, both from the environment, and within self, associated with marked fear, and loss of the sense of self. Here, in relation to self, it is appropriate to speak of “alienation of self” (AS). The terminology and abbreviations used here (ESO; SE; IE; EM; IM; IS; MET; MIT; AS) will be used in the analysis of study sessions that follow.

### 3.9.3 Embodied selves seeking order in language communities

What is remarkable in humans is that all these systems can be, and are, activated by spoken, or written, language. We respond to perceptions of threat in the absence of actual immediate external threat, in part because social connection and interdependence is of such importance to the individual’s sense of humanity. The sense of self is not a “given” in development. Although feeling forms an important basis for self (Korner, 2002), it is often experienced as “background feeling” (Meares, 2005; Damasio, 1994, pp. 150-5). We are caught up in the “world knot” (Edelman & Tononi, 2000, p. 1-2), the intersection between each individual and the environment. Interactive experience, our senses and awareness, tend towards an external focus, even if this is sometimes awareness of our own bodies, experienced as “object” of awareness. Awareness of the “inner” is often dim and vague, particularly as it relates to the “I”, rather than the “me”. We achieve “object consciousness” before “subject consciousness” (Jackson, 1931-2; Meares, 1999).

Put another way, in *The Phenomenology of Spirit*, Hegel refers to the development of knowledge of the world of facts (object consciousness) as the “unhappy consciousness” (because it is essentially an empty kind of knowledge), whereas further developments in thought, and awareness of the world, derive from involvement, participation and the development of an empathic apprehension of self and world (a fulfilling kind of knowledge) (Hegel, 1806). This is similar to the distinction Jaspers makes between *erklären* as “knowledge of the facts”, and *verstehen*, referring to psychological understanding or “perception of meaning” (personal knowledge) (Jaspers, 1929, p. 27). The distinction between *autobiographical memory*, necessary for development of knowledge integrated with

self (significantly based in right hemispheric affective / implicit memory systems) (Schore, 2012), and the more conceptually based *semantic memory* (based in left hemispheric processes) (Schore, 2012; Meares, 2012), is also of relevance in facets of consciousness that, together, constitute the experience of self.

In most human societies, in historical and evolutionary senses, systems of belief have been relatively homogeneous, and cohesive, organized within relatively small communities such as tribal groupings. This has radically altered in the modern era with development of mass societies, urbanization, and globalization changing the face of human experience. We are no longer born into “orders” that have broad community acceptance. In many cases people experience an inner sense of fragmentation, or “lostness”, in the face of the information overload of modern life. It is up to the individual to find his, or her, way. This leads some to psychotherapy, where patients struggle to find order and make personal sense of life. It is not sufficient to be aware of intellectual arguments in favour of particular ideologies: people need to be able to make sense in a way, “*that is felt in the blood and felt along the heart*” (Hobson, 1985, p. 81). In psychotherapeutic conversations this could be termed “*ascending to the concrete*” (Butt et al, 2007/10, p. 286; Butt et al, 2012): when something that has been understood intellectually takes on this personal, emotionally integrated form. Psychologically, for something to be really believed and taken in, it has to be felt in an immediate way, i.e. “concretely”.

These perspectives contribute to an understanding of the process of psychotherapy as the development of a fuller, more empathically-based, knowledge of self. The process of expressing and revealing the self, often including disclosure of traumatically-based and emotionally distressing self-perceptions, demonstrates the challenge, and the work, of psychotherapy. Often trauma dominates consciousness, in part simply because we are all inclined to become aware of “what goes wrong” in life, rather than have a full awareness or appreciation of what may be “going right”. We take functions like walking and talking for granted, until something happens (e.g. illness) that makes us take notice, acutely, that “something is wrong”. The aspect of psychotherapy that brings what is “lively”, or “right”, for the person, into conscious awareness is recognized, by the CM, as a creative process. This emphasis is not shared in all psychodynamic theories, many of which have their basis in models of pathology.

The struggle to “know self more fully” characterizes the psychotherapeutic engagement and journey. It is indeed a “never-ending journey”. Each session needs to be understood in these terms; hence individual self-evaluation becomes an important component. The instrument used in this study for these personal evaluations is the “Change in self experience rating scale” (CSERS) (Fig. 3.2). Given the situation is one of two subjectivities (i.e. an intersubjective field) the therapist’s evaluation, and an overall analysis from a “distance” (from outside the session), are also essential to full evaluation of a session. CSERS provides the subjective insight of both participants into the dynamics of a session, without requiring prior knowledge of the person, or the therapy.

Each psychotherapy session tends to contain all the main elements of the therapy as a whole. As with any conversation the session can be considered to have a beginning, middle, and end (a narrative structure). Often there will be a statement of the theme; followed by reworking;

an emotional peak (climax); with a return to the theme, in modified form. This can be compared to “Schenker analysis” of musical forms, where music has been seen to have three part form, with beginning, middle, and end: “home starting point” (theme; ‘tonic’ musically); movement away (exploration reaching a climactic point; shift to ‘dominant’ musically); return to home point (resolution; return to ‘tonic’) (Malloch, 2012). The apparently simple quote from *Poetics*, “*A whole is that which has a beginning, a middle and an end*” (Aristotle), is profound. We all think we know what a “whole” is but when put in this way, and as it might be applied to living human beings, it takes on a different perspective, one that is temporal and contextual as well as material: in relation to an individual, a whole (self) becomes a ‘sensible, reflectively aware, body/psyche moving through time in a network of relatedness and significance’. In the next section narrative segments in conversation will be explored, with the use of the CSERS as a method of thickening the synchronic dimension of the transcript, shedding light on the dynamics, and significance, of therapeutic interaction.

### 3.10 Making the interpersonal metafunction visible.

*“I can only find myself in and between me and my fellows in a human conversation”*

*Robert Hobson, 1985*

Some selections from the study transcripts are explored below, utilizing additional data provided by the CSERS to give a measure of self-state. A template for analysing study sessions is put forward, as a method of approaching linguistic analysis, applicable to “narrative units”. The transcript (an externalized conversation) could be seen as providing an opportunity for the “finding” of “*myself*” (Hobson, 1985, p. 135).

The template begins with a vignette from the transcript, selected on the basis of perceived significance within the context of the whole transcript, with an associated formulation of the vignette using the ratings of participants which, it is suggested, provide a point of access to the “interpersonal metafunction” of the conversation, an element normally “unseen” in a written transcript. This is followed by an overall evaluation of the narrative structure of the session; then patient and therapist evaluations; and, the relation *between* patient and therapist evaluations. No attempt is made to describe the past histories of either patient or therapist, making it clear that the evaluations are primarily about the session itself. There follows a description of the “embodied symbolic orders” (ESO) that seem represented by patient and therapist. It is expected that this may be clearer for the patient, since the “patient’s experience” is the subject of inquiry in psychotherapy. In this context it is significant that the notion of ESO is embedded in the physiological substrate of autonomic systems, as described above. Identification of implied ESO will be partial, or “blurred”, since the situation is one where we are dealing with vague “resemblances”, rather than clear identity. It is not the case that a particular sign invariably means a specific object: language is not a simple code, and the interpersonal significance of events, and their import to individual selves, is not realized in discrete packages of conceptual meaning. The notion of symbol, as discussed previously, is tripartite; a conventional system that depends upon living users for its realization (Peirce, 1897; Saussure, 1959). The next part of the template is consideration of evidence, provided in

the session, of progress in the realization of self, the goal of psychotherapy with the CM. Finally some tentative predictions of physiology are made, based upon this linguistic analysis.

By disclosing material that belongs to the private dimension of interpersonal exchange, it is argued, that the CSERS rating may provide greater access to the affective, bodily dimension of language. This may contribute to a stronger correlation with physiological findings. It should be noted that physiological predictions are, at this stage, speculative and intended to illustrate ways in which correlations between language, self-state and autonomic function could potentially be made. Comments are limited to parameters under consideration in this study. Evaluation is largely at a qualitative level. The template for analysis of sessions is summarized below.

### **3.10.1 Template for case illustrations**

*Vignette and Formulation*

*Structure of session: theme; development; resolution / recapitulation*

*Patient evaluation*

*Therapist evaluation*

*Relation between patient and therapist evaluation*

*Symbolic orders realized in language and implications for patient's homeostasis*

*Progress in realization of self*

*Physiological predictions*

## **3.11 Case Illustrations**

### **3.11.1 Pilot 1 (full transcript Appendix 4.1)**

#### **3.11.1.1 Vignette**

*Pt: "I have a really bad image of myself, really bad self-esteem.*

*Th: You wonder whether you could be loved.*

*Pt: I just look at the bad parts of myself and think that's what they see, so why would they want that?"*

#### **3.11.1.2 Formulation using self-state data**

The semantic content appears, on the basis of the transcript alone, to be in a "negative" affective range. However, contrary to expectation based upon semantic criteria, the actual rating is "a. moved". This is approximately synchronous and congruous with the therapist's rating, "b. touched", suggesting that the actual experience of the moment is lively to both. Adding the self-state rating to the transcript makes a considerable difference to how the exchange is understood. The "narrative unit", in this light, is of a vulnerable person who feels sufficiently safe to make a disclosure that probably relates to the affect of shame, at least in part. Such an emotion is not easily shared: to bring this into the conversation suggests trust.

Shame often elicits impulses to hide, both from other, and self, because it implies a shared value system, with a perceived failing relative to this value system, inconsistent with the valued image of self normally maintained in the public domain. In this case the patient suffers from a painful sense that what is shameful must surely become evident to others, with an implied sense of “social paralysis” (“*why would they want that*”). However the capacity to share this, and for it to be accepted, suggests that the action going on interpersonally in the therapy, may bring about a shift in this situation. The congruent ratings suggest that the vignette may represent a “moment of meeting” with therapeutic value. The fact that such affects may be recognized, while the overall expression is rated in an emotionally “warm” way (“a. moved”), may be an example of difficult emotions getting processed in emotionally safe circumstances.

This conversational passage, a simple narrative unit, is taken from the part of the session which appears, from the frequency of ratings, and positive valence of the ratings, to have been the narrative climax. In fact the patient makes four ratings (“b.saddened”; “a.moved”; “a.moved”; “b.clarified”) within the space of about 1.5 minutes, while the therapist makes 2 ratings in a similar period (“b.touched”; “c.engaged”). Compared to other dyads in this study, this reflects a very high activity level in terms of frequency of self-state shifts. Linguistically the patient is using “I” language, and “mental clauses”, with the sense of bringing something “inner” (of the self) to expression; something that needs to be “seen”. From a symbolic point of view there is an internal symbol, “*the really bad image of myself*”, that is to be understood as a living formation requiring conversation for transformation (not an “object”).

### 3.11.1.3 *Structure of session: theme; development; resolution / recapitulation*

The patient takes responsibility for setting the theme of the session after checking the recording is “set”, by stating what he has been considering for the session, “*I was thinking what to talk about ...two things possibly, one of them is girls and the other one I’ve been having interesting conversations with (name)...*”. The themes introduced and taken up are on the subjects of love, sexuality and relationships. Initially this is taken in the direction of people who are attracted to the patient, and the extent to which this makes him vulnerable, or makes relationships “unequal”. The sense of being treated as a sexual object, “*just ...I’m a piece of arse basically*”, leads to communications about potentially being subject to violence, beginning with an anaphoric referent (has occurred previously in therapy) to “*meat hooks*” to which he has felt subject; there is also reference to “*feel(ing) like I’m being lynched*”.

Situations of being under conversational attack in a group where the leader was critical, add to the sense of vulnerability in the face of judgment from others. Although situations in relationships where warmth is evident are described, “*I felt warmth from ...*”, as well as the sense of attractiveness, “*we’re both attractive, fairly attractive*”, there is the fear that, if one takes initiative in the sexual sphere, punitive action is to be expected: “*part of the lynching term for me is that my sexuality then becomes out there and it’s on display for all*”. Implicitly, there is a private self which has to be protected, relating to sexuality, and the concern that if the truth was known there would be a risk of painful exposure: “*I go through this guilt process.... what if I brought a partner home... and I’ve got these (photos) on the wall...it would be disrespectful...*”.

The therapist identifies feelings of vulnerability and shame in relation to this material. In response, the patient shifts to identifying a need to “*figure it out through action*”, and the direction of the conversation moves towards more prospective events that are happening, with a person currently identified as a potential romantic partner. In identifying the dangers and delicacies of these interactions the process of courting is referred to, saying “*I see dating as a milligram between friendship and relationship*”. In context this is to say that the stakes are

high and that it is hard to take risks and navigate these situations. A middle ground is sought, defined as, *“not to be too committed but not to be a slut too much”*. Overall the situation *“screws with my control issues”*. The principle risk is identified as rejection, which makes taking initiative difficult. A situation is imagined where misinterpreting signals could lead the patient to say, *“I’d be mortified that I took the cues wrongly”*. There are several references to the danger of “wrongness”.

This leads to the exchange described in the vignette which appears to relate to a hidden self known to the patient, painfully, but not to others. The experience of sharing this aspect of self is moving to both patient and therapist. The sense of yearning to have someone *“want me for me”* is expressed, along with some degree of despair about finding, or more particularly maintaining, such acceptance and intimacy. The patient, while acknowledging a range of sexual attractions, is able to make some clear statements of future intent, with respect to partners and family. Confusion is related to past experience within the family of origin, and the early propagation of a lie that meant a particular pretence was played out publicly over years when he was a child, leading to the sense that *“I felt like reality for me sometimes slips through your fingers”*. The emphasis of the power of the other over the patient’s life is highlighted, leading to elaboration of conflict within the family over religion, and “what can be believed”. The issues of risk and “putting one’s position out there” are evident here also, perhaps reflecting a recapitulation of the theme of finding one’s way in relationships, at both family of origin level, and the broader, universal level.

#### 3.11.1.4 Patient evaluation

The patient makes 21 ratings, running out of time, and completing a little over two thirds of the transcript. Relative to other subjects, this suggests a deliberate, considered process over each rating. The valence of ratings is 18 positive (2a; 6b; 10c); 1 neutral (d); and 2 negative (2e), suggesting a predominantly positive experience of the session. Of these the 2 “a” ratings were “a.moved”; 6 “b” ratings included 2 “b.clarify”; 1 “b.surprised”; 1 “surprised and delighted that (therapist) picked this up”; 1 “b.excited”; and 1 “b.saddened”; the 10 “c” ratings were 7 “c.interested”; 2 “c.engaged (in)”; 1 “c.connected”. The “d” rating was “d.understand” and the 2 “e” ratings were both “e.confused”. In this case, there was a definite predilection for the patient to be making ratings on the speaking turn of the therapist (17 out of 21). Some of the terms used are perhaps a little unexpected from a semantic point of view. For example, rating the term “saddened” as high in hedonic tone (“b”) might seem counterintuitive, although could be consistent with a need to express a sense of sadness that the patient may have felt hitherto unable to share. It would also be consistent with the sense of liveliness relating, not simply to a frozen “state” in isolation, but rather to the unfolding dynamic process of successive states. Similarly, “clarify”, on the face of it, isn’t congruent with a high (“b”) rating, although, in the context of therapy, the experience of clarification might relate to “realization”, which would add to the sense of liveliness. The fact that ratings are made generally on the turn of the therapist, and specific use of the phrase, *“surprised and delighted that (therapist) picked this up”*, suggest the significance of the other, for this patient. It also highlights the importance of recognition, an interpersonal process, here described as cause for “delight”. Conversely the use of “understand” with a “d” rating seems to under-rate the normal sense of “understand”, although in this case it is linked by the patient, with an arrow, to a previous rating of “e.confused”, perhaps reflecting partial resolution of an exchange that had been mildly uncomfortable.

There is a sense in the content, of the patient being engaged in the process; of contributing sensitive material to the conversation; and of struggling to find personal meaning, both within his own expressions, and within the therapeutic relationship. There is delight, paradoxically, when the therapist is able to identify that a particular interaction must have been unexpected

and, as a result, traumatic for the patient. On the four occasions when the patient makes a rating on his own speech turn, rather than the therapist's, there is an element of self recognition: the ratings are "b.surprised"; "b.clarify"; "a.moved"; and "b.clarify". The recognition implied in these four ratings would be consistent with a process of realization of self in spoken language. The last two of these occur close together when there is a sequence of "a.moved" (connected to patient turn); "a.moved" (connected to therapist turn) and "b.clarify" (connected to patient turn). This frequency of rating of an exchange that takes under 30 seconds strongly suggests this section was the emotional highpoint of the session, for the patient. Although there are no further patient ratings after this point, the content of the remainder of the session suggests further exploration, involving a deepening of the synchronic dimension of the state that is being explored, with reference to early experience, the spiritual dimension, and struggles with personal values.

Following rating of the transcript, a 15 minute interview was recorded to review the experience of both the preceding, recorded session; and rating, using CSERS. The patient's evaluation was generally positive: the procedure was found to be *"comfortable... pretty easy"*. In relation to the use of the belt for physiological recording, there was a comment: *"probably good to have some privacy"* (putting it on), although it was also considered that sufficient allowance for privacy was made (the belt was applied by the patient during a period when left alone in the room). There was a sense of slight guilt at "not paying", mainly related to finding it *"a bit awkward"* in the reception area (i.e. perhaps feeling a bit exposed by not following the accustomed procedure). In response to a question as to whether it felt like a normal session, the patient commented, *"after the first few minutes, the equipment just kind of died away..... it was just a normal session after that... I thought OK and identified a couple of things.... wondered how genuine it was going to be... but it kind of got into some quite deep material for me, so that was fine"*.

The patient had previously wondered whether he would "hold back" in the recorded session but made this self evaluation of the actual procedure: *"I did think I could hold back but once I was comfortable...umm... I went further than I thought I would go and I was fine with that"*. In relation to the rating of the transcript, he made the following observations: *"(it was) umm fine I mean like I was reading through and I the first time I did it I was stressing about trying to think exactly what I was thinking at the time.....if it came up I wrote it down if not I kept moving.....the words were a bit hard to use....I wanted to write more like a phrase or sentence rather than a word in a couple of points I did write more than just a word....I am fine with the scale....at one point I put saddened down...and I put it up near "b", I think, rather than putting it down..."*. In relation to the sense of "liveliness" relating to personal experience the comment was *"Yeah. Much more qualitative, it gets more of a qual...like that inside quality rather than the label or a scientific perspective..."*. In relation to any perceived adverse effects, *"Not really. No, not any negative effects with it."*

Generally the patient's evaluation of the session and procedure is positive, consistent with the ratings that have been made apart from, perhaps, mild frustration that the instrument does not capture the full complexity of personal experience. There is a sense of expectancy about continuation of the therapy and no evidence, in this session, of disruption to the patient's flow of expression or associations, in relation to the experimental procedure.

### **3.11.1.5 Therapist evaluation**

The therapist makes 21 ratings with the last rating on page 16 of 18. Of these 15 ratings are made in the period leading to the patient's last rating on page 12. The ratings are largely in the positive hedonic range in terms of valence with 17 positive (4b; 13c) and 4 neutral "d" responses. Of the "b" ratings, one is rated "b.surprised", and 3 "b.touched"; of the "c" ratings,

9 are rated “c.engaged”, and 4 “c.interested”; of the “d” ratings, 2 are “d.distracted” and 2 “d.deflated”. The therapist begins with a “d.distracted” rating, suggesting initial distraction by setting up the recording. The majority of the ratings, 17 of 21 are made on the patient’s speech turn, suggesting a focus of attention on the patient’s comments. Of the four that are rated on the therapist’s speech turn, one is the initial (setting up) “d.distracted” rating, and the other three are all rated “c.engaged”, suggesting the therapist felt some conviction about his engagement during these speech turns. The first “b” rating (“b.surprised”) is in response to something unexpected being disclosed, closely linked to a highly congruent rating by the patient. The next two “b.ratings” (“b.touched”) relate to comments that suggest the patient is feeling vulnerable, suggesting a response of “moving towards” the patient in emotional terms. The “d.deflated” responses relate to portions of the conversation where the patient is describing repetitive and dispiriting experiences. In this they seem to reflect a “sympathetic”, rather than empathic, response by the therapist: i.e. sharing the feeling of disappointment or loss with the patient; rather than being able to capture its emotional significance. It is not clear what the second “d.distracted” rating relates to, although it occurs on a relatively long patient speech turn, where the patient reports his confusion regarding an issue that *“screws with my sense of control”*.

The last “b.touched” rating by the therapist occurs at the point of the conversation that seems to represent the emotional and narrative climax of the session, occurring at approximately 39 minutes into the session. There is another strong correlation here with the patient’s rating (see vignette). The therapist’s ratings for the remainder of the session are 5 “c” ratings (3 “c.engaged”; 2 “c.interested”), and one “d.distracted”, as described. The last 3 ratings are all “c”, suggesting continuing engagement and interest in the session. The areas of sexuality, love, relationships and religion (towards the end) are identified by the therapist as *“stir(ring) up some pretty strong feelings at times”*, immediately prior to drawing the session to a close: *“We may come back to it but it’s about time for today”*. This seems to contribute to a sense of expectancy in looking forward to the following session.

At the time of review the following week the therapist’s observations were of slight distraction at the beginning but otherwise feeling that the session had been reasonably representative of the work that had been going on in therapy.

#### **3.11.1.6 Relation between patient and therapist evaluation**

Of a possible 15 opportunities for synchronous ratings, 6 are made (over the part of the transcript rated by the patient). The patient takes some time before making the first rating at about 3 minutes. In comments made after doing the rating, this is referred to by saying that the attitude taken was, *“if it came up I wrote it down”*. In the beginning the session focuses on present relational issues of concern that are salient for the patient, who takes a long speech turn which establishes the theme. After the therapist’s initial distraction, early ratings are congruent with both parties rating “c’s” over the first 10 minutes or so of the session. There is then a highly congruent and synchronous rating at about 10 minutes: the patient rates “b.surprised and delighted that (therapist) picked this up” and the therapist rates “b.surprised”. This appears to relate (given the specific nature of the patient’s comments) to a process of recognition that gives rise to “delight”. Processes of recognition are central to the “interpersonal exchange” dimension of language. The fact that, although therapist turns are mostly relatively brief, the patient continues to make positive ratings on these therapist speech turns, suggests an ongoing process of engagement and recognition. Indeed both patient and therapist seem to have attention on the other, with both sharing the predilection to rate on the turn of the other.



There are, perhaps, failures of connection: e.g. when the therapist takes a somewhat longer speech turn at about 14 minutes, the patient makes the negative rating “e.confused”, although linked with an arrow to the subsequent “d.understand” rating. This suggests that by the end of the therapist’s speech turn, connection had been tenuously reinstated. It appears tenuous, because on the next therapist speech turn there is a second “e.confused”, although this is followed, on the subsequent therapist speech turn with a more definite shift to a positive valence, with the patient rating “c.connected”. This sequence of 4 ratings probably represents the low point, or emotional nadir, of the session for the patient. The therapist makes a rating of “b.touched” on the patient’s turn, immediately before the patient rating of “c.connected”. The previous therapist rating, at about 11 minutes, had been “c”. This suggests that the therapist response here, relating to the patient’s comment, “*..I think part of the lynching term for me is that my sexuality then becomes out there and it’s on display for all, and I feel I have to protect it*”, was effective in re-establishing a connection. The therapist is apparently moved by this expression of the patient’s vulnerability (“b.touched”), and responds with a brief comment involving recognition, “*It’s quite exposing I guess*”, which appears to have the result of re-establishing emotional connection, with the patient now rating “c.connected”. For the remainder of the session the patient’s ratings remain in positive valence range. It seems likely, given this sequence, that there was an element of emotional signalling, or ‘mood signs’, in these responses, that formed part of the communication. It illustrates the vulnerability of relationships, therapeutic or otherwise, to shifts of valence, and loss of connection.

The next “b” rating by the patient (“b.excited”) occurs at about 21 minutes and relates to another episode of recognition, when the therapist comments, “*Yeah, well this is something happening isn’t it (Pt: Yeah!) as opposed to just in your minds.*” Subsequently the patient rates “b.clarify” at about 32 minutes, towards the end of a long (patient) speech turn, suggesting something of an internal sense of realization. The therapist makes no rating at this point, consistent with this being more of a self-contained event for the patient.

Finally at about 38 minutes the patient makes a series of four ratings, over no more than 2 minutes, all positive in terms of valence, part of which is the earlier vignette. This represents the climax of the session for the patient, and probably for the therapist, who also makes a positive, congruent and synchronous rating, as discussed. The therapist makes a further rating shortly after the patient’s last rating (“c.engaged”). The heightened activity in terms of rating with “b.saddened”, followed by a quick sequence of “a.moved” on patient turn; “a.moved” on therapist turn (both synchronous and congruent with therapist “b.touched” rating); and “b.clarify” suggest a heightened awareness or excitement, particularly on the part of the patient. The warmth of the ratings again suggests a sense of connection, with the likelihood that non-verbal mood signs are operative.

Although there are no more ratings by the patient, the session continues to explore salient material. There is no sense of disruption, or avoidance, in terms of the content of the material. The final exchanges seem good-humoured. For example, in response to the patient’s doubts about religion, the therapist comments “*feels a bit like gambling with your life or something*”, and the patient responds, “*Hedging your bets*”. The session closes with the therapist saying

“see you next time”, with the patient responding “Yeah, sounds good. I’ll just strip this off” (referring to ‘Bioharness’ belt).

#### **3.11.1.7 ESOs realized in language and implications for patient’s homeostasis**

Overall the flow of the session; the predominant positive valence for both patient and therapist; and the sense of emotional warmth, suggest the experience was in the realm of “social engagement”, consistent with social / harmonic symbolic orders. The content of the session relates to navigating the sensitive terrain of sexually and emotionally intimate relationships. The period of slight disruption in connection of the therapeutic relationship may reflect this sensitivity, although there does not appear to have been any major disjunction. The dynamics of feeling exposed, at times feeling vulnerable to domination, and wanting to hide or protect self, suggest a set of experiences with a “shame” component. At times there is a sense of helplessness, and some indication that the patient fears lapsing into helpless states, having not always found effective ways of mobilizing. The reference to dating (new relationships) as, “*a milligram between friendship and relationship*” seems to reflect some confusion and sense of risk. Mobilization patterns are not strongly evidence in this session. Rather the effort at maintaining balance, and the fear of collapse into helpless, traumatic states (“shutdown” responses), seems to characterize the self, as represented in this session. There is no evidence of sustained fragmentation, or shutdown, within the session, although there is some sense of oscillating anxiety in relation to expressed fears. Overall there is expression of conventional values, with respect to family and hopes for long-term intimacy. There are also desires to differentiate, explore, and establish a separate identity, although this, simultaneously, appears to carry anxiety, or a degree of threat. ESOs evident in this session appear to be “socially engaged”; “internally engaged”; and “insecure self” (SE; IE; IS). While there is evidence of lifetime experience of distressing states, of the “alienated self”, this is not evident during the session. There is little clear evidence, in this session, of effective mobilizing responses being referred to in past experience. The therapist appears to maintain a responsive focus on the patient and hence is considered “socially engaged”.

#### **3.11.1.8 Progress in realization of self**

The patient stays on task in this session. There is a sense of new information, along with a degree of emotional expressiveness during the session. While there is sensitivity, and perhaps a sense of dependency in relation to the therapist’s responses, it is also evident there are times when the patient recognizes and realizes something new that relates more to what he has himself expressed, rather than being a response to the therapist. Processes of recognition both within the patient, and between patient and therapist, are therefore evident. There remains a sense of risk of going into helpless states which could indicate past traumatic or dissociative experience, although the fact that sensitive topics are approached in the session without fragmentation suggests a degree of integration. Overall there is a sense of the patient making progress at both personal and interpersonal levels.

#### **3.11.1.9 Physiological predictions**

Given there is a fairly consistent flow and predominant sense of connection and positive valence in the session, it would be expected that a reasonably high degree of vagal tone, reflected in high RSA and reasonably steady breathing patterns, would be evident. The

exception may be the period where the patient makes the 2 “e” ratings, suggesting a mild sense of disruption, possibly consistent with a “release of the vagal brake”, that could produce an “orienting” response, physiologically.

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
Patient	21	a-e	+ve	Internal and relational; sensitivity to other	SE; IE; IS	Relational ; sexual; existential	Self and other	6	+	+
Therapist	21	b-d	+ve	engaged	SE	Stays with	Other	6	+	+

Table 3.4: Summary Pilot 1

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

### 3.11.2 Pilot 4

#### 3.11.2.1 Vignette

Pt: “.....I just....I..... it’s like I wanted (my ex) there ’cause I’m used to it. .... (becomes emotional) I don’t like to be reminded that he’s gone. There you go, there’s feelings.

(few turns later)

I’m glad he’s gone in a sense. I’m glad that the limbo is kind of over. I know where we stand. .... I’m glad of the separation but there’s elements that I miss.

Th: Of course, ’cause you’re telling me that he has a number of really positive features about him that he has been a good man in your life.

Pt: I miss him when I’m feeling bad he’ll just give you a hug and sometimes you feel so much better you know it doesn’t take away what I’m feeling or anything but I just don’t feel alone with that feeling.

Th: Sure it’s kind of soothing to have somebody there who just holds us and comforts us.

#### 3.11.2.2 Formulation using self-state data

This extract is an edited segment occurring over roughly 2 minutes, encompassing a more complex, or perhaps several, narrative units. It includes material that is salient to the patient’s current experience. The patient’s only rating is “d.accepting of”, made when she says, “I’m glad he’s gone in a sense”. This, although neutral, occurs in a session where the patient’s predominant ratings are in negative hedonic range. The therapist makes two ratings: “b.excited” at the beginning, where the patient says, “there you go, there’s feelings” and at the end when he makes a rating of “a.lively”, as he responds verbally to the patient’s

comment *“I just don’t feel alone with that feeling”*. In this case the semantic content, on its own, gives clues to what is of concern to the patient: needs for intimacy and connection, while at the same time feeling some relief at there being some resolution of her position in a relationship. The therapist’s responses suggest that when she gives emotional cues of vulnerability (‘mood signs’), he responds warmly with two consecutive positive ratings suggesting engagement, and perhaps a felt response to her sense of isolation. In this case the data could be seen to be providing a window onto the relationship. There is a sense of lively emotional expression, although confusing to the patient, and unresolved, with a lack of cohesion at this point. The capacity to express feeling seems hopeful, to the therapist.

### **3.11.2.3 Structure of session: theme; development; resolution / recapitulation**

Once the therapist frames the session as beginning (*“What’s been happening?”*) the patient quickly moves into a definition of the main theme (*“....I’m still functioning OK....I’m very tired but I think that’s got to do with the kids”*), which relates to “parenting”. There are references to “horror” (*“it sounds horrible”*); extended descriptions of the difficulties of parenting, and periods of despair and exhaustion that leave her struggling to cope. At times emotion is expressed around efforts *“for the kid’s sake”*, and recognition that this is also, *“for my sake”*. The patient describes interaction with the father, from whom she has separated. While she values his help and company at times, she also places value on having separated, and becoming more her own person. The conversation develops around drug habits, the impact on her children, and the sense that she is not aware of feelings and fears of being alone, when using the substance. This is followed by disclosure of a period of being alone, and awareness of feelings, and fear, as well as the sense of missing the partner. Ultimately she says *“I’m glad he’s gone in a sense. I’m glad that the limbo is kind of over....I know where we stand.”* There is also a sense of, *“taking a responsibility for those behaviours..... God it’s so nice to say ‘used to’”*, conveying a sense of movement or progression, as her reflection takes on some coherence. The theme of parenting is recapitulated, with a statement of goals and aspirations: *“...I’m testing myself see if I can manage. To see if I can manage to my standards as well as to other peoples – To keep myself together and to give my kids what they need. And I don’t feel like I’m doing that good right now.”* The theme of “tiredness” as a parent has been elaborated into a sense of flagging or failing, despite efforts at being a good parent. The therapist signals the end of the session *“....we’ll finish up now in terms of this equipment stuff...”* and the conversation reverts to discussing further arrangements.

### **3.11.2.4 Patient evaluation**

The patient makes 14 ratings, completing ratings for 15 out of 18 pages of transcript. This is a relatively low number compared to other patients and controls. Of these, one rating is in the positive hedonic range (“b- excited”); 3 are in the “neutral range” (“d”); while the remaining 10 are in the negative hedonic range (9 “f”; 1 “e”). This is consistent with someone who has been, and remains, depressed, a condition recognized explicitly in the transcript. Of interest is that episodes of becoming emotional are typically rated as “f-upset”, suggesting negative personal evaluation of emotion. On three of the four “f-upset” ratings there is a subsequent “f-angry” rating. Taken together, this sequence might suggest that there is an experience of “threat to self”, when emotionally vulnerable, leading to a “mobilizing” kind of response. The positive rating is when she recounts an episode where her son shows a new

behaviour, of actually asking for help. The therapist subsequently recognizes this as an achievement for the son, and a development in her relationship with him. The therapist's recognition seems to provide a significant amplification that allows this realization to occur. During the session the patient also defines the problem: *"I remember ten years ago telling myself I've got to stop telling myself this same thing hating myself just as much saying you know it'll run its course..."*. The problem is being defined in terms of self (*"hating myself"*), which bespeaks a disturbance of internal relationship. The emotional contours of the session are reflected in language that displays increased negative self-evaluation, at times when she becomes emotionally expressive, suggesting an implicit devaluation of vulnerability. This is in contrast to the response of the therapist, as discussed below.

The patient's responses as reported the week after the session, when the transcript was rated, were indicative of greater emotional complexity than was evident from her self-state ratings. A selection of her responses follows:

In response to how it was for her, *"...it was fine"*; *"....in the beginning I felt a little nervous"*; *".....after about five or ten minutes it just all kind of happened... I stopped taking notice, it just didn't matter, I didn't think about it"* (referring to recording process).

In response to how it was "going through the transcript": *"Umm OK, it gave me a bit of laugh"..... "like inside I can't believe I said that (laughs) it is interesting looking at what I said"*.

In response to, "is it different to what you recall of the session, actually seeing it there in writing?", *"Different from where it was more amusing umm I didn't, like I was aware that I had said it and that but umm boy leader ummm that is just kind of funny..... Umm as I was reading it the emotions and that became quite clear I could remember umm and when I read it the same emotions sort of comes up..... Yeah umm for me it wasn't so much recollection it was when I am reading that I can umm how do I put it when I am reading a novel I get really into it and I can feel the emotions of the novel and it was similar..."*

In response to "seeing the writing there prompts you into remembering the kind of way you would have said it and the feeling you would have had?", *"Yeah definitely. Especially when it has pause for 15 seconds.... And I was off with the fairies then..... and nothing is coming out of my mouth"*.

In response to "what was easier, rating it with the letters or is it rating with the words?", *"The words was hardest yeah"..... "it didn't really cover the emotions I was feeling"..... "Yeah there were moments of anger there was moments of upset but there was moments of just you when I thought, excited is the wrong word, but uplifted by what I was saying and then I could tell that there was a drop in the way I was speaking and you know that I felt kind of flat but I wasn't upset I was just kind of dropped."*

In response to "has this helped you at all or have learnt anything through the process": *"not really just how pathetic I sound on paper"*.

In response to "any other comments": *"No, it will be interesting, like at the end of it... to see what results you guys get but yeah it's all cool I don't mind"*.

Overall these comments, made at the time of rating suggest the original ratings made by the patient don't fully capture the complexity of her responses, and that although the predominant ratings were in the negative hedonic range, she indicates that often there were positive feelings of interest and 'uplift'. The fact that she found it "*a bit of a laugh*" and that it was "*amusing*" suggests that the process of reviewing the transcript carried elements of surprise for her. The fact that she found it engaging in the manner of "*reading a novel*" and that she could "feel the emotions" suggests that the rating process was found to reproduce, or realize, actual emotional responses. The period of silence, where she was "off with the fairies", would be consistent with a possible dissociative period, with an effect on expressive function ("*nothing is coming out of my mouth*"). While there are strong indications that she found the process acceptable, it seems that it was not sufficient (by itself) to shift a basically negative self-evaluation ("*how pathetic I sound on paper*"), that has been present (from transcript) for more than 10 years.

### 3.11.2.5 Therapist evaluation

The therapist makes 38 ratings, covering 17 out of 18 pages of transcript. The spread of ratings is greater, and more evenly distributed, relative to the patient: 2 "a" ratings; 5 "b" ratings; 10 "c" ratings; 6 "d"; 9 "e"; 6 "f". The "c" and "e" ratings reflected whether the therapist felt "interested" or "engaged with" vs "disinterested", "distracted", "disappointed" seemingly, suggesting times when there was a relative loss of attention, while other periods were associated with an adequate sense of connection. The 2 "a" ratings were, "a-lively"; and "a-moved". The 5 "b" ratings were, 2 "b-surprised"; 3 "b-excited". The 6 "f" ratings were, 2 "f-upset"; "f-thrown/unsettled"; "f-challenged"; "f-threatened"; "f-annoyed". There was no rating made by the therapist at the time of the patient's peak ("b") rating, although immediately after this the patient changed the topic ("*I'm about to start my uni assignment...*"), and the therapist registered one of the "e" scores suggesting disengagement in the face of this shift in topic. It could suggest the patient is not comfortable "staying with" positive emotion.

A number of the therapist "f" ratings relate to passages where the patient makes negative self-evaluations ("*I hate going down to the bad part of why I need to get it. .... I may as well be living there too cause I'm no different to them*"; "*sounds really childish huh?*"; "*I'm failing a test you know?*"). On one occasion the rating "f-challenged" relates to a sense of direct challenge, even though the question is possibly posed rhetorically ("*How am I going to stop all of that?*"); on another occasion "f-thrown/unsettled" seems to relate to a sympathetic response to the patient being physically hurt by her son ("*....I got a punch to the stomach that actually hurt quite a lot*"). In these instances it is noted that the therapist's self-rating is consistent with having attention on the patient (he reacts to her expression). Although the 2 "f-upset" ratings mirror the same letter-word descriptor used by the patient in her rating, the therapist does not exhibit the patient's sequence of "f-upset", followed by "f-angry". The one occasion where something akin to anger is expressed, "f-annoyed", relates to an unforeseen change to arrangements for the following week, as the session is winding down.

The period from about 32-46 minutes into the session is the period of the greatest positive CSERS ratings by the therapist, although also with some negative ratings, demonstrating the greatest affective range of ratings for the therapist in the session. There are 3 "b" ratings; 2

“a” ratings; 2 “f” ratings; 1 rating of “d”, and 1 “e”. This may suggest particular significance of this passage, at least from the therapist’s perspective. The peak rating of “a-lively”, for the therapist, related to a passage where the patient reflected on a need for soothing (*“Sure it’s kind of soothing to have somebody there who just holds us and comforts us”*); and another passage, where “a-moved” is rated, as the patient seemed reflective about past self-harm behaviours (*“Yeah I mean it was never....when I did it it was never a suicide attempt, it was never a and I want attention, because it was like I don’t want anyone to see ....It was just like I needed to release something.... like the balloon about to burst”*). On several occasions “b” ratings relate to the sense that the patient has realized something (e.g. *“God, it’s so nice to say ‘used to’”* – referring to cessation of self-harm). Positive ratings seem to reflect an appropriate focus of attention on the patient.

### **3.11.2.6 Relation between patient and therapist evaluation**

In the earlier part of the session the patient’s language is more about events with her children, the state of the house, and the like. These are matters of concern and her self-ratings reflect this (ranging from “b” to “f’s”). However there are relatively few statements about her “self”, or states of feeling (linguistically few “mental clauses”). By about 10 minutes her comments have shifted to hatred, fear, failure, disgust and difficulties with self-regulation. The therapist seems at times to have his self-ratings go down, following the “mood” of the patient, although he stays with the subject matter. By about 20 minutes he seems to report a more consistent sense of engagement, culminating in what is probably the climactic period of the session from about 32-46 minutes.

It is notable that, at times when the therapist is making ratings of mildly positive or neutral hedonic tone (e.g. “c” or “d”), the patient tends to be rating “f – upset”. This suggests that the therapist feels interested in the patient when the patient is expressing emotional vulnerability, but that the patient is more focused on her own state. Some examples are: 1) at 3m45s, patient rates “f-upset”; corresponding therapist rating “c”; 2) at 8m45s, pt. “f”upset; th. “c”; 3) at 20m50s, pt. “f-upset”; th. “c”; 4) at 39m, pt. “f-upset”; th. “d”-accepting of”. The period of most positive ratings by the therapist, referred to above, relates for the patient, to: 1) a transition from “f-upset”, to “f-angry” (approx 25m45s); 2) a further shift for the patient from “f-angry”, to “f-flat but not upset” (27-30m) (possibly suggesting a more manageable, although still distressing position); followed by a shift to a neutral “d-accepting of”. However this is followed by an interesting shift by the patient back to “f” upset (39m) then “f” angry (40m40s), followed by the therapist peak rating of “a-moved” at 42m (see above). This contrasting rating suggests that the therapist is moved by both the patient’s predicament and emotional state, *and* her apparent mobilization as she grapples with her problems.

For much of this period the patient’s rating is “f-upset”. Interestingly, this seems consistent with reflection and emotional openness during this period, allowing the therapist to feel “closer” to her. Her conversation about *“being alone”* leads to a greater intensity and self-focus: *“I don’t like to be reminded that he’s gone. There you go there’s feelings”*, that heightens the therapist’s response. The language in this passage speaks to self-relationship and has mainly “mental” and “relational” clauses. The patient’s ratings are low “f” to “d” but there is also the shift from “f – upset”, to “f – angry” with the emergence of what seems like quite a positive self assertion (*“God, it’s so nice to say ‘used to’”*). At around 46 minutes the

patient's rating is "e-unengaged". Although some of the themes that have been introduced to this point persist, it seems thereafter that there is less emotional energy in the engagement. The patient's reiteration of "*I'm failing a test you know?*" is linked to the therapist rating of "f-threatened" and perhaps a shift of focus towards ending the session, associated with a degree of anxiety.

### **3.11.2.7 ESOs realized in language and implications for patient's homeostasis**

The content of the session is revealing of the patient's inner world, or "self". As might be expected, given that the focus of the session is on the patient, it says less about the "self" of the therapist. The central themes of the session relate to parenting and relationship with significant others, leading to consideration of aloneness and disconnection from, or loss of, significant others. While the session is never in a state of emotional decompensation, and hence might be considered to largely stay within the range of social engagement, it points towards states of feeling alone, and outside social connection, that may be transiently experienced in the session, and more intensely in external experience. Hence there is the suggestion that the patient experiences states involving "shutdown", or dissociation, which might suggest preoccupations with death and alienation, reflected in sensitivity to cues in language that related to loss, separation, and devaluation.

The two sequences of "f-upset" to "f-angry" suggest that one of her responses to these states is to "mobilize", perhaps employing relative activation of the sympathetic nervous system. The therapist's positive response to one of these episodes, when the patient says, "*God, it's so nice to say 'used to'*", suggests that this strategy may indeed lead to an enlivened response on the part of the patient, as does her comment the following week where she refers to an "uplifting" experience, not evident in the rating itself. At these times the sense of "fighting for a cause", or "fighting the good fight", may be relevant for the patient. However the greatest value, on self-rating, is allocated to remarks involving recognition and the sense of a step forward in the relationship with her son. This is consistent with a symbolic order of "togetherness", or social harmony, with a significant other, and the sense of success in her role as mother. Although the therapist afforded this a sense of recognition, when he says, "*...for him to be able to..to verbalise that I guess that helps you to understand a little bit more where... he's coming from..*", it is not clear, from the rating, whether it was realized, by the therapist, to be of particular significance at the time. In therapy, under the condition of spontaneous conversation, such inadvertent interventions may occur frequently. In terms of ESOs the patient demonstrates social engagement; somewhat preoccupied self-engagement with frequent negative self-evaluation; some degree of transient alienation; and mobilization of self in response to this sense of alienation (SE; IE; AS; MIT). In the main the therapist's ratings suggest a responsive focus of attention on the patient with occasional loss of focus or disengagement (SE; IE).

### **3.11.2.8 Progress in realization of self**

There is a sense of someone who has suffered in the context of her own early relationships, and who has taken the difficult step of breaking an unsatisfactory relationship, while trying to carry on as a mother to her children. In the process there is confrontation with her-self and tension between expectations of herself, and her emotional experience of the vicissitudes of



parenting. In the session she shows a capacity for self-reflection, and is able to give some value to relationships with her ex-partner, her mother, and her children. She has greater difficulty giving herself credit, but does so to an extent in relation to recognitions of a step forward with her son; with a “reluctant” acceptance of help when it is offered; and the recognition and realization of progress in relation to self-regulating behaviour (a shift from self-harm to greater other-relatedness for instance). In all of this there is the disruption due to emotional states, and the sense of “shutdown”, followed by the effort of “mobilization”. These disruptive states make it difficult to sustain a consistent sense of self, conveying the sense of a temporally “broken up” life (i.e. dissociated). Nevertheless, there is also the sense of gradual forward progress, and a continuing struggle towards self-realization.

### 3.11.2.9 Physiological Predictions

There is a degree of preoccupation and slowness of response from the patient in this session, suggesting the vagal system may not be optimally engaged, although the patient maintains a therapeutic focus. RSA might be expected to be relatively low. There is at least the suggestion of transient diminishment in the sense of self, associated with negative self-evaluation around distress and vulnerability, which could involve the unmyelinated vagal system, although not in any sustained way. There are indications of mobilization in response to the internal sense of threat which may involve at least relative activation of the sympathetic nervous system. This could be associated with higher heart rate, but reduced RSA; and more rapid breathing.

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
Patient	14	b-f	-ve	Distress; inward	SE;IE;AS; MIT.	Relational	Self	6	+	+
Therapist	38	a-f	Sl. +ve	approach	SE; IE	Stays with	Other	6	+	+

Table 3.5: Summary Pilot 4

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

### 3.11.3 Pilot 3 (Full transcript in Appendix 3)

#### 3.11.3.1 Vignette

*Pt: .....I'd been telling you my feelings, what I had been doing, all of those sort of things and then as soon as I said, "unlike you...I'm not a word person", but as soon as that came in you focused on you in the script and we've been, whoa man, and let's get back to me and redirection and let's look at this and we haven't been looking at – we, we stopped moving in the direction we were going. We took a side street.*

*Th: Perhaps I'm not a good driver. Maybe you need to drive the-*

*Pt: That's very sad if that's the case (laughs). 'Cause you'll have to pay me much money every hour.*

*Th: Yeah, I mean I mean (emotional) if, if you – are finding that we are wasting our time going over this stuff, and it is important that you let me know that. Just say I'm feeling we've gone off on a tangent here...*

Pt: Yeah, OK.

### 3.11.3.2 Formulation using self-state data

This exchange occurs over approximately 60 seconds, occurring towards the end of what had been a lively although challenging session, involving questions of who was in charge. Both patient and therapist make synchronous ratings, on the turn where the patient says “*‘Cause you’ll have to pay me much money every hour*” with the patient rating “c” and the therapist “g.devastated”. In this case there is a mismatch of the ratings with the patient’s being in the mildly positive hedonic range, while the therapist’s in the most negative range available. The fact that the therapist becomes emotional (a ‘mood sign’, also evident in recorded vocal tone) suggests the impact of the exchange was felt at a real, rather than an “as if” level, although the response is not disruptive. The patient’s laughter is consistent with him having a positive experience, probably considering his comment “a joke”. However for the remainder of the session it becomes evident he has not been blind to the therapist’s emotion (see below). In this case the incongruence of the ratings provides a window onto the interpersonal dynamics of the therapeutic relationship. There is directness in the patient’s communications that impinges upon the therapist. From the symbolic point of view the vignette has a pointedness that is both earnest, and somewhat combative: suggesting engagement of the mobilization system. The therapist attempts to manage the situation by ceding control to the patient.

### 3.11.3.3 Structure of session: theme; development; resolution / recapitulation

The theme, introduced at the beginning by the patient, has to do with self-efficacy, especially in relation to work. He refers to “*Well, had a really good experience on Wednesday..... I thought ‘Oh this just feels like the old days when I was just going off to work.’*” The development in this session goes first through a recapitulation of past difficulties – “*yes it was like a wall, like I was driving through a wall of resistance getting there*”; then developing the sense of current progress, “*I’m assisting this person to do designing of the processes....there is no pressure on me .....it is a non-paying job.....so I can just enjoy it for what it is*”; followed by obstacles to progress, which include frustration by others, and being “blind” to his own resources, unable to find ways of clarifying his position that don’t involve dependence on others, where “*embarrassment*” leads to failures in direct in communication, with the patient left “not knowing”. These include difficulties with his daughter, and with people in financial institutions. The therapist amplifies some of these concerns, “*So you were a bit gobsmacked*”, followed by a patient response that warms to the theme. There are some pointed comments by the patient, referring to concerns about self-efficacy: “*that would make me look like an idiot*”; “*I don’t want to look like a fool*”. The patient goes on to make a more specific statement about his own deficiency, bringing out a pointed comparison with the therapist, “*because I’m not a word person kind of unlike you*”, where he says he can’t follow conversations well, and can’t remember what has been said.

The conversation becomes focused on the therapeutic relationship (i.e. focused in the transference), particularly when the therapist draws attention to a similar interaction in the previous session, “*it sort of reminds me of the last session we had*”. From this point, the central issue becomes related to who is in control, with the patient asserting that the therapist leads the interaction, but that progress is insufficiently linear, in the sense of “moving

forward”. The earlier theme is recapitulated, because the patient is saying that it is his difficulty with language that accounts for this. The interaction is frustrating to the therapist, and seems repetitive. There are references to having gone on a tangent: “*We took a side street*”. The focus remains on the relationship, culminating in a point where the patient makes a pointed, but ironic, statement, “*That’s very sad if that’s the case (laugh), ’cos you’ll have to pay me much money every hour*” (patient mimicking therapist). In response to this the therapist becomes audibly emotional, and the patient shifts from what has been an argumentative position. The comments over the last few minutes of the session suggest both an interest in the subject matter of the session by the patient, and also an effort to respond to the “emotion” of the therapist: “*Wow, well that was good because we did a lot of stuff there to get your empathy and your responses*”. There is also a “looking forward” to the next session, where it is known that the transcript will be reviewed. This is consistent with the patient’s evaluation of his own strength as someone who “designs” and is better with “visual” rather than “auditory” information. Nevertheless, there is a somewhat odd, and incomplete, sense to the session, with both parties feeling that there has been a “tangent”, and that the mode of engagement is under scrutiny, leaving it unresolved as to how to “move forward”.

#### **3.11.3.4 Patient evaluation**

The patient makes a total of 54 ratings, with ratings marked on 18 out of 20 pages of transcript. The kinds of ratings made are somewhat idiosyncratic, reflecting an unusual interpretation of the instructions given. Of the 54 ratings, 28 are rated by letter only on the scale a-g. One rating is by word-descriptor only where he writes the comment “confused”, with no accompanying letter. Overall ratings are made in the range “b-e”, reflecting a choice of a relatively narrow affective range in his self-depiction of the transcript. Within this there is one “b”; 22 “c” responses; 17 “d” responses; 9 “c/d” responses (the use of 2 letters is an idiosyncratic use of the scale); and 4 “d/e” responses. Unusually, some of the descriptors chosen suggest a significant range within the choice of one letter: for example there is a progression from “c” responses to “c-more interested” to “c-deeply interested” that occurs from about 10m20s into the session, after 8 “c-no descriptor” responses before the first “c-descriptor” response” at 11m5s, followed by 3 more “c-same descriptor” responses (“more interested”), and finally an idiosyncratic “c+-deeply interested” response at 13m10s. For most other patients in the study this would be likely to have been rated as at least a “b”, although this style of responding fits a pattern for this patient.

The only actual “b” rating, interestingly, is made at the starting point of the session (0s), suggesting that the patient begins the session in quite a positive frame of mind, although there is no qualifying descriptor. There are 14 responses in the positive hedonic range before the first “d” (neutral) response – the descriptor chosen here is “accepting”, confirming that the patient’s mood has not shifted into a negative state. Over the next portion of the transcript, from approx 13m20s-17m45s, there are 7 “d’s” (3 marked “accepting”, 4 no descriptor), and 2 “c” responses (no descriptor), corresponding to a period where the transcript has shifted from expression of a recent positive experience, to depiction of the patient’s self-analysis of factors experienced as obstacles. The rating made at approx 17m45s marks a turning point in the session, where focus shifts to the therapeutic relationship, starting with the patient’s

comment, *"I'm not a word person, unlike you"*, making a direct comparison between himself and the therapist.

In the next period of the session there are 32 ratings – 10 "d"; 9 "c"; 9 "c/d" and 4 "d/e". The final rating of this period, at 45m20s (approx) is "c-no descriptor". Overall the ratings are predominantly in the neutral-mildly positive hedonic range, although there are 13 "in between", or "2 letters simultaneously", ratings (depending upon interpretation).

Where descriptors are used, they are sometimes expressing quite complex and apparently paradoxical states, consistent with greater intensity in the therapeutic exchange. The use of "confused" with no letter to indicate hedonic range, reflects a shift from a rating of "d-accepting" about 15s earlier, and so does seem to indicate a real change rather than a mistake: confusion would be consistent with, "not being able to judge whether the experience is positive or negative or neutral". Comments like "c-not interested, more frustrated", suggest engagement, but dissatisfaction with his manner of expression (i.e. simultaneous experience of both positive and negative hedonic experiences, with positive engagement outweighing the "frustration"). There are a number of similar contradictions: "c-frustrated, annoyed"; "c-affected negatively"; "c-more frustrating"; "c-affected"; "c-super-frustration". Similarly the "c/d" and "d/e" ratings, themselves suggesting uncertainty in the experience, when associated with descriptors, demonstrate the complexity of the patient's feeling states: for example there are several occasions where two descriptors are used as well as two letters – "d/e-boring/disinterested"; "c/d-frustration/acceptance"; "c/d frustration>acceptance"; "c/d-frustration>boring". These cases suggest "simultaneous experience of differing states", and two suggest (through the use of the arrow) a progression from one state to another. The third instance here relates to the patient's expression of a complex idea, involving use of metaphor, to describe what is happening in therapy: *"You can go with the wind in the sailing boat and move a lot further forward but to me it seems like we're tacking"*. Two of the "c/d" ratings are associated with the descriptor "frustrated", suggesting a situation similar to some of the ambivalently rated "c's", described earlier.

The last two pages are not rated by the patient. This is probably due to running out of time although it may also reflect awareness of the session time winding down: the last rating is made by the patient at approx 45m25s, and by 46m35s the therapist has made it explicit the session is ending (*"we've got to get all this equipment off us"*). However there are some significant moments in the period from 45m25s to the close of the session, at 49m47s. The final rating by the patient is a "c" (no descriptor). This coincides with the patient making an ironic statement, with the positive hedonic rating suggesting that he experiences in at least a mildly positive way, probably as an attempt at humour. When the recording is listened to, it is clear that the effect on the therapist is reasonably profound: it is evident both from the quality of the therapist's voice, and from the patient's subsequent comments that the therapist has become emotional, in a way that is perceived as such by the patient. The patient's responses in this period include one that is apparently reparative, and directed at the microphone, as an aside, *"he's actually a very good psychiatrist"*. Another is clearly directed at the therapist, suggesting the overall experience of the session has been positive for the patient: *"Wow, well that was good because we did a lot of stuff there to get your empathy and responses"*. Additionally the patient's penultimate comment in the recording is made in a way that sounds

qualitatively lively, as heard on the recording; and is reflected in the content, in a manner that suggests perception of “shared experience”, when the patient says, *“I think we did a good one from the point of view of research”*. This was confirmed by the patient’s feedback, at the time of the “rating of transcript” session, where the patient’s evaluation was recorded.

A selection of the patient’s evaluating comments follow:

In response to “how you found the process”, *“Mmm, OK..... I found the first ten or fifteen minutes we were talking about my issues and the rest of the time we were talking about the process or something else umm from the point of talking about the process I felt it was probably good because umm we got down to something where umm I could recognize umm that we would be going forward and then we would stop and we would sort of go around in circles ..... so I managed to get that out and explain to you what it was I was feeling. So that was good. ....I treated it just like all our sessions. I thought at the end it was good because we went over a lot of stuff and umm that was really a value, to think, but I didn’t think that during it. I guess I changed a little bit in my responses maybe because I felt, ...at least later on I realized umm it was good because it was all down in writing sort of thing that you could have a look back over later. And you see things and get ideas. So I thought it was probably more revealing of my thoughts than normally... .... it may have made me be more honest.”*

In response to whether having the recording belt had made it feel “less of a session”, *“Nah, no it didn’t bother me at all..... I would do it every time, I don’t mind”*.

In response to the experience of rating the transcript, *“ooh yeah it would have been better if we had more time”*.

In relation to the rating of “frustration”, *“frustration is not upset, upset is a different connotation to me, upset is an emotion where I am ...umm near tears, near reflecting it is on me something is me. Frustration is something I get when I am trying to explain something to you and I feel you are not listening to me for example”* (note these comments suggest both a high degree of engagement, and the sense that something close to his “core” sense of self is felt internally, consistent with a rating of high significance, made less lively by the mismatch perceived with the therapist).

In response to the whole process, including going through the transcripts, *“So I enjoyed participating and reading and learning about these things. I enjoy participating in all new things I really enjoy new things so this was enjoyable. I found it ahh I think going back over what you say is extremely interesting because you umm like umm I didn’t know I ummed as much, but I see the broken thoughts that you are trying to explain when I am trying to explain things and I see how I interrupt you when you are trying to say something..... to do an exercise like this we will be looking at ....transference”*.

Overall this is consistent with the sense that the patient’s overall experience of the process and of the session was predominantly positive, and also that he seems to have engaged in what he considered a thoughtful and reflective process.

### 3.11.3.5 Therapist evaluation

The therapist makes 34 ratings, in 19 out of 20 pages of transcript (page 20 is only 3 lines). Interestingly, ratings are predominantly in the range of negative hedonic tone: 1 “b”; 5 “c” responses; 5 “d”; 10 “e”; 9 “f”; and 4 “g” responses (i.e. 24/35 in negative hedonic range). All ratings are with letter and word descriptors: “b-excited”; 4 “c-interested”, 1 “c-engaged in”; 3 “d-unaffected”, 2 “d-accepting of”; 4 “e-distracted”, 2 “e-bored”, 2 “e-disinterested”, 1 “e-disinterested/bored”, 1 “e-bored/unengaged”; 4 “f-threatened”, 3 “f-offended”, 1 “f-enraged”, 1 “f-upset”; 2 “g-shocked”, 1 “g-horrified”, 1 “g-devastated”. This presumably represents both a wide range of responses, and containment of relatively strong internal emotional responses. The initial rating of “e-disinterested/bored” suggests the therapist started the session in a relatively disengaged state, although by 1m30s this has shifted to “d-accepting of”, suggesting that he quickly becomes engaged in the process. At near 6m into the session the therapist gives the first strongly negative rating, “f-threatened”, which relates to the patient’s reflection on matters he has been avoiding, including seeking government financial support, followed by the patient shifting the attention on to the therapist by saying *“Ask me a question (laughs)”*. On listening to the recording it seems this comment is felt to be humorous (by the patient), but is partly directed at “the recording process”, constituting a demand on the therapist to do something. Despite the “f” rating, the therapist transforms the situation by commenting on the patient’s reflections as a form of progress, by saying *“I guess you have described to me some kind of change that you’ve noticed in both I guess what you are feeling but also what you are thinking about. (Pt. Yeah) ...which is bringing you closer to reaching the goals that you have”*. Ratings on either side of the “f” are “c-interested” suggesting the therapist is engaged in the process.

At about 7m30s the therapist makes his peak rating, in terms of positive hedonic tone: “b-excited”. This relates, on the one hand, to recognition of the patient’s progress, *“...you can actually see some shift, some kind of change”*, but perhaps more importantly to the patient’s recognition or realization of his own process: *“That’s it. I notice change happening so that makes me happy”*. The therapist varies between interest and boredom for a period with predominantly moderate ratings (c,d,e) until approx 17m45s into the session, when a key shift occurs marking the point where the session becomes focused on the therapeutic relationship (i.e. on the “transference”), when the patient makes a statement of comparison with the therapist highlighting a difference, and his relative disadvantage as he says, *“because I’m not a word person kind of unlike you”*. The therapist again makes an “f-threatened” rating.

During the remainder of the session there are a number of times when the patient makes pointed remarks, and the therapist responds with “f” or “g” ratings, while maintaining the therapeutic position of responding calmly and appropriately, with concern for understanding the patient’s view. Some examples are: at 19m45s the patient says (of the last session), *“we were wasting our time, yes”*, with therapist rating “f-offended”, while responding with, *“Well I’m not sure it was entirely a waste of time because where they kind of dialogue there that you were frustrated with me um because you felt I was leading you on a certain kind of path”* (staying with the material given; calmly offering another perspective); soon after, at 20m30s the patient makes another direct statement, commenting on the therapist, *“you are going down a path that is of no importance to me”*, with therapist rating “g-shocked”, although

allowing the patient to continue, then taking up the theme with an explanatory response (another therapeutic response), *“Well I’ll tell you why, why I bring it up. It’s because you mentioned in the dialogue there that you’re not a verbal person and then you made a comment ‘unlike you’.”*; a third example occurs at 22m20s with a direct statement by the patient, *“That you were wasting our time and you were repeating the same error that um, I said that you always do”*, eliciting the therapist rating “f-threatened”, although the therapist remains attentive while the patient keep speaking for about another 40s (‘active listening’, also a therapeutic response).

At approx. 24m, the patient makes a different kind of statement, producing a strong response from the therapist, although perhaps less directly related to the therapeutic relationship. The patient says, *“what we were talking about was that thing about um God being, um, having unconditional love and the Christian Church has got unconditional love according to your definition of unconditional, because you’ve got a condition in there that you don’t count as a condition”*; the therapist rates “f-enraged”. The rating is made at the point where “God” is mentioned, possibly suggesting a difference, or conflict, in beliefs, although he continues listening, while the patient continues on the theme of the therapeutic relationship, and again becomes pointed, *“you ask me questions in a way that you are trying to corral me into a certain answer rather than me asking questions to try to go forward”*, the therapist response is “g-horrified”, although again he simply continues listening. At about 26m20s the patient makes what seems like a critical comment, *“we never investigate further we just start, we go places and we get to the same point”*, with therapist rating “f-upset”, although the therapist response is explicitly encouraging: *“Tell me a bit more about this sense that you have....that we’re on the edge of going somewhere...”*. At 32m40s there is a similar exchange: the patient says, using metaphor, *“you’re the captain of the boat”*; therapist response is “f-threatened”, but the therapist stays with the material, seeking amplification: *“If I’m the captain of the boat I’m a little curious as to how we went on.... we were talking about you and I and how we interact and now we’re talking about.....”*.

Some further examples: at 34m45s the patient continues with the theme, *“....I think well why do you ask me questions, you’re the driver of the boat.”*; therapist response “f-threatened”, with therapist continuing to listen; at 39m the patient says, *“....you’re interested from your needs rather than from my needs”*; therapist rating “f-offended”, with therapist continuing to listen; at 42m45s the patient says *“I’ve only dredged it up because you’ve asked me a question because you’re the pilot and now you’re ....because I put forward analogy saying just because you’re moving forward doesn’t mean that’s the best way of moving forward”*; therapist rating “g-shocked”, with therapist continuing to listen; similarly at 44m15s, the patient says, *“I’m going to roughly use your words, so when I say it is you (pointedly uses therapist’s actual name here) right. Let’s go back to when you said I can use words better than you, that was some sort of judgement thing”*; therapist rating “f-offended” with therapist continuing to listen.

Finally at 45m25s approx, with the session time winding down, the therapist makes arguably his strongest ‘negative’ hedonic rating of “g-devastated”, in response to the patient’s “joke”: *“Cause you’ll have to pay me much money every hour”*. In his response the therapist is audibly emotional, although not markedly so, becoming in a sense deferential (giving the

patient the opportunity to make a change), by saying *"Yeah I mean, I mean, if, if you – are finding that we are wasting our time going over this stuff and it is important that you let me know that. Just say 'I'm feeling we've gone off a tangent here'..."*. The therapist's response here is more emotional and the patient responds by saying *"Yeah, OK"*, sounding apologetic. The therapist's subsequent and final two ratings are "e-distracted" (approx 46m15s) and "d-unaffectd" (approx 47m). This last rating relates to what seemed a positive or conciliatory statement from the patient: *"Wow, well that was good because we did a lot of stuff there to get your empathy and get your responses"*. These final ratings suggest the therapist takes a little time to recover from the more overt emotional expression at 45m25s, before returning to a "neutral" range in response to the patient's gesture, at about 47m. In the closing exchanges, after the end of the session has been flagged by the therapist, the exchange sounds quite lively and upbeat, although neither participant has made a further rating.

Therapist feedback after doing the transcript is positive: overall he *"enjoyed the process"*; he felt *"the patient was interested"*; there was *"some difficulty using scale"*. Specifically, in relation to rating particular moments, he commented, *"I could have rated some moments more than one way that is there are multiple simultaneous senses of the situation"*. He considered the recording of the session, *"involved some initial distraction but then habituation"* (meaning that it seemed pretty much like a normal session). In relation to the session these comments could be taken to indicate that, despite the predominantly "negative" ratings in a hedonic sense, the therapist was able to "enjoy the process". Indeed therapists are often in the position of being exposed to, and having to contain, "negative" affect.

### 3.11.3.6 *Relation between patient and therapist evaluation*

The patient comes in with an upbeat opening, relating *"a really good experience"*. This may contribute to the initial shift in the therapist from "bored" to "accepting of" and builds to the point at turn 37 that represents a "high" in terms of hedonic tone for the session: patient rates "c", and therapist "b-excited", both giving their highest, or equal highest, hedonic ratings for the session at this point, and both rating simultaneously. This reflects an exchange involving recognition and realization: *Th ".... you can actually see some shift , some kind of change." Pt "That's it. I notice change happening so that makes me happy"*. There is a sense of togetherness at this point. For the patient it could be argued that the "c+-deeply interested" rating at 13m10s is actually a higher rating than the earlier one mentioned above: while both are "c" ratings, extra emphasis is given here. Again this seems to relate to a process involving recognition of "moving forward potential", in an exchange where both patient and therapist seem to be "together": *Pt. "....eventually I won't be gobsmacked, so to speak, and I might be able to go to that next layer."; Th. "Is it like each time you bring it up that kind of level of fear and apprehension is not quite as high?"*. The sense is that both parties are working on the theme the patient has brought to the session, relating to "moving forward in self-efficacy". Use of the term "gobsmacked" was made by the therapist at 11m with an immediate response from the patient of "c-more interested", and then further amplification of interest about 2m later, showing cohesion in this section of the session.

The key shift in the session has been identified at 17m45s where the patient makes a remark, with a strong voice, pointed towards the therapist – *"I'm not a word person, unlike you"*. From here the therapist ratings shift into predominantly negative hedonic territory, although



he succeeds in maintaining a therapeutic position, as outlined in the previous section. There is a repeated pattern of pointed comments, and strong (internal) responses, from the therapist. A number of these are simultaneously rated by both patient and therapist, although with significant differences in terms of the hedonic rating: 17m45s, pt rating “d”, th rating “f-threatened”; 19m45s, pt rating “d”, th rating “f-offended”; 22m20s, pt rating “c-affected negatively” (subsequently pt stuck to this description when questioned by therapist, suggesting he can contain negative affect while being interested, and judging the experience as positive), th rating “f-threatened”; at a long pt turn of approx 2 mins, from 23m40s, there are ratings by both patient, and therapist, not precisely simultaneous, but towards the negative hedonic range, pt “d/e-boring/disinteresting”, th “f-enraged”, and “g-horrified”. Clearly the therapist’s responses are rated more strongly, but both are relatively negative ratings (patient ratings neutral > negative). This part of the session relates to talk of “God”, considered (above) to possibly represent an area of conflicted belief.

The second of these therapist ratings (“g-horrified”), follows the more usual pattern in this section of being a response to a pointed comment by the patient. There is a similar exchange at about 26m, rated almost simultaneously (patient slightly before therapist), where patient rating is “d/e-boring”, and therapist rating is “f-upset”. Although the ratings are similar, the sense through this mid to later part of the session is that, with the focus on the relationship, issues involving some element of conflict are being dealt with, i.e. there is not the sense of “togetherness” commented upon in the earlier part of the session. At 32m30s, the patient makes another pointed comment, making a rating a few seconds before the therapist, with patient rating “d”, and therapist “f-threatened”. At approx. 36m45s there is a roughly simultaneous rating with another paradoxical (but subsequently defended) rating by the patient, of “c – more frustrating”, and “f-threatened” by therapist, again following a pointed remark. There follows a section between 38m10s – 38m25s where there is a reversal of dynamics: the therapist, atypically, disputes a semantic point: *Pt “OK but as long as you...I’ll answer that question but now”; Th “That’s not a question”; Pt “Well it’s ....well what would you call it?”; Th “That’s an observation”*. This brings a strong rating response from the patient, “c-super frustration”, with the words double underlined, and arrows pointing to the two comments of the therapist. Later, in the manner described, the patient defends this paradoxical rating, suggesting both containment of strong emotional responses, and a capacity to have interest (a positive state) in the exchange. The therapist makes no rating in this exchange, suggesting no particular personal impact.

Subsequently, in a long patient turn (38m40s-40m20s) there is a roughly simultaneous rating corresponding to a pointed remark: pt rating “c/d- frustration/acceptance”; th rating “f-offended”. The next marked rating by the therapist is a “g-shocked” (to pointed remark), at 42m50s. There is no coincident patient rating, although the nearest is “d” at approx 42m20s (which covers the whole turn including to 43m25s). The next rating is roughly coincident: pt “c/d – frustration > boring”; therapist “f-offended”. The final rating is again simultaneous at 45m25s with contrasting ratings: pt “c”; therapist “g-devastated”. This point might be considered the one of most overt emotional expression (by the therapist in this case), and shapes the closure of the session with the patient’s subsequent (“*Wow...*”) response, as discussed earlier. The closure is lively and the sense in feedback of the overall session is positive on both sides. While there is an element of conflict and argument in the second part

of the session, perhaps the patient has a sense of progress in terms of “finding a voice” or “being heard”.

The linguistic and emotional findings in this session suggest several therapeutic processes that are occurring in this relationship. The session divides into two important sections (0-17m40s; 17m41s-end). In the first section there is evidence of shared recognition, a sense of self-observation by the patient, and an awareness of possibilities emerging. In the second section there is a focus on the therapeutic relationship, and evidence of a capacity in the therapist to maintain a therapeutic position, despite experiencing strong and often negative emotional responses. The therapist also shares his emotional response, to an extent, with an apparently positive result in terms of the relationship (*Wow*, etc). The patient also shows, through his paradoxical ratings, a capacity to contain emotions that would normally be seen as in the negative range, while maintaining interest and a capacity to observe and participate in the relationship. His capacity to use, and introduce, metaphor (references to “*Captain of the boat*”; moving forward through “*tacking*”) show both a degree of imagination, and a capacity to use analogy to understand mental life, a necessary requirement for this type of therapy. There is evidence through the session that affective qualities in the voice (strong, pointed; softer, halting, emotional; laughter) have a significant impact, associated with shifts in self-state, as rated with CSERS.

### **3.11.3.7 ESOs realized in language and implications for patient’s homeostasis**

This session is comparable to all of the patient-therapist sessions in that the content of the session is more revealing of the patient’s inner world, or “self”, than that of the therapist, although in this session one might surmise that the word “God” is emotive for the therapist (see above). This could suggest the therapist has strong feelings about a certain “symbolic order”. The central themes of the session relate to self-efficacy, and efficacy in communication with the therapist, leading to reflection on what has value for the patient, and also to a situation where the patient asserts himself, in a situation with a degree of conflict, by making pointed remarks about the therapist. While this session is never in a state of overwhelming emotional intensity, and hence might be considered to largely stay within the range of social engagement and expression, it does point towards states where there is conflict; and the challenge of thinking and speaking, in the face of conflict. The evidence from the content and actions of the session suggest that the therapist can tolerate significant negative affect, while maintaining a therapeutic stance that sustains social engagement.

In terms of values, the tolerance of affect “for the sake of the other”, by the therapist, may reflect a strong personal and professional ethic. The patient expresses a preference for things that can be “seen”, although his use of metaphor means, “things that can be visualized in a mental way”, as well as literally. He also has paradoxical positive (usually “c”) ratings, where terms like “frustration” and “super frustration” are used, suggesting a capacity to tolerate affect, and maintain interest, when it is felt to be in the service of increased understanding (a therapeutic goal). His approach of “pointed comments” suggests a method of using conflict to obtain further information (somewhat in the manner of Socratic argument). This is a somewhat adversarial style, suggesting a symbolic order more related to the mobilization system (“moving forward psychologically” being his metaphorical goal). The history of depression may suggest that he has at times fallen into more of a “shutdown” system,

dominated by an alienated symbolic order. His interest in the session is on working on 'external' interpersonal issues firstly (a safer area); and secondly the more challenging area of the actual relationship with the therapist (the transference). This is not unusual in the psychotherapeutic setting.

In relation to ESOs the patient remains mainly in a system of social engagement (SE), although at times appears blind to the possible effect of his comments. He also has a relatively restricted range of ratings in terms of hedonic tone (almost all in c-e range). There is a shift towards a more adversarial position, although one that is consistent with maintenance of somewhat positive self-states. The mobilization seems to arise largely out of the need to explore a perceived self-deficiency and hence seems to reflect "internal mobilization" (IM). There is reference to states of relative personal paralysis and depression, perhaps reflecting periods when the sense of self is diminished, or alienated. These are not evident in the session itself. The therapist, after taking a short period to fully engage in the session, remains socially engaged and responsive, even though he is experiencing significant degrees of negative affect at times. This suggests a process of internal engagement (IE), in managing these negative feelings. Even at the point where he shows emotion this appears to be part of a system of social response, as evidenced by the subsequent responses of both patient and therapist. Hence ratings for patient would be SE; IM, while for the therapist SE; IE.

#### ***3.11.3.8 Progress in realization of self***

Subsequent feedback suggested the patient was more directly challenging of the therapist than had occurred previously. This may be a development in the therapy, and in the "self" of the patient. The early part of the session where the patient reflects upon a recent "good experience", developing the theme to the point where a "high" point is shared with the therapist in exchanged remarks of recognition and realization, suggests growth in communicative capacity, the area defined by the patient, particularly in the second half of the session, as a key area of difficulty. The capacities to stay with a theme, to use metaphor and to grow in liveliness, despite some feelings of conflict, suggest a significant capacity for containment. While these areas are largely positive, there is some sense of overall frustration and mismatching of responses at times, suggesting there remains considerable room for progress. The repeated experience of frustration, and the emphasis on the need to move forward in a direct, linear way, may suggest the patient is both frustrated at the difficulty of finding a voice acceptable to others, and has a degree of "blindness" to the effects he sometimes has on people.

#### ***3.11.3.9 Physiological Predictions***

The patient demonstrates some restriction of affective range, although some of his word ratings suggest a level of intensity in relation to the sense of frustration. There is also a focus on a sense of deficiency in his capabilities. These factors might suggest some reduction of RSA. The tendency to interact within the therapeutic relationship through engagement in a form of argumentation, might suggest at least a relative enhancement of sympathetic nervous system activity. There could be a relation between "frustration", and states of tension, that could be reflected in breathing restrictively due to chest wall muscle tension. The therapist shows a greater affective range both in ratings, and his responsiveness in the session, perhaps

consistent with a relatively higher RSA. The effort at containment for the sake of the therapy could be associated with lessening of RSA and respiratory shifts.

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
Patient	54	b-e	+ve	<i>Frustration; outward; provocative</i>	<i>SE; IM</i>	<i>Self-efficacy</i>	<i>Self</i>	22	+	+
Therapist	35	a-f	-ve	Effort at containment for sake of engagement	SE; IE	Stays with	Other	22	+	+

Table 3.6: Summary Pilot 3

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

### 3.11.4 Control 3

#### 3.11.4.1 Vignette

*Int: “.....this idea of neural networks I guess is....and hypotheses about the kind of activity -*

*Sub: (quite enthusiastic) “Have you, have you, I’ve just been reading a book, I don’t know if you’ve read it, it’s in a lot of the bookshops, “The Brain that Changed Itself”?”*

*Int: No, it’s on my list, it’s on my list.*

*Sub: Oh, it’s on your list – it was on my list too and I hadn’t bothered with it, but I was at brunch at my cousin’s and he said oh here this’ll probably interest you, and.... and it was interesting because um you know you get old you sort of worry about your brain and how it’s going, so it’s very nice to read something that says that yes neurogenesis is possible right through the lifespan.....*

#### 3.11.4.2 Formulation using self-state data

This exchange occurs over about 30 seconds, in keeping with a relatively simple narrative unit. The patient and therapist have 2 synchronous ratings in this period. In the first of these the interviewer rates “c” on the turn where *“this idea of neural networks”* is mentioned. The interviewee (‘sub’) follows on the next turn with a rating, judged to be positive, marked, idiosyncratically, as “-change shift-”, indicating a definite change. This is followed by a further synchronous rating, by both, on the turn beginning, *“Oh it’s on your list”*, with interviewee rating “a.enlivened”, and interviewer rating “b”. In this case ratings are both synchronous and congruent; the exchange appears to reflect a coming together, in relation to a subject of mutual interest, with a noticeable lift in mood, and a sense of togetherness in the relationship. This is somewhat evident in the semantic content of the transcript, although the particular enthusiasm for the subject, and its shared aspect, would not be so clear without the CSERS ‘window’, particularly in relation to the interviewee. In terms of ESOs, the interaction is one of togetherness suggesting an order related to social engagement.

### 3.11.4.3 *Structure of session: theme; development; resolution / recapitulation*

For controls in this study, participants were told, “the interviewer should ask about the interviewee’s life story, taking care to stick to areas with which that the interviewee feels comfortable, which will vary but might include matters such as career, or family life.” Accordingly, the interviewer emphasizes at the beginning of the session that, “...*we’re going to stay within the confines of a comfortable conversation..... you don’t need to go anywhere you don’t want to go*”. He goes on to structure the situation for the interviewee by asking about the person’s current involvement in a work project. Hence the theme that is established relates to “working life”. The way that this develops is that the interviewee, initially anxious talking about herself, struggles to define what she is doing, and the nature of her role. Later she shifts to talking more about other people with whom she works, and seems to relax; indeed, she becomes animated as she enters into more detailed description of the nature of, and the theory behind, her work. This leads into a phase, initially of “sharing of work interests”, to which both interviewer and interviewee contribute; and then to a “sharing of interests in the arts and literature” (again with mutuality). There follows more personal disclosure of life pursuits and family difficulties, including bereavement, and concerns for health in the future, with development of some intimacy in the conversation. The expression of uncertainties leads to disclosure of human frailties, reciprocated by the interviewer, including areas of personality tendency (obsessionality). Towards the end, it is the interviewer who takes a more dominant role (last few minutes), expanding on a combination of the literary theme, and that of “human frailty”, with examples of troubled literary giants, and the darker side of humanity. In a sense, this resuming of the dominant role in the interview is a recapitulation, of the interviewer taking an active role in shaping the early introduction of a “safe” area of talk.

### 3.11.4.4 *Interviewee evaluation*

The interviewee made 12 ratings, all with word descriptors, covering 20 out of 22 pages of transcript (a relatively low number). There are 2 “a” ratings (“enlivened” and “lively”); 3 “b” ratings (2 “touched”; 1 “excited”); 6 “c” ratings (3 “engaged”, 2 “interested”, 1 “interested, constrained, self-conscious”); and 1 “d” rating (“accepting”). The early phase of the interview was marked by the “mixed” rating of “c-interested, constrained, self-conscious” while by the time of the second rating, made at approx. 7m35s, it is evident that the interviewee, taking a long “turn” at this stage, has become more comfortable and assertive about the subject of her work, now rating “c-interested”(less ambivalent than the preceding rating). The great majority of ratings (11 of 12) are in positive hedonic range, with the only exception being a “neutral” “d” rating, occurring about 12m20s into the interview. There is no evidence of any distress at this point although feedback the following week suggests the interviewee may have been tiring of talking about work (in feedback, the interviewee said, “*I hate talking about (work-related matter).... actually I enjoyed it more when it was more personal*”).

The interviewee also makes a point of noting a distinct shift for her at approx 28m40s into the session, where she annotates the transcript with “change/shift”, without making a rating. The following turn, she rates “a – enlivened”, suggesting a distinctly positive shift around this point. Indeed, the 5 most positive ratings occur over the ensuing 12 minutes suggesting that this period (commencing with the exchange of the vignette in 11.4.4.1) was the highpoint, or

narrative climax, of the session, from the interviewee's point of view. This includes quite personal disclosure, relating to earlier life experience, and to a relatively recent bereavement. Interestingly this disclosure is rated by the interviewee as "b-touched", suggesting that the disclosure occurred with the interviewee feeling emotionally safe at this time. It occurs in a manner where the interviewee quickly moves on to a related but different subject, *".....I've lived with, .... with that happening, he died last year, but um, it makes you really aware um of just how awful it is to have um things go, processes go.....but I think..... it's not just doing things, I mean it's the exercise strangely is part of it as well"*. The positive hedonic tone is further maintained, as the interviewee relates the achievements of one of her children.

The final 3 ratings, as the interview reaches its later stage, are "c-engaged" suggesting an ongoing sense of involvement in proceedings until closure of the interview. The feedback interview, as mentioned, suggested initial anxiety, diminishing as the interview progressed, especially when talking about personal matters. She commented on initial anxiety in relation to the recording process: *"you know you think mmm who is going to be listening or transcribing it or whatever but as soon as we started talking more personal things then you know I relaxed more"*. In relation to the disclosure of bereavement she said, *"I knew I could say it and move on with it"*. During the feedback session the interviewee generally maintained positive affect, laughing when referring to any difficulties experienced. The recording belt was felt to be too tight (by both participants), and the interviewee also expressed self-consciousness about doing the rating, in the sense of being embarrassed to see her own speech: *"The rating was horrible, I mean it is awful when you hear yourself recorded and it is truly appalling when you read yourself (laughs)"*. She did not indicate any difficulty using the scale. She felt the nature of the interview reduced the emotional scope of the conversation, *".... in what we were doing there's not a big scope"*

#### **3.11.4.5 Interviewer evaluation**

The interviewer made a high number of ratings, 81 in total, with 28 "a" ratings; 26 "b" ratings; 23 "c" ratings; 1 "d" rating; 1 "g" rating; 1 "b/a" rating; and one rating "confused", i.e. word descriptor with no letter rating (this could possibly be adjudged a 'neutral' rating which would make it a 'd'). Of these ratings only 13 (including "confused"), were given a word descriptor: 1 "a- thoughtful"; 9 "b" ratings had word descriptors (2 "touched"; 1 "anxious"; 1 "surprised>clarified"; 1 "fascinated"; 1 "curious++"; 1 "curious / inquisitive"; 1 "excited/wondrous"; 1 "expansive"); 1 "c-wistful"; 1 "g-wary/concerned" as well as the "confused" rating. There are numerous instances of sequential ratings of the same letter, leaving little scope for differentiating any shift referred to at these times. The "anxious" descriptor is not tightly linked to the initial "b": it may be more of a reflection of the state of mind at the start of the interview (this tends to be supported by comments from the feedback session, e.g. where the interviewer says, *"....I was a bit anxious to start with"*).

If one does not count sequential ratings of the same letter, the interviewer nevertheless reports 55 shifts of self-state, when rating the transcript. In terms of hedonic tone, the interviewer, like the interviewee, has a marked leaning towards positive ratings with all but 3 in the positive range. This is consistent with reports in the feedback session that, *"... I really enjoyed it.... .....then it kind of yeah I was realizing that I was enjoying myself and I kind of drifted into it"*. The only clearly negative rating was "g- wary/concerned", which corresponded to the

interviewee's reference to bereavement, at the point of the transcript referred to above, in 3.11.4.4. The interviewer continues with the conversation, picking up themes that had been talked about around the disclosure, suggesting there was no loss of emotional containment. Within 15-20s a further rating of "c" is made, suggesting that any experience of negative affect was not sustained, consistent with report in the feedback session where the interviewer comments, *"I was, you know, I immediately thought whoops and I have to be quite protective here"*. This suggests that, although taken by surprise, the interviewer remains in a socially engaged mode. The interviewer initially rates more in the "c" range, but by about 7 minutes into the session is beginning to rate "a" frequently, consistent with reported "enjoyment" of the session. The period which corresponds to the high-point for the interviewee, is rated predominantly with "a" and "b" ratings by the interviewer. The dramatic "g" rating is followed by "c", "b", and then "a", within the next minute.

The interviewer continues to rate highly through to the end, until the final "c" rating suggests a winding down, as the interview draws to a close. There is some suggestion that the climactic period for the interviewer may have corresponded to that of the interviewee, but was more prolonged for the interviewer. In the feedback session the interviewer expressed enjoyment of the procedure. He also mentioned that he felt the scale was inadequate in covering states like anxiety or confusion: *"there wasn't anything in there for kind of anxious or or confused so I had to put those words in a couple of times"*. He said, in relation to the rating scale: *"I was a bit kind of internally tentative about what is, kind of curious and inquisitive but also a little bit wary as well"*. He clarified that when he put "g" it reflected wariness, *"even though it wasn't catastrophic inside me"*. He wondered whether CSERS would be better with *"another couple of transitional categories"*.

#### **3.11.4.6 Relation between interviewee and interviewer evaluation**

There are 8 ratings made on the same turn (i.e. approximately synchronous). This represents 67% of the maximum possible, given that one of the raters only made 12 ratings. This is a high proportion. The random likelihood of this occurring is enhanced, by the interviewer's high number of ratings. There are only 3 synchronous ratings, where both parties use both letters and word descriptors, in making their ratings. One of these relates to the most personal disclosure during the interview (recent bereavement), perhaps predictably associated with a shift for both people. The interview begins with both being anxious, as described. Where there are synchronous ratings, they are both simultaneously positive in hedonic terms, with the exception of ratings at the point of disclosure (int'ee "b-touched"; int'er "g-wary/concerned"). This is consistent with an overall positive experience, both of the interview, and the relationship. The interviewer appears to relax, and begin enjoying the interview, earlier than the interviewee. The first part of the interview is characterized by the interviewee reporting facets of her work, with some self-consciousness, although growing in self-confidence as she takes longer "turns". The interviewer stays in the role of questioner in this part of the session. There is a distinct shift, reported by the interviewee (see 3.11.4.4), where the interviewee changes tack, introducing a book she has read. Following this, the exchange becomes more reciprocal with the interviewer sharing some of his literary interests, and contributing some longer "turns". This may contribute to mutual trust, allowing the interviewee to disclose emotionally significant material, adding to a sense of personal

connection evident in the second part of the interview. At the end, the researcher actually brings the session to a close, with both parties still carrying on the conversation, suggesting they would have been happy to continue for longer.

#### **3.11.4.7 *ESOs realized in language and implications for homeostasis***

There is a move in the session towards greater mutuality and reciprocity, evidence of a mode of social engagement. Initially there is some reporting by both parties of anxiety, and the focus of attention is directed more onto the interviewee, with specific questions and comments by the interviewer structuring initial exchanges. There is more hesitancy and self-consciousness for the interviewee in the first half of the session, with progression towards greater confidence, reflecting efforts at “self-definition”, followed by greater focus on “others”, or work methods and theories, before the shift to greater mutuality and personal disclosure. Although the interviewer makes a “g” rating, the surrounding ratings, and feedback given subsequently, do not suggest this was associated with a shift away from the socially engaged mode.

There are revelations of “obsessional” traits, but no suggestion for either party of anything associated with a sense of disruption or marked defensiveness, other than the initial degree of anxiety, and inhibition, as might be expected with a new social contact. There is no substantial evidence, in other words, of disruption to homeostasis in this transcript. The fact that a personal disclosure of bereavement happens without great disruption, could be consistent with this experience of loss having been integrated by the patient, with no ongoing disturbance of homeostasis. The interviewee displays concern for others, and openness, during the interview. She espouses interest in her work and a range of family, artistic and social interests. This seems consistent with predominant social engagement (SE). Long turns, and self-reflection, indicate concurrent internal engagement (IE). The interviewer also shares some interests in work, and some of his personal social experience. While there is naturally less focus on him, given the structure of the session, the evidence available suggests a similar kind of capacity, for both social and internal engagement (SE and IE). While the structure of the session, with the injunction “*you don’t need to go anywhere you don’t want to go*”, may have contributed to restricting the possible range of the interview, the fact that material covered included emotionally-charged experiences expressed without adverse effect, suggests that the participants are relatively integrated characters. ESOs for both interviewer and interviewee are SE; IE. Additionally the interviewee also experiences a period of anxiety initially, perhaps consistent with some transient insecurity of self (IS).

#### **3.11.4.8 *Progress in realization of self***

This heading is perhaps not highly relevant to this kind of interview, although as mentioned both people in the interview seem to demonstrate relatively integrated “selves”.

#### **3.11.4.9 *Physiological Predictions***

The anxiety in the early phase of the session suggests an “orienting” response for the interviewee, where lifting of the vagal brake is associated with relative reduction of vagal tone. The increasing mutuality and sense of closeness that develops in the second half of the interview suggests a likely increase in vagal tone in this period, for both participants, possibly



disrupted momentarily for the interviewer when he becomes “wary” at the other’s disclosure. This would be consistent with a brief “orienting” response, quickly followed by re-establishment of a sense of safety, and increased vagal tone, without mobilization of the sympathetic system. The distinct shift noted by the subject might suggest a point where vagal tone increased for her, following a relatively prolonged period of appraisal/orientation. If associated with relaxation, it may also have involved slowing of respiration.

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
Int’ee	12	a-d	+ve	Initial anxiety; progressive mutuality	SE; IE; IS	Work Life	Self; work; family	8	n/a	+
Int’er	81	a-g	+ve	Progressive mutuality	SE; IE	Stays with; shares	Other.	8	n/a	+

Table 3.7: Summary Control 3

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

### 3.11.5 Control 2

#### 3.11.5.1 Vignette

*Int: Yeah, no, I know but er, you said before the war he’d been taken and put in prison for no reason as well and then released.*

*Sub: Yes?*

*Int: And then becomes a hero in...*

*Sub: You know you become a hero and you can’t understand it because currently we understand that millions of Soviet peoples which were imprisoned and shot were absolutely innocent. Absolutely innocent.*

*Int: Of course*

#### 3.11.5.2 Formulation using self-state data

This exchange occurs over about 30 seconds. There is a synchronous rating between interviewer and interviewee (‘Sub’). The rating is made on the turn beginning, “*you know you become a hero*”. The interviewee makes the rating “b.excited”, while the interviewer makes the dual rating “both ‘b-touched’ and ‘g-horrified’”. This illustrates how traumatic material can be both shocking, and moving, simultaneously; particularly when articulated by someone who is in an integrated state, and “able to tell the story”. The interviewee’s positive hedonic tone would not obviously be predicted from the semantic content of the vignette. It would also not be clear that the interviewer’s responses contained simultaneous, opposite elements. The shared response also suggests a sense of connection between subject and interviewer. The

self-state data add information, both relating to the two selves, and to the relationship. The sense of trust and connection are consistent with social engagement.

### **3.11.5.3 Structure of session: theme; development; resolution / recapitulation**

The interviewer structures the opening of the session, quickly establishing the theme by saying, *"I might just start by asking about your working life"*. The interviewee responds by relating how he began his professional life; then shifts topic to some technical and scientific areas of interest; then introduces the political dimension to his career, by referring to the conditions under which work had to occur, saying, *"it was a strict political system... it was practically impossible"* (referring to opportunities to work in other countries). The development of this subtheme, of political influence, leads to the conversation taking a more personal turn, with reference to influence on family members, particularly his father. This part of the session, running from about 15-30 minutes, is probably the narrative and emotional high point of the session. A secondary theme is introduced at around 33 minutes into the session, when the interviewer says, *"I might get you to tell me, if you don't mind, a little bit about your personal life as well, what it was like growing up....what the family life was like"*. The interviewee again responds openly, relating stories of early hardship and dislocation. A second emotional point of intensity occurs when he relates the death of his sister at an early age, resulting from the poor conditions under which the family lived. Further accounts are given of family life and emigration to Australia, with the interviewee contributing further stories of political intrigue, and family fortunes. The closure of the session recapitulates some aspirations to continue with the theoretical interests, expressed earlier. There is a sense, overall, of the interviewee complying with the registers introduced by the interviewer, but also contributing a considerable amount of personal material, carrying significant emotional weight.

### **3.11.5.4 Interviewee evaluation**

The interviewee makes 66 ratings, covering 15 out of 17 pages of transcript. All of the ratings include both letter and word descriptor ratings. There are frequent consecutive ratings, using the same letter and word descriptor. If these are not included as separate "self states", the number of shifts in self state reported is 38. The great majority of reported states are in the positive hedonic range (82 of 83, with one neutral "d" rating). Of these there are 46 "b" ratings; and 34 "c" ratings. Of the "b" ratings, 19 carry the word descriptor "touched", and 26 carry the word descriptor "excited", with one "b-engaged in" rating. Of the "c" ratings, 27 are "c-engaged in", and 7 are "c-interested". The one "d" rating carries the word descriptor "unaffected". Overall the ratings are consistent with the subject enjoying the process to a degree, without feeling threatened or disrupted during the interview. This was in keeping with comments in the feedback session where, in response to the inquiry, *"Was there anything that was uncomfortable in that kind of emotional way?"* (referring to the procedure), the subject says, *"No, no absolutely.....I think that questioning is very interesting, very adequate"*. The interviewee had English as a second language in this case, and tended to express interest in technical aspects of the physiological, and psychological, measures being used. In reference to self-rating he commented, *"...the questions were quite interesting for me... and I think they are meaningful"*. In the period from about 14-30 minutes into the interview, the interviewee makes 29 "b" ratings, and only 3 "c" ratings, consistent with this being experienced as the

high point of the session, for the interviewee. It is interesting that, when relating stories of political intrigue, with significantly negative personal impacts upon his career and his family; and also when talking about sadness relating to the loss of his sister, the ratings are consistently “b”. This suggests that these dimensions of his narrative have been integrated at a personal level, and can be given an appropriate emotional weight in the narrative, without disruption to his sense of self.

### **3.11.5.5 Interviewer evaluation**

The interviewer makes 24 ratings (at 23 points in time), all with word descriptors, rating 16 out of 17 pages of transcript. The majority of ratings are in positive hedonic range, with 5 “b” ratings; 16 “c” ratings; 2 “d” (neutral) ratings; and only one negative “g” rating. There are two ratings which indicate simultaneity of positive and negative affect: one “c-engaged (and a little shocked)” that occurs at about 15m45s; and another point where simultaneous ratings of “b-touched” and “g-horrified” are made, at about 18m. These ratings correspond to the development of the high point of the narrative as described above. The interviewer makes 3 “b” ratings during this period. The “b” ratings relate to narrative by the interviewee that recounts hardship and loss. The ratings mentioned above, carrying simultaneous positive and negative feelings, reflect both interest, and shock, as new material is disclosed. These ambivalent ratings become less evident as the interview progresses, and the interviewer adapts to the subject material. The “c” word descriptors are 9 “c-engaged”; 4 “c-interested”; 2 “c-affected by” and 1 “c-understanding”. The “b” word descriptors are 4 “b-touched”, and 1 “b-appreciate”. The 2 d ratings are “d-accepting of”. As mentioned above, the interviewer takes responsibility for structuring the session, and establishing an appropriate register or theme. The 4 “b-touched” ratings suggest there is a significant degree of emotional resonance within the interview.

### **3.11.5.6 Relation between interviewee and interviewer evaluation**

While the interviewer sets the scene for the session, the interviewee is responsive and spontaneously introduces material, taking longer turns, as would often be expected in an interview. The interviewer shows interest, picking up on the cues offered. The style of the interviewee is to speak quite slowly and deliberately, at times to explain technical matters, somewhat impeded by having English as a second language; and perhaps at times because of the emotional content. There are 18 synchronous ratings (occurring on the same turn). Given the maximum possible would be 23, since that is the number of rating points made by the interviewer, this represents approximately 80 per cent of possible opportunities for synchronous rating. The tendency in this interview is for the ratings to be both synchronous, and of similar hedonic tendency: there are 4 simultaneous “b” ratings by both parties (out of a possible 5); there are another 3 simultaneous “c” ratings. Of the remaining 8 synchronous ratings, all are within one level of each other: 2 “c” (int’ee); “d” (int’er); 6 “b” (int’ee); “c” (int’er) ratings. Of the concurrent “b” ratings, one includes the interviewer’s simultaneous “b/g” rating. These ratings would be consistent with overall evidence of shared interest in the conversation, and reasonable emotional connection during the interview. Towards the end, when the conversation seems to have come to a degree of closure, with respect to the “working life” theme, the interviewer takes charge by introducing a secondary theme of

“personal life”. Again the interviewee is responsive, and open, introducing a variety of material covering a significant emotional range.

### **3.11.5.7 ESOs realized in language and implications for homeostasis**

Although the subject material in this interview is broad-ranging, covering issues of loss, war, imprisonment, dislocation, marriage, child-raising and career development, there is little evidence, in terms of self-state ratings, that the conversation moves away from a system of social engagement. There are several places where there is overt, although contained, expression of emotion, on the part of the subject. At one point the interviewer gives a dual rating of “b” and “g” simultaneously, demonstrating the experience of affect may involve more than one category of affect at a time. Ambivalence at this point could suggest some transient sense of threat, on the part of the interviewer, although this may well simply reflect a brief orienting response to some unexpected content. It relates to the interviewee’s comment, *“You know you become a hero and you can’t understand it because currently we understand that millions of ... people which were imprisoned and shot were absolutely innocent. Absolutely innocent”*. The narrative content includes overcoming of adversity, and survival under adverse conditions, as well as stories of persistent effort and achievement. As such there is a heroic element to the session in its symbolism, as well as references to conflict and cooperation.

In the earlier part of the session there is reference to education and technical skills, with emphasis on preparation and development for difficult mental tasks, as in, *“I began to work with computers because it was necessary to prepare software....the equations are so complicated that you need numerical mathematics and so on.....and also as a tool I was developing numerical methods based on the employment of Fourier integrals”*. This part of the interview is focused on stories of personal discipline, and mental application, reflecting a high degree of internal engagement. In the mid-part of the session the interviewee continues the narrative of working life, under conditions of political oppression. There are moments of synchronous rating, perhaps associated with a sense of solidarity between the two parties to the interview. For example, at approx 24m, the interviewee relates the story of a colleague who was killed, *“His father was a famous .... writer and he was shot as an enemy of the state. And I never met such an honest and such a good fellow like our Director. He was absolutely – no – he tried to show all this, that he’s a real patriot”*. The interviewee speaks with some emotion here, and both parties give a self-state rating of “b” (interviewee: “excited”; interviewer: “touched”). There are similar ratings at about 40m, a secondary emotional high point in the session, where the narrative has become more focused on personal and family difficulties: there are the same “b-excited”; and “b-touched” ratings. These ratings demonstrate how emotionally distressing material can be experienced in a positive way, if it occurs in a relationship experienced as safe. Overall the sense of solidarity between the conversational pair suggests a predominantly cooperative, connected social engagement. ESOs for the interviewee are, SE, IE; for interviewer, SE.

### **3.11.5.8 Progress in realization of self**

The capacity to narrate and contain emotionally charged material suggests the interviewee has a relatively integrated self. While the interviewer is affected at times by stories being told, he

also keeps some control of the interview. The focus is, however, more on the person of the interviewee.

### 3.11.5.9 *Physiological predictions*

There are a number of episodes of synchrony self-state rating. This may predict a certain amount of physiological synchrony, and suggests social engagement, which in turn may suggest relatively high vagal tone, and high RSA. There may be at least a couple of times where this is diminished, when the interviewer makes ambivalent ratings (see 3.11.5.5). On occasions where there is significant emotional expression, as well as synchrony of ratings, there may be implications for a sense of emotional resonance, although it is not clear how this may be manifest as physiological phenomena.

### 3.11.5.10 *An insider perspective*

The Control 2 interview was conducted with the author and one of his research colleagues. As such, these participants were not blind to the research protocol. Moreover, given that this is a pilot project, the interview and rating was part of “testing out” research procedures. Overall this might be expected to be associated with greater compliance with the procedure, and cooperativeness between the 2 parties to the interview. Although there was some knowledge of each other from their professional relationship, this pair did not have extensive personal knowledge, of each other, prior to this interview.

Responses and ratings to the self-report questionnaire were basically similar to the responses shown in other transcripts (e.g. there are other examples of frequent ratings; and of rating more than one word descriptor at a particular rating point). However the author is able to give a first person account of the process, which may inform evaluation of the CSERS. In particular, it was evident during rating that it was not possible to fully recapture the experience of the previous week, although the recall was still relatively “experience near”. The ratings reflected an approximation of shifts in self-state, influenced by the current experience of reading the transcript, as well as operating under time pressure (completing the rating in 30 minutes). Nevertheless there was a sense, in completing the rating, that an additional dimension to the interview was being represented by this approach, and that the rated transcript more closely reflected the personal experience of the interview, than the plain transcript.

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
<i>Subject</i>	66	<i>b-d</i>	+ve	<i>Openness; mutuality</i>	<i>SE; IE</i>	<i>Work; politics; family</i>	<i>Self</i>	18	n/a	+
Interviewer	23	b-g	+ve	mutuality	SE	Stays with	Other	18	n/a	+

Table 3.8: Summary Control 2

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

### 3.12 Discussion

In Part 3, the notion of self-state has been introduced, along with its relation to the synchronic dimension of language. A measure of self-state, CSERS, has been added to verbal transcripts. This has required consideration of language; feeling; the two selves in each conversation; and their relationship. To begin this discussion, some key features of Saussure's view of language, are recounted.

#### 3.12.1 The interplay of language, affect, and self in spoken language.

For Saussure, signs that make up language are not abstractions, but "*concrete entities*", that only exist when linked to sound-images (Saussure, 1959, p.102). This is to say that, for any given individual, language is part of material, external reality. It is argued, however, that language is a network of differences in value, existing independently of the individual (Saussure, 1958). Moreover language "states", where the factor of time is removed, can be only considered an "approximate" concept (Saussure, 1958, p.102). While language is part of material reality, the arbitrary nature of signs, and their independence from individual instantiations, means that the combination of sound and thought (signifier and signified) "*produces a form, not a substance.*" (Saussure, 1958, p. 113; p.120). Here lies a paradox: language is part of concrete reality, yet produces form, not substance. How, one might ask, does this paradox play out in actual lives, and specifically in the situation of psychotherapy?

In Part 1, a quotation said, "*inner speech just is higher-order or symbolic thought*" (Thibault, 2004, p. 273). Certainly thought, for any given individual, is dependent on language: "*apart from its expression in words (thought) is only a shapeless and indistinct mass*" (Saussure, 1958, p.111). To a large extent thought uses language that has been appropriated by the individual, for his, or her, own use. In contrast, James considered that "*feelings are the germ and starting point of cognition, thoughts the developed tree*" (James, 1890, p. 222). To apply James' idea to Thibault's reasoning, we might see feeling as the germ of language, if language and thought can be considered equivalent, as Thibault suggests. However this would be misleading. The independence of language from the individual means language has to be acquired, before it can be used. The relation of language to developed thought is one where language has formed part of the initial environment, for any given person. In relation to James' metaphorical "tree", language forms part of the "earth", from which the personal self is realized (Korner, 2003).

It has been argued that *self*, at any given time, corresponds, in terms that have meaning potential within a communicative system, to Saussure's synchronic dimension of language. That is to say the sense of significance; the capacity to discriminate aspects of the environment; to express and act on, as well as react to, environmental stimuli, have grown over time through affective exchanges: the cumulative dimension of the "life" text (the knowledge of concepts and representations afforded to the individual, by the world). As is the case for language, self can only express some particular aspect of this growth, at any given time, in the diachronic dimension. Self-states share with language-states their "approximate" quality. It has been argued this may be because self-states relate to the timings of language, not to the biological brain capacity to discriminate very brief conscious states. While the

individual self has no control over the language into which he or she is born, each individual is in a relationship of dependence to that language, in personal development.

While the representations of language (the representational metafunction), can be considered formal, rather than having material substance, when it comes to their instantiation in particular lives, speech does have an impact, and is felt, often concretely. Selves start from the “ground zero” of the proto-self, a reference point with no text (Damasio, 2000). The messages, and images, “given and received” do find substantial form, within the body of an individual and account, to a considerable degree, for specific differentiation over time. This is reflected in measurable biological realities, where the distinctiveness of each brain increases over a lifetime (barring dementia and such processes) (Edelman & Tononi, 2000). When personal realities are sustained through communicative interaction, there may be some degree of “revocability” in the experience of life. That is to say that new experience may lead to reappraisal, in contrast to situations such as violent injury, where something “irrevocable” has occurred. This notion of “revocability” may have some relationship to Saussure’s conceptualization, of language having form but no material substance: the world that people live in when they are focused on mutuality through communication, rather than domination, can be “created and recreated”; “formed and transformed”, without unbearable loss. The psychotherapist endeavours to work with the patient in such a zone.

The dimensions of language that relate most closely to self are the interpersonal metafunction, or *clause as exchange*; and textual metafunction, or *clause as message*. These relate to the affective, prosodic elements of language, and the “building up” of messages, self-knowledge, and capacity to express with a sense of integrity. A sense of connection is required for this culminative “building” of a text to occur over time. Given that it is not possible to access the entire stream of consciousness over a lifetime, the personal “text”, relating to individual selves, can only ever be partially expressed. The textual and personal elements of self are recognized within the synchronic dimension of language, given that the diachronic succession of events does not speak to the whole inner life. The process of psychotherapy can be understood as the patient striving to give expression to states that disclose and enrich recognition of this synchronic dimension of language, in the intersubjective field, with an associated growth in terms of self-knowledge and relatedness. The vehicle for this process is the language of *clause as representation* (shared conventional language). However, without emotional expressiveness, and “images given and received”, this dimension of language, (as concept), may remain experience distant, failing to engage the person.

Feeling, in a Jamesian sense, is the “germ” of self, as well as of developed thought. Affective experience is inseparable from self, and is a psychologically concrete aspect of personal reality. This property is shared with Saussure’s concrete language “entity”. Affect states, like “language states”, are conceptually approximate in any given instance. Feeling can’t be considered to have existence independent of individuals, although it is characteristic that much human feeling is generated during interpersonal interaction, serving communicative functions, that pre-exist, and complement, the exchanges of verbal language. Individuals experience feeling in characteristic affect sequences, such that it is reasonable to speak of a person’s “affect signature”. Affect remains the key motivational influence on language expression throughout life (Panksepp, 2008). While *feeling* shares some of the characteristics

of language, it is tied to the indexical present. For *self*, the acquisition of language provides the potential, through the mental spatiality inherent in grammar, for entry into a conceptual world not dependent upon the particular self (or specific others), thereby enabling personal transcendence of the indexical present. Self becomes actor in the world of symbolic exchange.

In psychodynamic psychotherapies, such as the CM, empathic responsiveness is central to the work. Empathy was considered, by Freud to be, “*the comprehension of the mechanism by means of which we are enabled to take up any attitude at all towards another mental life*” (Freud, 1921, p. 110; Korner, 1993). This seems to imply the possibility that empathy may be important in transcending the indexical present in interpersonal situations: one is not simply bound to respond in kind, as tends to be the case where an immature self is simply reacting at an affective, impulsive level. The progress of psychotherapy would be greatly impeded, if therapists did not have the capacity to tolerate, and transform, difficult feelings. Similar processes are required for effective parenting in the developmental context. Empathy, and affective transformation, are central to change in psychotherapy, and human development generally. Mature selves can be seen to generate time for others (McLean & Korner, 2013), potentiating imaginative engagement, through communicative interaction, in the growth of other selves.

In using language to study psychotherapy process, the CM argues that intersubjective exchange precedes individual growth, in a way analogous to the developmental situation, where the proto-conversation precedes the development of the sense of interiority, necessary for emergence of self as a relatively autonomous being. In linguistic terms this may involve the patient making his, or her-, self the psychological subject in a relationship, and being prepared to introduce themes that can be responded to, by the therapist. If what is “new” in conversation is recognized, and amplified, then there is likely to be “new experience” in an affective sense. In turn, this may allow reflection, conceptual growth, and the reconstruction of logical relations. Following the argument that interpersonal exchange precedes personal growth, experience in conversation within the affective dimension (interpersonal metafunction); and responses that “create relevance to context” (textual metafunction), need to occur before conceptual growth, and reorganization, can take place (ideational metafunction). Grammatical verbal language is inherently linear in nature (Saussure, 1958); yet inner language with its wandering, affective and associational properties, is non-linear (Vygotsky, 1934; Meares, 2005). It may be that processes of exchange with others, via the continual introduction of “new” components for *self*, in terms of both affect and information, contributes to renewal and growth of associations, and personalized cumulative / culminative messages (an enriched text).

### **3.12.2 Discussion of study data using CSERS.**

The interpersonal metafunction operates as a continuous mode of organization. Although located within the person’s subjective world, it can be understood as an analog scale with continual variation and movement, largely determined by felt experience, allowing only relatively approximate “takes”, “sensed” by self, rather than being subject to precise measurement. The scale introduced in this chapter, CSERS, allows the participant to score at any time they choose as they read a transcript, and allows freedom in the choice of descriptor. It is intended to access moments felt as significant, on the continuous analog scale of affective



experience. The measures obtained are not strictly objective. They rely upon language (choosing words) for shifts in feeling state. Words, or phrases, for feeling, are not precise measures. Meares considers words for feeling are, in a linguistic sense, “*dead metaphors*”, which is to say we have come to accept a word such as “sadness” as an “entity”, which “*originally meant heaviness*”, an analogy for a state of the body (Meares, 2005, p. 182). CSERS is a method of externalizing the participant’s own understanding of his, or her, experience and, as such, is an externalization of *self*. It is a collaborative tool, requiring the application of reflective function, and is part of the process of self, rather than a means of revealing a fixed inner state. As such it has face validity in relation to study of self, but does not have objective properties allowing for tests of reliability, in a scientific sense. However, CSERS does provide additional information regarding interpersonal exchanges, and self evaluations, in therapeutic conversation that go beyond the information discerned from the semantic content of the transcript. It sheds light on interpersonal, and intrapersonal, dynamics in operation; in linguistic terms, on the “interpersonal metafunction” of the conversation.

CSERS does, however, generate some measurements that *can* be considered objectively. For example the number, and timings, of ratings made, can be considered an objective measure (although one which is likely to vary were ratings repeated). While this does not give us direct information about self, it illustrates that people do not rate every distinct conscious state that occurred originally, when they go through the rating process. Given that states of consciousness are often very brief, it would seem impossible for all of these states to be captured in a reflective process. The shortest time between ratings, in this series, was 3 seconds, corresponding roughly to the timing of the “present moment”; and the longest interval between ratings was 12 minutes, a period that extends well beyond the “present moment”. The longer period is most likely related to a complex narrative unit, where the conversation is felt to affect the person’s sense of self over time. To repeat the comments made earlier, the data support the idea that *shifts in self-experience, that can be accessed by individuals, do not occur on the very brief time scales (20ms-150ms) that characterize brief conscious states*. As such the data lend face validity to the notion that “self-states” occur on a distinct time scale. Given this time scale relates to the timings of breathing and language, and the time required for emotional responses to occur, it is also reasonable to speculate that a sense of self is realized through the medium of language, and that self can only be *understood* through this medium: hence *self is realized as a text*, although one that can only ever be partially expressed.

The commonality between feeling and language is that both are understood to be networks of value. While language has been considered, following Saussure, to be independent of any given individual, it is clearly not independent of human beings as a collective. In an evolutionary sense, it has been suggested that the earliest forms of language relate to bodily experience, and the immediate environment. Moreover the re-evaluation of emotional life as primarily an internal value system; and only secondarily as relating to defence, makes it necessary to see language, and affect, as complementary functions when instantiated in actual lives. Forerunners of symbolic language, arguably, are seen in capacities for play, and the dynamic shifts of affective experience, mediated through the autonomic nervous system. To highlight the possible relationship between this level of experience, and the elaborations of conceptual language, the notion of “embodied symbolic order” (ESO) was proposed. In a

scientific sense, this may allow investigation into the relationship between conversation, and physiological / affective regulation. It also may contribute to understanding of the mobilization of defensive systems, within the particular self, in the absence of obvious external threat. However, the ESO notion can only be considered speculative at this point.

It was noted that synchronies of rating between the members of the conversational dyad ranged from 40-80%. In some cases these ratings were both synchronous and congruent (e.g. Pilot 1 where patient and therapist rate “a-moved” and “b-touched” simultaneously); in others there was synchrony with incongruity (e.g. Pilot 3 where patient rated “positively” with “c – more frustrating”, while the therapist rated “f-threatened”). While physiological implications are not clear, it could be anticipated that sections of conversational interaction where there is both synchrony, and congruity, may have more resonant properties. This could potentially be investigated looking at patterns of sound resonance, and breathing patterns, evident during these passages.

In Pilot 1 the frequency of ratings by the patient seemed to mark the narrative highpoint of the session. This section of transcript demonstrated that material, appearing to have a negative hedonic tone (“*a really bad image of myself*”), can be experienced in a positively-valenced way in the therapeutic setting, where it may reflect processes of disclosure, recognition, and realization, felt to be self-enhancing. The patient, the following week, refers to the belief that he had dealt with “deep material”, conveying the sense that disclosure of vulnerability, and acceptance of that vulnerability, was valued. In this case, there appears to be a wish to be in touch with emotional vulnerability, whereas in Pilot 4 there are indications that the patient is ambivalent about experiencing vulnerability. In Pilot 4 the repeated pattern (on 3 occasions) of shifting from a rating of “f – upset” to “f – angry” suggests a pattern of mobilization in response to a sense of vulnerability, experienced as internally threatening. For both Pilot 1 and 4, the effect of the patient’s vulnerability (on 2 different therapists), is to bring the therapist emotionally closer to the patient, both showing positive rating shifts in relation to the patient’s expressions of vulnerability. In Pilot 3 the session is characterized by the therapist containing negative feelings, as reflected in ratings, for the sake of the therapy. Towards the end of the session, the more overt expression of therapist vulnerability also has the effect of bringing the patient emotionally closer to the therapist.

In the two control dyads there are also expression of narratives that are emotionally charged, involving disclosure of loss and vulnerability. For control 2 there are synchronous and congruent ratings; while for control 3, at the moment of disclosure, there is a transient “g-wary-concerned” rating, although with quick recovery into a positive hedonic “c” rating. Such a pattern suggests that emotionally-charged material is valued but sensed as potentially risky. The risks in such situations presumably relate to the sense that emotional control may prove difficult or, put another way, bodily autonomic processes may prove difficult to contain. Rapid recovery would be consistent with fine control being exercised, through the social engagement system involving face-brain-heart coordination under vagal control.

Various examples of paradoxical ratings (e.g. “b-saddened”; “c-super-frustrated”), and the need to make more than one rating or use more than one descriptor for self-state (e.g. Control 2), at a given point have been given; as well as the need to use phrases rather than single words, and the use of arrows (e.g. Pilot 3), or other markers of emphasis (e.g. Control 3).

These aspects of ratings reflect the complexity of the self-state, and the fact that experience can't always be reduced to a particular emotion, or clearly defined state. They are consistent with selves that are internally complex, reflecting synchrony of multiple elements that have developed over time. At times (e.g. Pilot 4) internal affect sequences are evident, reflecting the particular affect signature of an individual.

In Pilot 3 the capacity of the therapist to maintain a therapeutic position, rather than responding in kind when challenged (maintaining an empathic position), is highlighted by the “f” and “g” ratings, that would not be evident from the transcript, or even listening to the recording, alone. Therapists are often in the position of being exposed to, and having to contain, “negative”, sometimes vehement, affect. The comments made the following week (Pilot 3) suggest that the process had been found interesting, experienced in a positive way by both patient and therapist. The fact that the process can still be enjoyed, even where self-ratings are in a negative emotional range, might be seen as analogous to the type of pleasure that an audience experiences watching drama or tragedy, as described by Aristotle in *Poetics* (Aristotle, 1996). More important to self than positivity or negativity of specific states may be: 1) whether the states are containable; and 2) whether they contribute to the development of coherence, or a coherent narrative. To some extent this kind of phenomenon is evident in each of the patient-therapist transcripts. In Pilot 1 the narrative climax is experienced positively, while relating to disclosure of vulnerable, hidden states. For Pilot 3 there is an overall interest in the process, transcending a level of challenge between patient and therapist; and for Pilot 4, the patient often rates in the negative range, but reports the following week about mixed aspects of these ratings with “something uplifting” about them.

Overall CSERS provides information that gives a window onto self-experience during psychotherapy sessions. It was found usable by all patients and therapists. In linguistic terms it provides a window onto the interpersonal metafunction, and a way of externalizing this dimension of language, so that it can become an object of reflection. The report of the patient in Pilot 4 that “*when I read it the same emotions sort of comes up*” suggests that, for at least some patients, the rating was experienced as authentic. Even when some uncertainty was experienced in the rating, (e.g. Pilot 1) the rating was felt to capture something genuine: “*it gets.....like that inside quality rather than the label*”.

While physiological predictions have been made in some cases, limitations in the physiological data collection, in these cases, mean that these comments remain speculative. Where defensive / mobilizing shifts were evident (Pilot 4), it may be reasonable to suspect a greater likelihood of measurable autonomic change. However it was not possible to demonstrate these changes, because of technical difficulties with data collection. In two cases that will be discussed subsequently, the quality of physiological data collected was somewhat better. These will be further considered in Part 5.

It has been argued that “self”, in linguistic and psychotherapeutic terms, could be defined as a text, although one imbued with personal meaning and affective qualities: “*the true voice of feeling*”. Processes of engagement in therapy are inherently interpersonal, and affective, in nature: elucidation of psychotherapeutic process necessarily involves consideration of both patient, and therapist, in conversational interaction. CSERS provides a methodology that is collaborative, rather than relying upon consideration of the patient's responses in isolation.

While correlations with bodily state remain uncertain, it provides a means of punctuating conversational interaction, in terms of perceived significance, reflecting a particularization of the language that goes beyond its standard representational function. This may mean that it is more likely to correlate to bodily(and brain) states.

**Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

## **Part 4**

### ***Reciprocity***

## **Cry and Response**



## Cry and Response

### 4.1 Introduction and Summary

The whole person, from infancy onwards, presents to the world as an “image given and received” and hence, unconsciously, as a whole “living symbol”, within the network of relationships in which life proceeds. At another level the “mythos” and “logos” of the communicative culture (“speech fellowship”), are subtended by the self, who is faced with the task of sufficient integration to allow development of a way of life.

The first communicative exchanges are between child and carer and hence are representative of “infant” and “parent” roles. Communicative exchanges are part of a “family way of life” for humans, as is the case with other mammals. There is a sense of *significance* in these exchanges, associated with emotional expression. Paradoxically, the area of greatest significance for humans is not always amenable to conceptual clarity because, in part, of its emotional nature, and pre-conceptual continuity. The *specific* meaning(s) carried, for humans, in the shared medium of symbolic language (verbal language being a symbolic medium), belong to a different stage of development. In Part 4 the contrast between “significance”, and “meaning”, is made, with reference to manifestations in psychotherapy.

An evolutionary perspective is taken, relating to the development, in mammals, of a communicative system of “cry and response” (cry: synonym for call). The “cry”, is here understood as vocalization and utterance, i.e. the first feeling-based communication; representative of all subsequent feeling-based vocalizations and gestures; with naturally occurring reciprocal gestures (“response”). The ways that, in humans, this has been integrated with verbal, propositional language, are outlined. “Mythos” can be considered the truly symbolic dimension of existence, in that it pertains to that which does not correspond precisely to what is actually found in objective existence. This relates particularly to the area of human significance, linked to the system of “cry and response”; or “self and other”. It can be intuitively and emotionally recognized, and utilized by self. In contrast, the “logos” of communication can be seen in terms of propositions and concepts that exist independently of self. The symbolism of myths and stories reflect their resemblance to ways of life, with strong commonality across cultures, as well as great variation. The oedipal myth is an archetypal story, famously applied to the psychotherapeutic context. The “giant” is a symbol, ubiquitous across cultures. Both are considered in terms of relevance to psychotherapeutic contexts.

The self develops in complexity through reciprocal interaction. This is a culminative process, from a linguistic point of view, involving continual affective “change through exchange” with the environment, and growth in the synchronic dimension of language, and self, as discussed in Part 3. From a neurological point of view, this growth in complexity may well be reflected in increasing complexity of the default network of neurones in the brain. A possible model of growth in complexity of self, in a system of self and other, is discussed.

An illustration, from the study data, is provided (App. 3), demonstrating the cry and response system, in a psychotherapy session. It shows a shift from interpersonal understanding, towards an internal, or personal, integration, within self. This implies a change from a semantic, or general, understanding of an issue, towards a personal, emotionally integrated realization, felt concretely by the individual.

## 4.2 Cry and Response

The “cry”, an evocative synonym for “call”, is paradigmatic as an emotional gesture, or “mood sign”, oriented, initially unconsciously, towards an “other”. The strongest feelings arise in relational contexts of affiliation, intimacy, and attachment; yet change in the conceptualization of emotion, has seen the significance of feeling reduced: “*the criterion for classifying emotions (is) each individual’s sensory pleasure and biological fitness*” (Kagan, 2007, p. 19). In an historical sense, there has been a movement away, from fluctuations of feeling as gauge of integrity in human relationships, towards attention on the individual as isolate, rendering emotion as a “thing” that may be associated with pleasure, pain, or biological advantage over others (Kagan, 2007). Such a reification of emotion becomes empty, because it has no external referent or point of shared understanding. Given that affects arise in lived contexts, the “aliveness” of felt experience is lost. Feeling develops in relatedness.

In development, “...*the process (learning to “mean”) is...well under way before the child has any words at all. He learns to mean long before he adopts the lexical mode...*” (Halliday, 1975, p. 9). Despite the fact that clarity of meaning often eludes us, human interactions are nevertheless felt to be significant. It is the nature of the human world to be meaningful to humans, because we are essentially communicative, social beings. As well as noting the primary and paradigmatic nature of the cry, mention should also be made of the primary nature of the self-world relationship and, emotionally, the drive to seek what is needed from the environment, a characteristic that humans share with other living creatures (Panksepp & Biven, 2012). For humans, relation-seeking is a crucial part of this system. In this section the establishment of semiotic reciprocity, the system of call and response, is described, with reference to its role in the subsequent development of language.

To recap: the sequence that occurs at birth is paradigmatic of cycles that occur between infant and carers at a communicative level, subsequently iterated with enormous variation leading to the development of particular personalities, and relationships. The infant is born, and with the first breath, *cries*. This is a prototypic *mood sign*, with interpersonal significance. Although not “intentional”, unconsciously this is a communication, as with other mammals, that has significance, and is therefore referred to as the *separation* or *isolation call* (MacLean 1985; Newman 2007). From the carer’s perspective the cry is usually at the forefront of consciousness. It is an “*image given and received*” (Buber, 1947), even though the “giving” of the infant, requiring physiological effort, is unconscious to the infant. The cry is undoubtedly one of the most powerful communications in the human repertoire, typically driving those in the vicinity to *act*, by taking measures to comfort and settle the infant, involving being held, or assisted in any manner necessary at the time. Such measures are characteristic of the way that carers normally respond to distress, or displays of “negative” affect, in the infant: something needs to be done; care must be provided. These are contrasted with responses that characterize states where the infant is expressing well-being, or interest in the environment, where the carer, in ‘good enough’ circumstances, matches, amplifies, or otherwise encourages the infant, allowing development of a field of play (Meares, 1990; Meares & Lichtenberg, 1995; Meares & Jones, 2009). The impact unresponsiveness has been dramatically illustrated, by infant distress in response to the “still-face” situation, where the mother is instructed to cease responding, maintaining an immobile face, to the awake infant seeking interaction (Tronick et al, 1978).

“*Infant crying and parental response is the first language of the new dyadic relationship*” (LaGasse et al, 2005, p. 83). The language referred to is not a language, in the sense of a system of conventional signs. However, it is the start of semiotic processes characteristic



of human interaction, and affective exchange. The cry is also a ground for carer response, so crucial to early affective self-regulation. Crying, while initially reflex-like, nevertheless requires effort, and in that sense is an active communication. The pattern of call and response develops over the ensuing weeks and months, becoming increasingly differentiated, with a range of calls and signs becoming known within the infant-carer dyad. While the cry, and other mood signs, remain indexical (linked to the present), the shift from “sign requiring action”, to knowledge that calls may be “just signals”, allows increasing space for variable, distinctive response, and the emergence of play. Play in turn allows the dyad to establish a new space where the initiatives and agenda of the infant can be encouraged; where the child is no longer merely a recipient of care, rather becoming more clearly a *participant* in a creative process. Each human cry has characteristics shared with other members of the species, yet is also unique, like a fingerprint, distinguishing infant (for mother) from other infants (Pinyerd, 1994). Indeed communications that develop through the pattern of call and response become progressively more particular to the dyad, with individuation of the cry, as has been demonstrated in other primates (MacLean, 1985).

A neonate gives the whole of his or her being to crying, for its duration. From the perspective of communication there is a paradox here: it is a very powerful signal to others, yet is often understood simply as indication of helplessness or distress. However, crying also presents the mother (parent) with an experience of a radical “otherness”. The new parent is faced with a relationship where the other cannot be understood as “just another person like me”, who can be “taken or left”. Rather the new parent is faced with the singularity of this infant, here and now, who is “demanding my response” or, in an alternative construal, “*giving* me responsibility”. The infant’s need does not go away. In many cases the parent will be able to mobilize a sufficient response, which is often the beginning of a profound shift in consciousness: from the position of “living for myself”, to the position of “living for another” (or, “self *and* other”). This is an everyday example of the philosophy proposed by Levinas, where the sense of meaning and reality comes through an orientation to the other: guilt for the suffering of the other brings an experience of suffering that is meaningful to the individual, in a way that experience of one’s own suffering cannot (see Orange, 2010, pp. 93-97).

Levinas arrived at his philosophy of “otherness” (“alterity”) through the extremity of experience consequent upon interment in a concentration camp, as a Jew under Nazi rule. He invokes a degree of selflessness, perhaps, beyond most people. Indeed, he concedes that failure is inevitable, in the ideal of “living for others”. He was shocked at how easily humanity could be perverted, with human behaviour degenerating into atrocity, blind to suffering, and steeled against the humanity of others. (from the point of view of his experience under Nazi internment, he refers to becoming “*signifiers without a signified*”, which is to say that there was a sense of loss of significance in relationship). This included his horror at the ease with which one of his mentors, Martin Heidegger, appeared to embrace Nazi ideology (Orange, 2010). Levinas thought this was possible because Heidegger’s philosophy relied more upon elaboration of “self-in-the-world”, rather than recognition of “self” as an entity that can only emerge in a system of self-and-other.

When human vulnerability (“the cry”) can be clearly seen, it may be found that people, more generally, are stimulated to go beyond habitual ways of relating, becoming oriented to the need of the vulnerable one. For example, a report from the sports pages of a daily newspaper, by no means unusual, describes the response of a football team to a vulnerable child (Lewis, SMH 16/9/10 p. 28). It tells of a child who at five years of age has a serious illness, and very limited life expectancy. The child, a fan of the team, was brought on the field before and after the game, and given a guard of honour at the end by the team, who clapped him off. The team captain was reported to say, “*He hasn’t got long left, the poor little kid, and we just wanted to*

*make a dream come true. He gave us a lot of inspiration as well, going out there today.*" The father was quoted as saying *"...He's always smiling, but today's a different smile. I'd say today is the best day of his life. You always hear bad stories about football clubs, but what they've done for my son and my family today, I could never repay them."* When confronted with true frailty people often respond in ways that give value to the most vulnerable. The team response (*"he gave us inspiration"*) indicates this child was motivating to the team, not as the result of any particular intention by the child, but because he was a "living symbol", in a manner analogous to the experience of an infant's expression of vulnerability.

Usually vulnerability is more hidden, and disregarded, in everyday consciousness. It is "there before our eyes" and yet we mostly we don't see. Yet the option to respect, even revere, the humanity of the other is always there, a choice with which we are continually being confronted in our social interactions. Of course to emphasize this aspect of humanity (asymmetry and its relation to ethics) is simply to focus on one form of human possibility, one relevant to roles such as parent and therapist. Arguably, the capacity to see vulnerability and the need of others is relevant to all relationships. From an ethical standpoint, Levinas takes the position that *"the self, as this primacy of what is mine, is hateful.....I am defined as a subjectivity, as a singular person, as an "I", precisely because I am exposed to the other. It is my inescapable and incontrovertible answerability to the other that makes me an individual "I". So that I become a responsible or ethical "I" to the extent that I agree to depose or dethrone myself – to abdicate my position of centrality – in favour of the vulnerable other"* (Levinas, in Cohen, 1986, pp. 26-7; also in Orange, 2010, p. 87). He draws attention to the ongoing nature of the need to prioritize the other: it is not simply a matter of doing one's duty for the infant, and then letting others fend for themselves. Rather we need to locate ourselves with priority for the other in all relationships of significance throughout life.

While the initial cry has been taken as paradigmatic, there are other pre-conceptual communications that appear, predictably, on the infant's developmental schedule that can be seen in a similar way. Some of the more obvious ones are the smile; laughter; and protest (tantrum). The significance of the smile, and laughter, in facilitating social engagement and enjoyment, in particular, reflect a growth in communicative capacity of great importance to a developing sense of self, as a centre of creative, social, and personal exploration. Again, the infant's whole being will at times be given over to these communications. In each case there are powerful "images given and received", the infant becoming a "living symbol" in the minds of carers. So, even though not conscious of symbolic language the infant is participating, proto-symbolically, in a symbolic network. While in a pre-reflective state, not making conscious appraisals of feeling, and therefore not experiencing the complexity of emotion that will occur later, the infant **is** a participant, *"a self-possessed ...performer of many new rituals of social expression"* (Trevvarthen, 2008, p.x). While not constituting "meaning" in a conceptual sense, these communications are proto-linguistic, and can be considered *"acts of meaning"* (ibid., 2008, p.x; Halliday, 1975). The facial expression of the mother, for the infant (and vice versa), can be considered the equivalent of a word or phrase in these exchanges (Meares, 2005, p. 172).

Of course the infant is taking in reciprocal "images given and received", which become more established as the infant's "states" take on a greater sense of familiarity, in interaction with carer(s). It is the sense of "warmth and familiarity" that provides the sense of a "secure base" necessary for a robust sense of self. "Performance" of communication during interaction, reflects a strong association between speech and gesture in humans (Willems & Hagoort, 2007).

Ongoing communications, and quiet spaces, occurring in this pre-reflective period, are accompanied by the sense of valence and feeling, associated with the interpersonal exchange

characteristics of language (largely transmitted through affect) that continue throughout life. This “first language” continues as a barometer of exchange, and the state of “self-in-relationship”: it is a continuous analog measure, gauged by self concomitantly with verbal exchange, once verbal capacities are established. This area continues to operate “outside” conceptual space, lacking conceptual clarity for consciousness, although not being completely opaque: rather being reflected in the affective, intuitive sense of situations, in the manner of seeing “*through a glass darkly*” (Corinthians, 13:12, KJV). The “self-in-relationship” in this early communicative system is the child-self, on the one hand, and parent-self on the other.

This highlights an asymmetry of the communicative space, with the child being less competent in language and communication, and the parent, relatively, more competent, at least with the mother tongue; and also more powerful, of course, in other ways. The areas humans sense as significant are coloured by this asymmetry, as is the case in psychotherapy. Acknowledgment of this asymmetry, and the responsibility that the parent, or therapist, carries for holding a safe space where the child, or patient, is recognized and given response, has been termed the *moral third*, highlighting the necessary morality that forms the basis of nurturing relationships (Benjamin, 2004). As the world of self broadens, along with awareness of the larger community, this sense of asymmetry remains insofar as each self finds itself dwarfed by the immensity of the world, to which he, or she, calls in hope of reciprocal response. The triangulation involved in other relationships; and self-world relatedness, also offers opportunities for growth, and greater autonomy. The barometer that was established early in life still acts as template for understanding the significance of affectively-based reciprocal exchange: “*affects are the currency of the brain/mind economy that signal the survival value of objects and ways of acting in the world*” (Panksepp & Burgdorf, 2003, p. 533).

#### 4.3 Significance: an evolutionary perspective

*“When mammals opted for a family way of life, they set the stage for one of the most distressful forms of suffering. A condition that, for us, makes being a mammal so painful is having to endure separation or isolation from loved ones and, in the end, the utter isolation of death.”*

*Paul MacLean (MacLean 1985, p. 415)*

The evolutionary developments that set mammals apart from other species are: “1) *nursing in conjunction with maternal care*; 2) *audiovocal communication for maintaining maternal-offspring contact*; and 3) *play*” (MacLean, 1985, p. 405). Here we see the “first language”, mentioned in the previous section, is substantially present not only in humans, but across mammalian species who have invested their energies, towards the *family way of life*. Hence, significance in humans relates, in a fundamental way, to exchanges involving *care*; *maintenance of contact*; and *co-created fields of interest, enjoyment and exploration*. The extent to which this is shared not only by humanity, but also by other species, points to an elemental level of significance, very much in the fabric of human *being*, without which a sense of self, or development as individuals in a system of self and other, would not be possible. Evolutionary history also gives a context for the particular development, in humans, of language.

The forerunners of mammals are known as *therapsids*. These mammal-like reptiles had developed cranial characteristics similar to mammals: it has been suggested that cooling environmental conditions may have led to these creatures retaining their eggs, and possibly to the development of placentation (MacLean, 1985). The earliest mammals are thought to have lived in the dark floor of the forests of that era, and to have most likely been nocturnal (ibid.). Changes in jaw bones, that began in therapsids, led to development of the bones of the middle

ear (malleus and incus), evident in the earliest mammal species (ibid.). Audio-vocal communication would have served as a valuable adjunct to vision and olfaction in these circumstances, with improved hearing allowing reciprocal interaction, with vocal signals, the earliest probably being the separation call which, *“may represent the earliest and most basic mammalian vocalization serving originally to maintain maternal-offspring contact”* (ibid., p. 411). If this had not been associated with behaviours oriented towards care and protection, this would simply have been a risk for newborn individuals: if parents were to follow patterns of behaviours exhibited by reptiles, the newborn would have risked predation by the parent, or others. The strategy in reptiles is different: they are born equipped to survive, and do not emit vocalizations from birth; silence affords them a lower risk of predatory attention.

In non-human primates complex communicative exchanges are all affect or emotion-based (ibid.). This is consistent with development of complex hierarchies and social – behavioural systems (ibid.), not dependent on acquisition of symbolic language or neocortical structures. In human speech these affective, musically based vocalizations and exchanges, are important in relation to basic motivations to engage socially, and hence to *use* language (Panksepp, 2008). In humans input to the prefrontal cortex includes a major projection from the vagus nerve, in contrast to other primates, suggesting an enhanced capacity to utilize embodied emotional feedback from interaction, as a source of analogical information regarding self in the environment, and self in relationship, relative to other mammals (MacLean, 1985). This *“dual source of information from the internal and external world appears to be necessary for a sense of personal identity and that, in the case of prefrontal function, visceral feelings may be required for the ‘insight’ necessary for the foresight to plan for the needs of others as well as the self”* (ibid., p. 415).

Primary role transformations in human development can be seen to reflect a growing self, in a system of interactional care. The infant develops from being a primary recipient of care with an *emerging* self; by the age of three or four the child has consolidated a sense of self, and establishes the sense of an inner or personal world (Meares, 2005); the child gradually establishes competence until the capacity of the individual to *care for him, or her, self* is achieved, and expected by others, as the child becomes an adult. This emergence into adulthood, often seen as an endpoint of development in the modern world, is primarily of importance, in an evolutionary sense, as a preparation for parenthood, and the emergence of a *capacity to care for others*, as well as oneself. It is in the parent-infant dyad that the fundamental forms of relatedness and meaning are established. Accordingly, it is in the realization of these roles that a person can be said to have attained a full knowledge of life processes, in a sense that has always applied, across cultures. Modern, competitive, mass societies often have such heterogeneous relational structure, with predilection for assertion of individual “rights”, that this basic matrix of relatedness becomes obscured. In simpler communities, the person who has completed these essential life stages is then looked to as teacher or mentor, having attained personal knowledge of life. The sequence of relational significance here places “adulthood” as an “intermediate” form, in the transition between “self-orientation” and “other-centredness”, or the capacity for assuming responsibility for self *and* others. This contrasts with modern societies where “adolescence” is seen as “in between”, and “adulthood” often equated with maturity.

The discussion in this, and previous, chapters has focused on continuous processes, contributing to maintenance and developmental of close relationships over extended periods. The role shifts alluded to above, however, also require psychological and behavioural transformations, placing emotional demands on individuals. Language, both spoken and internal, plays a significant role in these shifts, leading to the assertion that *“symbolic transformation is a primary need of man”* (Hobson, 1985, p. 85). This involves engagement of the child in imaginative activities, where the carer’s capacity to “woo” the child into

language play, allowing emotional investment in these activities, becomes a factor in development (Greenspan & Shankar, 2004). This is a crucial step in the realization of symbolic play, and the future of the individual. All children start from the position of relative smallness, and capacity limitations, so that forward growth potential is always to some extent under threat: next steps can seem, “too difficult”, or “overwhelming”. All cultures deal with this situation through use of stories and myths that speak to the many hurdles and obstacles encountered in realization of self. This dimension of culture was termed “mythos” by the Ancient Greeks, in contrast to “logos”. Both were seen as “paths to recognition of truth”, with mythos being associated with “mystery” and logos with “science” (Jung, 1954). Mythos has the quality of timelessness, reflecting the level of human feeling states and meaning, related to the synchronic, poetic dimension of language; whereas logos is relatively objective, free of emotion, more associated with the diachronic, linear dimension of language. In the next section, the notion of significance, as it relates to interpersonal relatedness and experience, is discussed from this symbolic perspective with reference, firstly to a myth with a central place in psychoanalytic theory, the Oedipal myth; and, secondly, to a mythical figure, the giant, that occurs in many forms, across all cultures.

#### 4.3.1 Significance: a symbolic perspective

*“...human beings create together because they are motivated from birth to experiment with the exchange of fantasies and to find meaning in them”*

*Colwyn Trevarthen (2008, p.vii)*

From the perspective of self it has been argued that ongoing relational conditions, generally, are a more important determinant of growth than specific incidents of trauma, or adversity. From the point of view of personal language, it is the culminative (textual); and interpersonal (exchange; affect-based) levels of interaction, that account for personal growth. This begins with the “cry and response”, evident in early interaction. This scene involves establishing a necessary connection, and a sense (“illusion”) of safety: both preconditions for emergence of self. The situation is asymmetric: contrasting the relatively helpless, dependent infant with the relatively mature, competent carer(s). Although initially the focus is on the dyad of mother and infant, in most cases; there are always others present, either literally, or “in the background”, i.e. the mother does not exist in isolation, unrelated to a community or significant others. Hence the infant is born into a triadic scene, involving a network of relationships, and the streaming processes of communication, going on around him or her. The efforts of mother and others, are initially highly oriented to the infant, to an extent that is only possible because of particular capacities for care and attention (*primary maternal preoccupation*), which have arisen as adaptation (Winnicott, 1960). The situation is not indefinitely sustainable, and the infant will have to begin the long journey of skill acquisition, in order to, eventually, sustain him, or her, self. By some point in adulthood it is likely that the situation vis a vis care will be reversed, with the sick or elderly parent now requiring care. These family relationships, and their transformations, form the backdrop for the oedipal complex.

While ongoing relational conditions are key to development, any relationship consists of an enormous array, and number of events, occurring between people. To capture affect *as it is experienced*, it is necessary to look at interactions (often sensed as indexical of a relational situation), and the ways we describe such episodes, to ourselves, and to each other. To this end, affective experience may be better understood on the basis of words or phrases that reflect the interactive nature of early experience. It also needs to be born in mind that there is a parallel process of “internal relationship”, or “signalling to oneself”, which can be thought

of in a similar way to proto-conversation and proto-self. In the earlier phases of life, it takes an immature form lacking the “mental space” provided by the development of language. Hence the fundamental “cry and response” of the infant might be approximated by interactive experience terms such as “acceptance-rejection”, or “inclusion-exclusion”. Later, as self and relatedness differentiate, many other interactive experiences will become defined with significant implications for the emerging personality.

This step allows us to move towards recognition of what could be considered the “building blocks” of narrative. Given the huge range of possible affective investment, there is virtually no limit to the range of developmental trajectories in human stories. Personal odysseys have infinite variety in the specifics of “the journey and the return”. Nevertheless motifs of “acceptance-rejection”; “inclusion-exclusion”; “comfort-humiliation”; “recognition-guilt”; and many others, will be found within the lives of protagonists.

The oedipal drama is well known in the modern era because of Freud’s famous application of the story to patterns of the unconscious. Rather than attempting an extensive exploration of Freud here, an everyday rendering is drawn from “Wikipedia”, of the psychoanalytic understanding of universal familial interactions that humans confront in development:

*The “**Oedipus complex** denotes the emotions and ideas that the mind keeps in the unconscious, via dynamic repression, that concentrate upon a boy’s desire to sexually possess his mother, and kill his father. Sigmund Freud, who coined the term “Oedipus complex”, believed that the Oedipus complex is a desire for the mother in both sexes.*

*In classical, Freudian psychoanalytic theory, the child’s identification with the same-sex parent is the successful resolution of the Oedipus complex and of the Electra complex; his and her key psychological experience to developing a mature sexual role and identity.”*

*From, [http://en.wikipedia.org/wiki/Oedipus\\_complex](http://en.wikipedia.org/wiki/Oedipus_complex)*

In practice, while there is a focus on a particular event (“kill father; possess mother”), development occurs through a more sustained involvement with the parent, depending on a sense of “likeness”, or similarity, rather than strict identity. In mental terms this involves a shift towards “sustainability”, rather than momentary triumphs.

The Greek myth of Oedipus focuses on a succession of events, making up a narrative that warns of the dangers of breaking the incest taboo, although there are many versions (analogous to the existence of many resolutions of the psychological ‘oedipal drama’): *“..in Euripides’ plays on the subject, Jocasta did not kill herself upon learning of Oedipus’ birth, and Oedipus was blinded by a servant of Laius. And the blinding of Oedipus does not appear in sources earlier than Aeschylus. Some older sources of the myth, including Homer, state that Oedipus continued to rule Thebes after the revelations and after Jocasta’s death.”*

*From, [http://en.wikipedia.org/wiki/Oedipus\\_complex](http://en.wikipedia.org/wiki/Oedipus_complex)*

The way in which the oedipal complex was used in psychoanalysis for much of the twentieth century, led to somewhat stereotypical application, and the use of theory to reinforce “standard resolutions”, with the result that forms of human sexuality such as homosexuality were seen as pathological, rather than as normal variants (DSM 1, 1952). Freud understood there were huge variations and differences within the range of what could be considered “normal development”, and that many variations, in terms of personal resolution, were possible. This is a view current in the field (e.g. Benjamin J, 1998). From the point of view of language, the description above points towards an “event in time” (the “killing”). While this

may apply to metaphoric and emotional efforts at certain stages of development (the phallic stage in classic psychoanalytic theory) (Freud, 1905), in the current discussion it takes on the sense of discrete events in the diachronic dimension of experience. On the other hand, for self it is the ongoing nature of the relatedness between parent and child that is critical. Metaphoric oedipal “victories or losses” may be associated with a sense of momentary triumph or failure, but the sense that builds over time, of the child in relation to his or her capacity to “be like mother or father”, refers more to the sense of “having the potential of”, or sensing similarity, rather than “being the same as”, or having a relationship of identity. The relationship is analogical, rather than a precise “equation”.

Variations in the story reflect the many ways in which similar stories can be told, with significant differences in terms of outcomes, and the extent of implied trauma. The incest taboo, a social motif that appears in most, if not all, known human cultures, is central to the Oedipal drama. Psychoanalytic development of the story allowed this taboo to be discussed publicly, arguably bringing light to an area that had largely been “blind” to individuals previously. However, it remains an area of controversy, reflecting affective sensitivity to the subject, felt broadly across human societies. The incest taboo makes “biological sense” in relation to ensuring conditions that maximize genetic diversity, although such a formulation is “experience-distant”. A more “experience-near” explanation may lie in the mismatch between infant/child, and parent, inherent in the asymmetry of the relationship. Intuitively this has the significance that incestuous sexual activity is uneven, unsustainable and beyond the capacities of the child. It is also an abnegation of the direction of the relationship of care, between parent and child. Despite taboos, and despite psychoanalytic literature on the subject, such disturbances of relatedness remain common. It is not clear that modern societies that emphasize individual pleasure rather than relational responsibility (Kagan, 2007) represent an improvement in care provision.

Most psychotherapists continue to recognize Freud’s “discovery” of oedipal rivalry as an important basis of unconscious mental life (Tomkins, 1995). The attribution of the rivalry to the sexual drive is more doubtful: *“Freud’s interpretation of the nature of social relationships was crippled by his dependence on the drive theory”* (ibid., p. 50). Drives, in general, are not dependent upon either affect, or language, for their fulfilment and hence can operate, as it were, outside the zone of “self”, and “meaning”. In the case of the sexual drive there is undoubtedly, and commonly, a complex affective investment in sexual behaviours, and fantasies, although elaborated in highly individualized ways that relate to particular selves, not determined by the drive itself. Tomkins felt that the emphasis on drive obscured *“the family romance”*, which involves the child’s general wish to be like both father and mother, and, in the immature state, *“to possess both of them”* (ibid., p. 50). He also argues that social relationships require a quality of tenderness if they are to endure, a factor not emphasized in the Freudian view (ibid.).

In an essay on the way humans experience desire, the centre-point of the Oedipal complex, it is argued that the child knows the direction of his or her desire (that is towards the parents), and, in this sense, *“is never lost”*, because *home* is known: although *“...parents are loved and hated... they are always wanted”* (Phillips, 2010, p. 169). In adult life this changes: the individual is expected to leave the home of origin behind, and establish a new home of his, or her, own. Effectively this leads to a situation where adults feel “lost”, in the sense of not knowing the object of their desire (ibid., p. 173). A new home needs to be found, in terms of both relationships and place. If accomplished, there may eventually be the sense of “finding oneself”. Indeed “self” may ultimately come to be sensed as a home for the individual: a place where one can be either alone, or together with others (Hobson, 1985).

The original myth of Oedipus is a story of the incest taboo, a matter of such shame that drastic actions are taken, with terrible consequences. It is an illustration of how “taboo” is associated with powerful affects like shame. Language also plays a role: both Laius and Oedipus react defensively, to prevent perceived catastrophe, to the *prophecies* of soothsayers because they sense the power of hidden affective forces. Taboo points towards an area of risk: the breaking of a taboo does not have to involve risk to life or limb, but does always risk the status of the person in the eyes of the community.

As family relationships are enacted, there may be failures of resolution, and episodes of conflict. Powerful feelings become part of the ongoing fabric of interactional experience. Of these, shame may be particularly crippling to self. Other vehement affects, like contempt, are more likely to stimulate a breaking of relationship, and hence a form of resolution, while shame often is associated with perpetuation of the relationship, with a greatly diminished sense of self (Tomkins, 1995). There are also situations where a person may consciously believe they have ended a traumatic relationship (e.g. with a hated parent), but, in fact, continue to harbour feelings of hatred: paradoxically, this sustains the relationship in a distressing form.

From the point of view of normal development, it may be preferable not to overemphasize the role of sexual drive in family relatedness: the oedipal complex can be seen as a template upon which affectional relationships are placed, recognizing humans as psychosexual beings, with a *primary* need for relationship. The significance of sexuality in relationships is that it provides a natural path towards the achievement of intimate relatedness, rather than intimacy being merely a means of satisfying the sexual drive, as is evident in Fairbairn’s critique of drive theory: *“The ultimate goal of libido is the object; and in its search for the object libido is determined by similar laws to those which determine the flow of electrical energy, i.e. it seeks the path of least resistance. The erotogenic zone should, therefore, be regarded simply as a path of least resistance”* (Fairbairn, 1952, p. 30; Whelan, 2003).

Resolution of the child’s rivalrous efforts towards the parent lies in the move towards collaboration with the same sex parent. This involves a shift from efforts that had been directed at control of the other, towards cooperation. Efforts directed at control may be in part a reflection of the early “indexical” communicative system, oriented towards immediacy.

Oedipal relationships speak to processes of transformation that promote inclusion of the child in the family unit, with gradually increasing autonomy. Phillips’ discussion, of the experience of being “lost” in relation to desire, highlights that such transformation does not only occur in childhood. The mode of change is one of symbolic transformation: of change in role, and sense of self, rather than a drive-driven biological process. The infinite ways in which affect becomes invested in relationships, activities, stories, and images, create a multiplicity of transformative potentials. In good enough circumstances transitions are likely to be experienced in terms of “growing into” and “growing out of” new, and old, roles. In traumatic circumstances, there is a tendency to role-fixity through the influence of unconscious traumatic memories, so that the attention of the individual remains directed to what has been lost, deficient, or traumatic. Fundamental experiences that become represented in symbolic elaborations at the dyadic level have to do with “acceptance and rejection”; whereas in the larger network of human relationships, the level of triadic relatedness, key experiences relate to the sense of “inclusion and exclusion”.

The acquisition of language gives additional flexibility to the developing mind, through grammatical structure, greatly enhancing the possibilities for symbolic transformation. This language-space reflects the material world that the individual observes; and the phenomenal



world of experience (experienced ‘doing’; imaginative experience), but isn’t constituted by either (Halliday, 1992). It is an unbounded space with enormous potential for re-construal (ibid.). When people develop with a sense of safety, this language space becomes integrated into the sense of a self with “mental space”. In all cases, however, there is a leading (culminative) edge of experience, and sense of asymmetry, that has a basis in the reality of the individual being small, facing a large world. The potential for trauma and helplessness, with attendant collapsing of mental space, remains a vital concern throughout life. Meares refers to “two playrooms”: the “playspace” and the “real” play room (Meares, 2005). The “real” in this case refers to the “factual” reality that often intrudes on the emergent sense of interiority and, in relation to thought, is associated with linear, logical thought (“logos”) rather than non-linear, associational thought (“mythos”). All people need to adapt to the “real” world of practical contingencies. The oedipal myth, seen in terms of value, rather than trauma, relates to ways in which the individual adapts, to maintain a sense of self, in both spaces: the often impersonal world of logic, law, science and task orientation; as well as the personal world of imagination and intimate relatedness.

Relationships with significant others, across cultures and time, give rise to many archetypal stories, such as that of Oedipus. In Australia, the traditional culture of the “Dreaming” has been likened to “mythos”; and contrasted to “logos” (Williams, 2010). Mythos is characterized as “giving meaning”; while logos is, “adapting to changing circumstances” (ibid.). Meaning, in the dreaming, is relatively unchanging, in contrast to modern culture, where mythos tends to get lost, as people struggle to adapt to rapidly changing circumstances. While change is inevitable, the characteristic feeling states; forms of attachment; and patterns of “call” and “response”, for humans, form a core area of significance that needs to find itself within relational networks of value and meaning.

The contrast between “little” and “big” remains relevant over the life span, whether one considers infant-carer; self-world; or individual-society. These contrasts have obvious symbolism, relating to size and power differential, with a tendency to underestimate the one on the “little” side. Stories and images of “giants”, a universal element of mythology, often serve as corrective to this tendency. Many giants have great strength, being threatening or punitive, of the “fee, fi, fo, fum” variety. There are also gentle giants, who are kind and benevolent. Still another kind of giant may be rather stupid and clumsy. A common factor in these stories is that the underdog (the child; the individual), through guile or skill, finds a way of overcoming, or engaging, the giant, to the delight of the listener. They are stories of hope, with risk, but also with reward.

In the developmental context the contrast in size and capacities is writ large in infant-carer relationships. Even small infants, have considerable capacities to attune to movement and emotional expression in the environment (Trevarthen, 2002). When the infant responds to a facial expression, she, or he, is enacting a social intelligence focused on the “person” of the other, making use of the “face-heart-brain” connection adapted to social engagement (Porges, 2011). This reciprocal engagement involves value: *“for the family of the infant, this baby is already a person, socially aware and capable of considerable power in interactions”* (Trevarthen 2002, p. 164). The intelligence of the infant is absorbent and information-seeking (ibid., p. 162), with active intelligence, in the interpersonal environment for which it is adapted. Contacts with others are constantly evaluated, not only through perceptual systems, but also through actions, and the responses elicited (ibid.).

By the time people seek psychotherapy, circumstances have often become discouraging for the individual. The person of the therapist could easily be seen as a “giant”, and the patient often senses him, or her, self as small or helpless. The therapist needs to see the patient as

“person” first and foremost, recognizing the social intelligence that is the major source of hope for the person’s further psychological growth. The ongoing presence of forms of feeling that derive from our familial relationships, have a primary significance in terms of “inclusion” and “acceptance”, as a member of a community, and of humanity. Trauma distances the self from the sense of inclusion: the work of psychotherapy involves recognition of the (traumatic) “giants” faced by each individual, as well as creation of a zone of symbolic transformation.

#### 4.4 The Cry as complex emotional expression.

*Pt: “.....I just....I..... it’s like I wanted (my ex) there ’cause I’m used to it. .... (becomes emotional/tearful) I don’t like to be reminded that he’s gone. There you go, there’s feelings.*

*(a few turns later)*

*I’m glad he’s gone in a sense. I’m glad that the limbo is kind of over. I know where we stand. .... I’m glad of the separation but there’s elements that I miss.*

*Th: Of course, ’cause you’re telling me that he has a number of really positive features about him that he has been a good man in your life.*

*Pt: I miss him when I’m feeling bad he’ll just give you a hug and sometimes you feel so much better you know it doesn’t take away what I’m feeling or anything but I just don’t feel alone with that feeling.*

*(few turns on)*

*Pt: I don’t want him back but sometimes I miss the company.*

*(few turns on)*

*Th: ....it’s a big change..... The idea of being alone.....*

*Pt: It sounds really childish huh?....”*

This vignette, taken from Pilot 3 (3.11.2), illustrates the recurring motif of “the cry” throughout life. In this case we are not talking about an infant, although the display of emotion is taken as a sign, commented on by the patient. There is recognition of value; although the patient finds it difficult to accept this value (“*childish huh?*”). The emotional expression, no less moving for occurring in adulthood, relates to issues of isolation, and loneliness. The emotion also brings life to the session; evoking a series of positively valenced CSERS ratings by the therapist (see also 3.11.2.5).

It is thought that crying and laughing may persist in adult life, “*because they are indispensable in expressing positive and negative feelings... .... and convey a sense of commonality among all human beings*” (Cardoso & Sabbatini, 2002, p. 11), “*Weeping is perhaps the most human and most universal of all relief measures*” (ibid., p. 5; Menninger, 1963).

So far the cry has largely been referred to as the “separation”, or “isolation”, call. In fact, in psychotherapeutic practice, and in adult life, crying is to be understood as a complex emotional expression. Many argue that humans are unique amongst mammals in crying “emotional tears”: we are “*the animal that weeps*” (Cardoso & Sabbatini, 2002, p. 1). Over a lifetime, the significance of the cry becomes differentiated, but not diminished. Far from being solely associated with distress, it is often associated with a sense of relief, or even healing (ibid.; Menninger, 1963; Orloff, 2010).

Humans have characteristics of paedomorphism, and neoteny (the preservation of infant-like features; and functions, respectively, into adulthood) (Cardoso & Sabbatini, 2002; Greenspan & Shankar, 2004). Lack of facial hair allows emotional expression to be more accessible to others. In a species that stands upright; has binocular vision; and socially engages face-to-face, this enhances communicative capacities. Crying, and other complex emotional expressions (e.g. laughing), probably serve a social engagement function throughout life (Panksepp & Burgdorf, 2003). While in adulthood many people prefer to cry in private (Cardoso & Sabbatini, 2002), it is, nevertheless, possible to “cry like a baby” at any age, suggesting the original significance of the cry is retained. In psychotherapeutic practice it is not unusual to encounter patients who have difficulty with crying, sensing this as a distressing expressive deficiency.

While crying is expressive and can provide relief; prolonged crying can be exhausting and associated with physiological strain (Pinyerd, 1994; Cardoso & Sabbatini, 2002). In infancy cries come to have a range of meanings and are recognized as signs of vigour as well as distress (Cross, 2009). Infants learn quickly that crying gets attention (Cardoso & Sabbatini, 2002). Cries may be aversive to some carers, particularly those not well prepared for the parenting role: even abusive behaviour may be the reaction (LaGasse et al, 2005). The cry always occurs in a context, and needs to be understood as a complex relational phenomenon, not as something in isolation. While cries are often indications of distress, in neonates this is not thought to be as toxic as later intense affects, such as shame or intense anxiety: “(infant) distress is not a toxic crippling affect which necessarily generates avoidance strategies, but rather promotes remedial strategies which can attack the sources of distress” (Tomkins, 1995, p. 119). Although crying in adults may be associated with relief, or with joy, it may be that sometimes the relief relates to “*stored up pain and sadness*”, so that while relief or happiness is reported, the reaction may still be in relation to inner sadness (Cardoso & Sabbatini, 2002). This is consistent with the human need to express emotion (Tomkins, 1995), and the many factors in socialization and acculturation, that inhibit, or place constraints, on emotional expression.

The human cry, in contrast to acquired language, is an “innate” form of expression. Not necessarily “intended”, but none the less powerful or meaningful for that. It is one of the ways the neonate participates in relatedness, and can be considered as active participant in the “proto-conversation”. Looked at in isolation it is simply a signal, but within the relational matrix it is an indexical communication: it has a direct effect on the mother/carer that brings about a response. It is a real contingency in a non-iconic sense: it is actual rather than symbolic. However, at the same time the communication is iconic (unconsciously so), in that humans live in environments in which the image of an infant, particularly a crying infant, is part of the cultural milieu, just as are images of “nurturing mothers”. Stories use such images, involving animation of symbols. The fundamental role of animation in communicative systems is illustrated by the fact that infants, for a significant period, show little response to static inanimate objects (Ricks, 1979). The fact that the infant and mother are both alive, and move in relation to each other, adds to the power of their “iconicity”.

The “cry” needs to be recognized as a “sign”, as well as a “signal”. In the conceptualization of the sign, developed by C.S. Peirce, it fits with his definition of the “*qualisign*”: “*a quality which is a Sign. It cannot actually act as a sign until it is embodied.*” (Peirce, 1897, p. 7). In keeping with Peirce’s view of the significance of the “Sign” in human life, the cry is paradigmatic of the “Sign” and, in its iconic sense, of the living human body, which forms the basis for human symbols: “*There is no element whatever of man’s consciousness that has not something corresponding to it in the word; and the reason is obvious. It is that the word or sign that man uses is the man himself. For, as the fact that every thought is a sign, taken in*

*conjunction with the fact that life is a train of thought, proves that man is a sign; so, that every thought is an **external** sign, proves that man is an external sign. That is to say, the man and the external sign are identical, in the same sense in which the words homo and man are identical. Thus my language is the sum total of myself; for the man is the thought.*" (Peirce, 1897, p. 2). In the intersubjective context, this points to humans as "living symbols". This would hold true from cradle to grave. It is similar to the definition of psyche identifying psyche simply with the living, breathing human being: "*Socrates and Socrates Psyche are identical. The psyche, in sum, is the living self*" (Gregory, 1987, p. 649).

In the first months of life infants have some discriminative capacities, more highly developed than they are later. While infants become better over time at discriminating "native" voices (from the familial / surrounding culture), and human faces; they become worse, over the corresponding period, in discriminating non-native voices, and the faces of other species (Lewkowicz & Ghazanfar, 2006). This is evidenced by better matching of monkey faces and vocalizations by human infants at 4 and 6 months, than is evident at 8 or 10 months (ibid.). Infants' capacity to incorporate into crying behaviours, the prosodic features of native language speakers to whom they are exposed in the neonatal period, suggests a well developed acoustic receptive system, able to distinguish between prosodically different languages (Cross, 2009). Some studies indicate that infant crying is not purely reflexive, but demonstrates quite early and sophisticated vocal learning (Mampe et al, 2009). This is thought to enhance the likelihood of caregiver-infant affiliation, and can be considered a demonstration that the "helplessness" of infants is in some ways "*more apparent than real*" (Cross, 2009, p. R1079).

#### **4.4.1 Complex emotional expression in the network of language.**

The cry is the earliest form of vocal communication in mammals. The progression in evolutionary terms is: 1) mother responding to infant cry by retrieval; 2) mothers calling back to crying infants; 3) emergence of other vocal signals, probably with more involvement of frontal cortex, fostering closer-ranged communication between mother and infant; and 4) the development of circuits for calling, promoting integrity within larger social groupings (Newman, 2007).

The cry is communication in the sense of "message" and response, although the "message" cannot generally be considered conscious, or intentional. However, this is only one aspect of communication, which in the early period may be best thought of as being "*in communication*", in the sense of sharing mutual attention and responsiveness, and broadly "*sharing rhythm*" (Bullock, 1979, p. 15). This sense of sharing is different from the linear sequence of "message" – "reception" – "response" often involved in linguistic analysis: it is more like a "resonating system".

Mood signs, and the experience of affect, are intertwined with language, rather than having a one-to-one relationship. Affective experience often arises through linguistic expression, and, conversely, linguistic expression may arise out of affective states. Two major affect theorists, highlight that affects occur in combinations and blends that can never be entirely captured by words (Tomkins 1995; Kagan, 2007). There are significant differences in the approach of these two scientists. Tomkins follows Darwin, in identifying fundamental affects, that are seen as universal, and then considered separately, and in combination (Tomkins, 1995; Darwin, 1872). Essentially, for Tomkins, affect is considered an entity, or "thing-like", and therefore potentially subject to mathematical description. This leads to a description of affective life as adding greatly to the range of human expression, in a mathematical sense, by providing additional degrees of freedom to any given expression, depending on the associated affect(s).

In contrast, Kagan eschews mathematical description of affect: “*there is no mathematics that comes close to describing the simplest emotion*” (Kagan 2007, p. 10). For him, the crucial point is recognition of a change in feeling that reflects the sense of integrity of the individual, in the relational network that pertains (ibid.). This puts primacy on conscious awareness, although not necessarily on conceptual awareness. He comments, “*the conceptualization of emotion by Western commentators has been a replacement of the implications of an agent’s feeling for the integrity of, and their relation to, others in the community as the criterion for classifying emotions with each individual’s sensory pleasures and biological fitness*” (ibid., p. 19). This illustrates how cultural scripts may influence appraisal of affect. Words like “happy”; “sad”; etc, are inadequate in capturing the complexity of emotion, argues Kagan, even though they are often used as proxies for emotional states (ibid., pp. 8-9). He gives the following example:

*“Leila is a young Muslim wife who, having discovered she cannot conceive, feels ashamed and guilty because she has failed to meet one of the imperatives of her community. Leila’s mother-in-law asks her to permit her husband to take a second wife who might provide the desired son. Leila vacillates but agrees, and the night the new bride arrives in her home to consummate the marriage she flees, crying, to her parents’ home.”*

There is no word for such a state (ibid.), and generally language cannot provide words that capture the complexity of context, or blend of emotions, implied. This complexity, however, is an essential component of language. Efforts to define language according to strict rules can be undone by variations of context, affective intonation, and expression. Chomsky put forward the phrase, “*Colourless green ideas sleep furiously*”, as an example of language ‘not making sense’ (Chomsky, 1975, pp. 145-6). However, even apparent nonsense can be reconstructed to make sense. Indeed, “*No sooner do we read this (‘colourless green ideas...’) than we think of possible readings. Uninspired ecological proposals, we understand after a couple of seconds thought, lie dormant in spite of the anger that gave rise to them*”, is one possibility, amongst many (Frayn, 2006, p. 313). The language of play, and personal life, can take on infinite, highly idiosyncratic permutations. People live with personal language, not always seen in public display: “*Meaning is not an entity, but a relation*”, embodied in personal meaning, or “*language underground*”: not primarily a process for classifying the physical universe, rather a “*means of creating a psychological universe*” (Baum, 1977, pp. 91-2).

Systemic Functional Linguistics captures the complexity of language by explicitly describing concurrent strata present in any linguistic expression. These are *phonology*; *lexicogrammar*; *semantics*; and *context* (Halliday, 2004). Contextual contributions to meaning are complex and highly culturally determined, as in the case of Leila above. The self-related dimensions of *interpersonal metafunction* and *textual metafunction* have been described. Self is understood, in terms of linguistic strata, as an aspect of context. The task in psychotherapy relates to capturing greater degrees of emotional complexity, through linguistic expression, rather than determining a precise meaning, or pronouncing on what can’t be verbally defined. The vision of Kagan is consistent with feeling (affects), as life process, intertwined with language.

Crying in the infant is seen to have, as one of its functions, a “call for connection, or contact”. This recognizes its positive value, as an initiator of the interactive “dance” of responsiveness between infant and carer, the “proto-conversation” (Trevvarthen, 1974). In each life this is the forerunner of the development of language. It is part of a system of emotional interaction that has significance as the beginning of essential bonds; relationships sustaining for human life, which, when disrupted, cause significant distress at all ages. In communicative terms, the cry

is a “cry *for* life” that modifies the life not just of the infant, but also of the parent. It is a “calling” in the true vocational sense, to the role of parent.

#### 4.4.2 The neuroscience of reciprocity and complex emotional expression.

Neurological tissue derives embryologically from ectoderm, originally, in an evolutionary sense, the boundary between simple organisms and the environment (Williams & Wendell-Smith, 1969). Although the human nervous system has great complexity, subserving many functions, it can still be seen, at a basic level, as part of a **functional interface** with the environment. With development of complex social organizations in mammals, it is not surprising that evolution may have been in the direction of complementary capacities, consistent with social function. On this view, the nervous system is seen more as facilitator, and mediator, of behaviour, rather than “control centre”. The widely prevalent view, of the brain as a “computer-like control centre”, is challenged by the recognition that language is necessary for higher-order consciousness (Edelman & Tononi, 2000, p.104). Therefore higher consciousness cannot be considered the property of an “isolated brain”. In the same sense that *“there is no such thing as an infant”* (Winnicott, 1960), it can be said of the brain: *“it ...does not exist as an isolate but is always in interplay with the environment of which, in the case of self, the social environment is... most important..”* (Korner et al, 2008, p. 384).

In this section, a brief outline is given of some important developments in understanding brain structure, linked to vocal production. While the contributions of Broca’s area, in the left frontal lobe, to verbal vocalization; and that of Wernicke’s area, in the left temporal lobe, to verbal receptive function, in language, are well recognized, these will not form the focus of discussion. Rather, the “first language” (“cry and response”), of feeling-based non-verbal vocalization, is considered with regard to its role in later linguistic communication.

Firstly, it needs to be understood that vocal production and reception result from coordination of networks, rather than being the product of one brain centre. The conceptual content, articulation and production, of verbal language, are significantly mediated through the left hemispheric centres mentioned above, although affective intonation and prosody, the more musical qualities of language, are primarily mediated through right hemispheric networks (Schoore, 2012). Nonverbal vocalizations appear less related to neocortical structures. The cry of the infant includes brainstem activity, as evidenced by the presence of cries, even in decorticate animals, or anencephalic infants (Newman, 2007). Structures in the midbrain, particularly the periaqueductal grey matter (PAG), are important, as evidenced by failure to cry, in lesion studies (MacLean, 1985; Newman 2007). However, in humans and other mammals, the development of the thalamo-cingulate circuitry appears necessary for the production of a *healthy* cry. Evidence from both stimulation and lesion studies supports a significant role for this part of the limbic system being involved, both in cry production, and also in receptive recognition of the cry (Newman, 2007). The anterior cingulate appears to have a role, not only in cry production, but in the “response” side of mothering / nurturing behaviour. The amygdala is another limbic structure shown to have a role in cry production in primates, with ablation associated with a “blunted” quality to the cry (Newman & Bachevalier, 1997). Cries can be inhibited neurochemically, using opioids (Newman, 2007). Both frontal areas, and the medial pre-optic area (MPOA) of the hypothalamus, have been shown to have significance in terms of recognition and response to the cry.

The cry circuit, on the basis of current evidence (*“a beginning outline”*), involves, on the production side, the anterior cingulate gyrus; midline thalamic structures; the amygdala (possibly); PAG and adjacent areas of midbrain; as well as a poorly defined area in the pons; and the nucleus ambiguus (“smart vagus”) in the brainstem (Newman, 2007, p. 162). On the

receptive side the amygdala; MPOA; cingular gyrus; a portion of the temporal lobe (auditory cortex); and associated projections to the limbic system, are probably involved, although *“how they are wired up and under what conditions they become active are unclear”*. (ibid., p. 162) Evolution has provided neural networks where response in the parent is closely, and reciprocally, organized, relative to the infant.

If not for the response of parents, crying would increase risk to mammalian infants. Hence the response / retrieval side of the neural circuit is of great importance. In rats, differential response has been demonstrated in mother rats compared to virgin rats, suggesting a neural mechanism released by the experience of giving birth, and parenthood (Farrell & Alberts, 2002). Squirrel monkeys' mothers can identify individual acoustic characteristics of her infant (Symmes & Biben, 1985). In some herd animals, reciprocal cries are used to identify and locate particular mother-infant dyads (Newman, 2007). An fMRI study of maternally experienced women shows activation in response to the cries of human neonates in several areas, including the anterior cingulate cortex. (Lorberbaum et al, 2002). Opiate mediation is involved in the “response” circuit, with maternal responsiveness in non-human primates being reduced by morphine, and restored by naloxone (Newman, 2007). Oxytocin facilitates maternal responsiveness. In rats, cries are a stimulus to prolactin production, in mothers (Hashimoto et al, 2001). Human fathers also show a relationship between emotional responses to infant crying, and prolactin levels (Fleming et al, 2002).

More generally, in terms of social-emotional, pre-semantic vocalizations, there is evidence of conservative evolutionary processes, with structures retained that continue to serve functions in vocalization. Other mammals share development of the thalamo-cingulate circuitry, not evident in reptiles. In humans this component of the limbic system is particularly highly developed (MacLean, 1985). The “power” of language, relates closely to the sense of emotional conviction, likely to relate to functions of central parts of the brain that form the limbic system (Panksepp, 2008). The motivation for speech remains strongly linked to *“social motivational systems that we share with other mammals”* (ibid., p.50). In primates, vocalization, and brain circuits for emotional and intellectual function, are intertwined (Newman, 2003, p. 496). It is thought, *“brain substrates underlying vocal communication fit into larger schemes”*, that may be defining of *“‘affective neuroscience’, or behavioural neuroscience, in a more general sense”* (ibid., p. 496). While brainstem structure, including the midbrain central grey area and nucleus ambiguus, are essential for vocalization, the thalamo-fronto-cingulate circuits are implicated, both in experience of affect, and production of crying and laughter (ibid.). In primates a range of limbic, and closely related structures, are shown to be necessary to affect-based vocal expression: including the septum; amygdala; PAG; and others (ibid.). Many of the neural structures for vocalization are also evident in quadrupeds, and birds: hence it appears, *“this central core for vocal production seems to have changed little over millions of years of evolution”* (ibid., p. 498). Areas uniquely activated by exposure to infant cries in women include medial thalamus; medial prefrontal cortex; and right orbito-frontal cortex, with relative activation in anterior and posterior cingulate cortex, compared to the control condition of “white noise” (MacLean, 1988).

The identification of the “limbic lobe” as a common structure to all mammals was first made by Paul Broca (Broca, 1878). Located in the central part of the brain, it is considered an ancient mammalian structure, now referred to as the “paleomammalian formation” (MacLean, 1985). An accumulation of evidence over the last 60 years has shown, *“the limbic system derives information in terms of emotional feelings that guide behavior”*, suggesting an important role in emotional experience and expression (ibid., p. 412). Observations in stimulation and seizure studies have provided evidence of strong feelings, elicited by activity of this part of the brain. There appear to be three important functional divisions within the

limbic system: the amygdala, concerned with “self-preservation”; the septal division, involved in feeling and expressive states; and the thalamo-cingulate division, that “*looms large*” in relation to the distinctive mammalian characteristics (nurturance of young; audio-vocal communication; and play) (ibid., p. 412). These core neural structures are considered to be crucial to the sense of a “core self” (Panksepp J & Burgdorfer J, 2003): i.e. crucial to the sense of participation and agency, in communication. When affective components are lost, communication lacks conviction, with loss of information, and an effective dissociation of intellectual from emotional aspects of speech (ibid.). When humans dissociate the left-brain mediated, intellectual component of language, from the affectively-based, right hemispheric and limbically mediated elements of language, circumstances arise where either intellect, or emotion, dominates (Newman, 2003). In the former case, this is likely to manifest as a kind of empty rhetoric; while in the latter, the person is left “without a voice”(in relation to states where emotion dominates).

In the current discussion, it is possible to see that neural organization subserves an affectively-based component of communication, continually active in semiotic, and linguistic, processes. Engagement at this level, through responsive, reciprocal exchange, may be necessary to the process of change in psychotherapy. Superimposed upon this level of neural organization, with significant commonalities across mammalian species, are the more specific language structures of the neocortex found in *homo sapiens*. The two systems are intertwined and both contribute to social intelligence. The relationship between the two is analogical, and, when integrated, brings power and conviction to the spoken word.

It is recognized that the nervous system becomes progressively individualized (Edelman & Tononi, 2000; Greenfield, 2000). As Greenfield puts it, the brain becomes “*personalized*” over the developmental trajectory of an individual life. She highlights the role of feeling in this process, while Edelman & Tononi highlight the roles of language, and interpersonal process, in higher consciousness. While the interplay of feeling and language in a relational network of self, others, and world, have here been considered constitutive of self, Greenfield argues that “*emotions such as pleasure necessitate a temporary abrogation of self, the individual carefully developed over a lifetime*” (Greenfield, 2000, p. x). However, if one considers that intense emotional expressions like crying, laughter, being in love, or angry protest, may involve the sense of temporarily being “beside oneself” (of being so dominated by emotional intensity that one’s normal flow of thought is altered), such moments might be seen as having a concrete, felt intensity that becomes significant for further development of self. Intense positive experiences bring an enhanced sense of reality, often formative for self.

#### **4.5 Self as emergent from the system of self and other.**

*Lullaby and good night, thy mother’s delight*

*Bright angels beside my darling abide*

*They will guard thee at rest, thou shalt wake on my breast*

*They will guard thee at rest, thou shalt wake on my breast*

*Brahm’s lullaby, 2<sup>nd</sup> Verse, English translation*

(from Baby Centre website: [www.babycentre.co.uk](http://www.babycentre.co.uk))



In the intersubjective field, it is communicative exchange between individuals that provides the basis for growth of self, and emergence of an individual sense of self. The earliest phase of development (from birth), is characterised by Stern as “*the sense of an emergent self*” (Stern, 85, pp. 37-69), and by Lichtenberg as being dominated by the “*motivational system based on the psychic regulation of physiological requirements*” (Lichtenberg, 89, pp. 31-69). Both perspectives emphasize these early manifestations of self continue to be active throughout life, and involve interactive experience. The phrase “emergent self” tends towards emphasis on the active role played by the infant in relation to the environment, while “psychic regulation of physiological requirements”, highlights the infant as recipient, not only of care, but of images and communications reflecting psychic qualities of carers and environment. Both are formative in terms of perceptual experience, organizing patterns of self-affectivity that become characteristic for the individual.

Self has been understood as a process rather than a thing, although a process that is a “living/symbolic text”, corresponding to the living bodies of particular selves. Such a text increases in complexity over time, with a presumed corresponding increase in complexity in associated brains and bodies. A “living text” implies something that cannot be reduced to “words on a page”, something always more than even spoken words. Lichtenberg’s use of “*psychic*” regulation, in relation to “*physiological*” needs, implies a connection between text in the sense of language, and the body. The words and music of Brahms’s lullaby provide just one of countless examples, of the way in which physiological states may be modified by the provision of an affectively evocative environment. While “*Language is neither of the brain nor in the brain*” (Schumann, 2007, p. 281), it is likely that language and communication in the broader sense, evoke responses in the developing mind that are formative for self.

Using the metaphor of the breath, the interplay between self and other has been seen to involve processes of going out to the other; and taking into the self, that are dynamic and continual: focused firstly, on maintaining life and vital connections (homeostasis); and, secondly, on facilitating growth of self. The movement in this interplay has a circular quality, although one that spirals through time, which can be seen serving both homeostatic and developmental functions. Although scientific description tends towards objectification of these processes, they occur from an embodied spatial position with inherent duality (Merleau-Ponty, 1945, pp. 103-16). The “field of view” of self, is not simply the “shifting figure and ground with an horizon” of objective description, but rather this field *and* a simultaneous field, characterized by the *actual* body, sensed as enveloping self, from which there is an awareness, for self, in the visual field, of the tip of the nose, and boundaries of the orbits, but not of the face (ibid.). The face is, however, open to the field of vision of *other*. The position of self in relation to other (and to world) is “face-to-face”. Taking this into account, it can be seen how processes of proto-conversation, sometimes termed “mirroring”, depend upon the system of self and other: in a real sense I come to know myself, my own emotional responses, and self-affectivity, through the facial and gestural display of others, because my own spontaneous expressions and movements are not available to me, in a manner that I perceive, when my effort and attention is towards “giving out” to the other.

#### **4.5.1 The ontology of homeostasis.**

Homeostatic mechanisms are dynamic in nature and, rather than keeping the organism “the same”, are involved in development of iterations of the personally expressive being that is self. For self, the sense of unity and continuity over time means self, in the manner of Saussure’s axis of simultaneities, is always known, in a textual sense, as “still me”. However the growth and multiplicity of self are shaped by expressive interpersonal exchanges, perhaps corresponding, again in a textual sense, to Saussure’s axis of successions. The interplay

between bodily processes involving whole body autonomic response, and communicative processes, that contribute to the emergence of self from its semiotic surround, are considered briefly.

The physiology of homeostasis, according to the polyvagal theory, was discussed in Part 2. To recap, “*interoception is dependent on a complex feedback system that starts with sensors located in various body organs and ends with the higher order social interaction with caregiver*” (Porges, 2011, p. 78). The process of interoception is divided into four levels. Of these, Levels I and II are most important in the first three months of life, corresponding to the period when “self” is still in a stage of emergent organization, dependent upon the psychic regulation of physiological requirements. Level I involves “... *physiological systems regulating the internal organs*”, requiring bidirectional sensory and motor pathways between brain and organs (ibid.). This is to be understood as the organization of bodily regulation at a non-conscious level: neither seen by others; nor felt by the individual. Level II involves, “*the integration of interoceptive responses with other sensory modalities and psychological processes*” (ibid., p. 80), requiring “*cortical, conscious, and often motivated influences on the brainstem regulation of homeostasis*” (ibid., p. 78). This level of organization would generally not be “seen” by others, but would be “felt”, to some degree, by the individual.

Where there is good-enough care, there will be sufficient illusion / provision of safety for the infant to thrive. Brahm’s lullaby is one symbolic evocation of such an environment. However the situation is always non-ideal, and often traumatic, although trauma may be neither overt, nor intentional, on the part of the parent. For example, Lichtenberg describes the situation of an infant, where the mother, at birth, experienced a perineal tear during delivery, leading her to comment that the infant, “tore me apart” (Lichtenberg, 89, pp. 39-56). Subsequently, the same mother had difficulty feeding the child, and was unable to make feeding an experience satisfying to the child. She had trouble responding to the infant’s cries, typically delaying her response. It wasn’t the case that the mother wasn’t making efforts at care. She was doing her best to respond, and take advice. Nevertheless, the infant developed a failure to thrive, apparently related to psychic input from mother, in the mother-infant relationship, that would have been felt, albeit at an affective rather than a conceptual level, at a stage when the infant was still forming its perceptual organization.

In a neurophysiological sense, the earliest forms of memory, perceptual and procedural memory, are in play. The importance of perceptual input, organized according to principles of apperception and affective valence, is evidenced by the extent to which autonomic *input*, subserving social engagement, dominates organization of the vagal nerve, with up to eighty percent of the vagus devoted to afferent networks (Porges, 2011, p. 82). The development of perceptual / affective organization is a prerequisite for more complex functioning. The movements of the infant also gradually cohere into a felt knowledge of the body-in-action, through procedural memory, more like “action knowledge” of the body-in-the-world, rather than conceptual knowledge. These forms of affectively-mediated, embodied knowledge / organization, remain critical to function throughout life, although they only become a focus for conscious attention when there are failures in functioning. Normally, attention is focused on its objects rather than on bodily functioning (Merleau-Ponty, 1945).

Level III interoceptive processes are, “*observable behaviours that can be evaluated in terms of quantity, quality and appropriateness of motor behaviour*” (Porges, 2011, p. 78). These correspond to objectively quantifiable behaviours there for all to see, including the individual self. It is likely, in a developmental sense, the infant needs to have reached at least the stage of having the sense of a *core self* (Stern, 85), before it could be said that he or she could have this level of organization. This corresponds to the period around 2-3 months when infants

seem to acquire a sense of self-agency; self-coherence; self-affectivity; and self-history (Stern, 85).

There is a sense that language, when taken at a strictly objective level, can be included in this sphere of homeostatic activity, insofar as it is a common property, there for all to see, and definable, in its dictionary / conceptual form. However language is not adequately described in such a way. Rather language primarily implies an intersubjective communicative system, with specific shared meanings, and only secondarily, a shared system of conventional signs that can be given objective definition, standing apart from individual selves. Even then, to become meaningful, language has to be given substance, through the expression of individual embodied selves, in order to attain significance.

Level IV interoceptive process *“reflects the coordination of behaviour, emotional tone and bodily state to successfully negotiate social interactions”* (Porges, 2011, p. 78). What is seen and felt at this level **goes beyond objective data, requiring shared understanding**, not only of language but of relational, affective, and symbolic processes. This implies a level of integration of the symbolic medium of language, with bodily experience of affective processes. Developmentally, this emergence begins at the stage Stern describes as the *“sense of a subjective self”*, from about 7-9 months of age, when *“infants gradually come upon the momentous realization that inner subjective experiences, the ‘subject matter’ of the mind, are potentially shareable with someone else”* (Stern, 1985, p.124). This also corresponds to the development of a relatively specific proto-language between infant and carer (Halliday, 1975). The further transition to the *“sense of a verbal self”* is said to, *“drive a wedge between two simultaneous forms of interpersonal experience: as it is lived and as it is verbally represented. Experience in the domains of emergent, core- and intersubjective relatedness, which continue irrespective of language, can be embraced only very partially in the domain of verbal relatedness.”* (Stern, 1985, p. 162). Highlighted is the challenge of integrating the experience of affective life with its verbal representation. This remains a central concern to self throughout life. The *“true voice of feeling”* (Hobson, 1985) reflects successful integration of the spoken word with affect, through processes of symbolical expression that “fit” analogically, rather than mechanically, or exactly, with the embodied, feeling self. Such a concept is an ideal, imperfectly realized in actuality.

#### 4.5.2 The neural ontology of complexity.

The question remains as to what could be defined as objective, neural correlates to the development of self. Self implies intrinsic activity, within the individual / personal system, with the duality of internal (“I-me”) relatedness. Self can be multiple, depending on context and role, yet also provides the individual with senses of unity, continuity, and growth. In the characterisation of self as, *“I, me and myself”* (Meares, 2000, pp. 7-14), it is the third term that denotes the zone of expansion or growth, in contrast to the subject-object polarity of I and me. This growth depends on conditions, like development of a secure base; warmth and familiarity, in the environment that pertains; as well as experience of novelty and exploration. Beyond provision of safety, growth of self also requires the opportunity to express feeling, which best occurs in an imaginative environment, engaging processes of analogy and metaphor, more related to poetic language than linear, logical language (Meares et al, 2005b). Self relates, in a linguistic sense, to the axis of simultaneities, or synchrony, as discussed in Part 3. Experiences of simultaneity, in a developmental sense, occur interpersonally before they are likely to arise autonomously in an individual. Nevertheless, the experience of simultaneity is one of *unification* (ibid.), important to the sense of coherence, and integrity, of self.

The provision of safety brings into focus the initial requirement of active input from others, to maintain homeostasis. Homeostasis implies regulation around an optimum range and, to some extent, a starting point, around which regulation becomes organized. In terms of self, this corresponds to the *proto-self* defined, in neural terms, as “*a coherent collection of neural patterns which map, moment by moment, the state of the physical structure of the organism in its many dimensions*” (Damasio, 2000, p. 154). This is regarded as non-conscious, to be understood as a “*reference point at each point in which it is*”: without language; powers of perception; or knowledge (ibid., p.154). Damasio sees this as ground for the development of a *core consciousness*, relating to the movements and patterns that are felt in the animations and interactions that constitute life, and reflect the accumulation of perceptual and procedural experience, in its many forms (ibid., pp. 168-194). The notion of a core built around neural maps is at the heart of Edelman’s concept of a *dynamic core*, involving broad areas of brain designated as the “thalamo-cortical” system, evolved, in part, to organize deployment of attentional resources, and hence organization of consciousness (Edelman & Tononi, 2000, pp. 113-154).

While much neurophysiological investigation has taken place in relation to task performance, *self* implies growth in complexity of the individual when *not* involved in task performance. It is to be expected that non-task related activity would be found in the human brain and neural networks. Greater complexity in such activity could be consistent with emergence of a self that takes on relatively independent functioning, as opposed to being dependent upon others for self-regulation. Hence one would expect shifts during development towards greater complexity, in relation to neural structures subserving communicative exchange, and internal thought. This would involve both of the great human semiotic systems: the system of affective expression and exchange; and that of verbal language.

Investigations into brain function involving imaging techniques employ subtraction techniques, whereby images taken during a “control / rest” condition are subtracted, from images taken during task performance, with expectation of highlighting those areas where there is increased activity during task performance, thereby identifying areas of functionality in the brain. However, there have been consistent observations that in some areas task performance was associated with paradoxical *deactivation*. In other words these areas were more active during the “rest” condition. The areas which displayed this paradoxical activity were termed “the default mode of brain function” (Raichle et al, 2001). Current literature refers also to the default network (Fair et al 2008); default mode network (Otti et al, 2010); or default system (Raichle & Snyder, 2007). This network is widespread, involving areas previously described in relation to communication networks, and affect regulation networks, including orbitofrontal cortex; posterior cingulate area; parahippocampal area; parts of the parietal; and temporal cortex (Fair et al, 2008). However, these areas are widespread: “*all areas of the brain have a high level of organized default functional activity*” (Raichle & Snyder, 2007, p. 1083). The imaging of these areas reflects variations in blood flow, and oxygen availability and utilization, in regions of the brain. The image contrasts so defined are termed blood oxygen level dependent contrasts (BOLD) (ibid., p. 1086). BOLD oscillations of the network have been described, “*as spontaneous and continuous as heartbeat and breathing*”, suggesting an inherent rhythmicity in these functions (Otti et al, 2010, p.143). It seems that, “*a considerable fraction of the variance in the BOLD signal in the frequency range below 0.1Hz appears to reflect spontaneous fluctuating neuronal activity that exhibits striking patterns of coherence within known brain systems*” (Raichle and Snyder, 2007, p. 1086).

It is not surprising that intrinsic networks of activity in the brain can be identified when one considers that the great majority (as much as 80%) of the brain’s energy consumption

supports communication within the brain (ibid., p. 1087). The additional burden on the brain related to momentary demands of the environment, under normal conditions, may be as little as 0.5-1 % of the brain's metabolic energy requirements (ibid.). While functions of the default system remain a matter of speculation, investigators have related it to spontaneous/stimulus independent thought; self-referential thought; the sculpting of communicative responses; introspection; interpreting, responding to, and even predicting the environment; serving an internal narrative / autobiographical self function; empathy; and future orientation (ibid.; Otti et al, 2010; Fair et al 2008; Hassabis et al 2007). Activity levels in these systems show an inverse relationship to sympathetic arousal (Nagai et al, 2004), and also show decreased activation during linearly directed mental activity (Fair et al, 2008; Sheline et al, 2009). Moreover these networks show only sparse interconnections in children of 7-9 years of age, compared to highly integrated connectivity by early adulthood, consistent, arguably, with a more autonomous form of neural and mental functioning, and increased complexity in neural integration (Fair et al, 2008). It would be anticipated that factors like trauma may impact upon the development of such forms of neural integration. While the default network can't be considered equivalent to self, it is a promising candidate as objective correlate to self-organization, in *homo sapiens*.

#### 4.5.3 Communicative complexity

Where affective exchange occurs within limits felt to be safe, allowing establishment of an intersubjective field of play, conditions are right for development of self. Play is engaged in for its own sake, rather than for instrumental purposes. Situations of trauma correspond to environments which seek to control or coerce *self*, restricting its affective range, and limiting its possibilities to specified tasks, and *other*-determined ends. In such an environment there is less opportunity for differentiation of self. The default network does appear to have correlation with some self-organizing processes, so it would be anticipated that, in traumatic circumstances, there would be lessened functional connectivity in this network. In relation to expressed language, this might be reflected in more linear language, with use of language, primarily, for instrumental purposes, rather than the imaginative and future-oriented functions that endow self with the sense of a "life of its own". In using language, humans are continually create novelty, "*whenever you set out to speak a sentence you haven't spoken before*" (Calvin, 1996, p. Loc 56), likely involving forms of improvisation supported by resonant processes in the brain (ibid., p. Loc 60). "*Intelligent mental life is a fluctuating view of your inner and outer worlds*" (ibid., Loc 67), where "*the ability to originate*" (say something new) is crucial (ibid., Loc 1004).

The development of complexity in the default network of the brain, is a candidate for consideration as an objective correlate of the developing differentiation of self; somewhat in the manner of the *dynamic core* hypothesis (Edelman & Tononi, 2000, pp. 111-54). Meares has suggested a model of developing complexity in the self organizing system, drawing an analogy to the non-linear deterministic equations of Chaos theory (where Mandelbrot's equation states that iterations of a pattern are described by  $Z = Z^2 + c$ ) (Meares 2005, p. 204). He postulates that if "*Z*" is the expression of an individual self, then  $Z^2$  could be considered the response of the other, that contains something recognizable of the "*Z*" self (" $Z^2$ "), but also introduces an element of the self of the other ("*c*") (ibid.). When there is a sense of connection, and where good "analogical fit" contributes to shared experience, contributing to the sense of significance for self, the "*c*" component doesn't reflect a simple, linear addition of information. Rather, the introduction of something that "fits" for self enhances symbolic space, as well as contributing "actual" information. While speculative, this could describe both the potential for change over time, and the recurrence of coherent, recognizable patterns of self, with the possible correlate of neural networks cohering around "strange attractors", as

described in the *dynamic core* hypothesis. Such a model is from the perspective of an individual self. The concept of an intersubjective field involves reciprocal influences, and change, in two, or more, selves. Moreover the individual self can't be reduced to a particular dyad, and includes multiple interpersonal influences, as well as the broader "world" influence, so that for a given self, the "c" term itself takes on multiplicity. Nevertheless, non-linear models suggest ways in which self may acquire complexity, reflected in the development of singularity, both at the personal level, and that of neural networks.

In communicative terms, the conversation a given self is involved in over a lifetime has the characteristic of a singularity, interacting with multiplicity. Conversations proceed on the basis of "given" and "new", in linguistic terms. The "call" of *self* already has these elements in it, as will the "response" of the *other*, if effective communication is occurring. This happens by picking up on something "given" by self; and adding in a new element. This model applies to both affective, and verbal, levels of communication. Indeed, once verbal language is established, interaction between affect and language is reciprocal. It is by no means the case that one is only, "trying to find the words for feeling"; often one only accesses feeling, through verbal expression. Such realization of affect through speech, may be taken as a concrete instance of value or conviction: "*How can I know what I think till I see what I say?*" (from, E.M. Forster's *Howard's End*; cited in Edelman & Tononi, 2000, p. 182). The selections made by an individual in communication are motivated by patterns of affectivity, and the sense of aliveness (tracking apperceptive appraisals of valence) in the unfolding life. Such selections may reflect a "*darwinian process provid(ing) a machine for metaphor: you can code relationships between relationships and shape them into something of quality*" (Calvin, 1996, Loc 2221). It has been suggested that these selections may, like other living systems, operate according to principles of *fuzzy logic* (Shapiro, 2011, p. 14; Zadeh, 1965), in terms of moment-to-moment adjustments. If affect is central to the organizing system, then the system will also tend to operate towards, 1) maximizing the sense of aliveness; 2) minimizing the sense of deadness; 3) expressing affect so that it can be processed in the interpersonal sphere; and 4) organizing overall behaviour and social interaction so as to optimize 1) > 3), (following the "general image" of affect organization) (Tomkins, 1995, pp. 66-73). It is this last (fourth) level of organization that reflects personality organization.

From the viewpoint of a particular patient in therapy, fuzzy logic, as it might apply to the conversation, would say that *if*, after the patient "calls" to the therapist, the patient's apperception of the "new" element supplied by the therapist-other has a valence that seems safe, *and* it brings a sense of liveliness, *then* it can be received and responded to, enhancing the patient's sense of aliveness, gradually facilitating increased complexity, and singularity, of self. Patients often present because of disruptions and arrests in this development.

Since Freud, theorists have related the repetition of behavioural and communicative motifs to trauma, through concepts such as the *repetition compulsion* (Freud, 1920). In a primary sense repetition also relates to concepts like "warmth and familiarity", reflecting pleasure in forms of interaction, and knowledge of people, and scenes, linked to the person. In considering the "calls" and "responses" made in a psychotherapy session, the affective valence of repetitions may give clues as to whether they reflect trauma, or growth. Intersubjectively, repetition involves relationship, not just self in isolation. Traumatic repetition is likely to reflect mismatches in the therapeutic relationship.

A full transcript of a session (Pilot 3) is reproduced in Appendix 3, considered in relation to "cry and response", both at the micro-level of particular turn-taking, within sessions; and the macro-level of repetitive "calls" that recur in relation to "responses" given over the whole session. After a period of repetitive, argumentative interaction, the therapist, in this session,

displays a degree of overt emotion in his voice. This modifies the patient's argumentative position, suggesting he was moved by a shared interaction, experienced in a positively-valenced way.

#### **4.6 Call and Response: implications for self.**

Self develops in a system of self and other(s), through processes of exchange carrying a sense of significance for individuals. Exchange proceeds, both in the diachronic dimension of "conceptual information exchange", operating according to a principle of "bits" of information; and the synchronic dimension of "resonating cry and response", operating according to an affective, associative principle. Overwhelming degrees of affective intensity may result in incapacity to respond within a similar resonant range, leading to a "separation" from the other (distancing / dissociation). Self-cohesion results from a culminative effect in the textual dimension, coupled with the continuity and adhering effect of feeling, enabling the individual to experience life as "always still me".

The dyadic illusion of safety is necessary for growth and the establishment of a self with a voice in relation to its "world" (in triadic relatedness). In traumatic circumstances priority may be given to the exigencies of the external world, with less reference to the world of intimate relatedness, and therefore less felt significance within a field of shared meaning.

The shift towards maturity involves a lessening of possessive demands within the dyad. Maturity emerges from familial relatedness, with an orientation towards strivings in the world not only for self, but for other(s).

Psychotherapy involves recognition of self. This involves articulation of areas of trauma, in relation to the world, and engagement, in the dyad, with interpersonal processes that include affective, as well as conceptual exchange. The selves of both patient and therapist are engaged, although with focus on the patient's world, reproducing the asymmetry of the developmental situation. The affective component of exchange needs to have sufficient expressive intensity to be felt by both parties (i.e. "felt to be real/genuine"), but not to have such intensity as to be threatening, or unsafe, for the patient. This may involve a degree of challenge, and continual balancing and re-balancing, on the part of both parties.

In the Part 5 there is further exploration of study data with reference to a patient-therapist, and a control, dyad, utilizing CSERS and autonomic measures.





**Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

## **Part 5**

### ***Instantiation***

**Exchanging language, changing self:  
further case illustrations**



## **Exchanging language, changing self: further case illustrations**

### **5.1 Summary**

In learning the Conversational Model, trainees are supervised using session recordings, allowing examination of the “*minute particulars*” of each interaction between patient and therapist (Hobson, 1985, pp. 161, 165). Two sessions are reproduced with partial de-identified transcripts: one is a patient – therapist dyad (Pilot 1.2); the other is a session with the control condition of interviewer – interviewee dyad (Control 5) (full transcripts in Appendices 4 and 5). Each session is analysed using the template from Part 3 (3.10.1):

*Vignette and Formulation*

*Structure of session: theme; development; resolution / recapitulation*

*Patient evaluation*

*Therapist evaluation*

*Relation between patient and therapist evaluation*

*Symbolic orders realized in language and implications for patient’s homeostasis*

*Progress in realization of self*

*Physiological predictions*

A longitudinal comparison is made between Pilot 1, and Pilot 1.2 (the same therapeutic dyad, with recordings at an interval of 20 months), looking at linguistic evidence of therapeutic progression, and transformation of self (full de-identified transcript for Pilot 1 is in Appendix 4.1). A pattern of equivocation in relation to personal dilemmas, introduced as swerves, or “tropes” in the therapeutic conversation, is evident in Pilot 1; this has moved towards a pattern of resolution in Pilot 1.2. The pattern is demonstrated with reference to linguistic analysis (detailed in Appendix 4.2). Pilot 1.2 and Control 5, introduced in Part 5, have the most complete physiological data, of the recordings in this study. Following longitudinal comparison, physiological data is presented testing predictions made in preliminary analysis.

Initial analyses also lead to a discussion of the pronouns, “I” and “it”, and the noun, “self”, as applicable to the psychotherapeutic context. Self is a whole person concept with a capacity for differentiation over time, relating closely to the integration of feeling and language. Development of self occurs in the interplay between subject consciousness (“I”), and object consciousness (“me”). The holistic concept of self is contrasted, with reference to use of pronouns (“I” and “it”), in Freud’s model, of ‘agencies’ in the mind. The process of personal development is found to be based upon empathic connection with others, rather than the triumph of reason over passion. Psychoanalytic theory is discussed, arguing for a revision of the notion of mastery of emotions, towards optimal coordination, and integration, of feeling and language. Data from the study demonstrate relations between speaking, listening, feeling, and metabolic regulation that support this position. Physiological data reported include the slowing of breathing during speech in psychotherapy, and in relation to “emotional highpoints” during sessions.

## 5.2 Pilot 1.2: Partial transcript (bold type clauses also discussed Part 6; full trans. A4.3).

(Names and places de-identified)

1. TH (Start – 00:24) OK
2. PT **Good to go?**
3. TH Good to go.
4. PT Great I've just come from supervision and before I went there the private practice ideas, about starting my own private practice and that's taking more shape and I wrote my supervisor an email earlier in the week saying when I meet with you I want to discuss, you know get some feedback and discuss options and get some ideas on what you think might be good, because I'm seeing him once every four weeks but if I go into private practice I want to see him every fortnight, get more support. So I went into that session with him my mind a bit a heap of ideas and things trying to take shape and we pretty much covered all my questions in that session. So, um, it felt good actually. He's given me some people to ring to ask about renting rooms off them and yeah it's good to get advice off someone who's also a psychologist and he's supervising me in the same framework and...
5. TH Yeah, well you're doing some serious research here.
6. PT Yeah, yeah definitely. So you know I thought I'd come in here today a bit haywire but feeling better, just had something to eat and going to let those ideas settle.
7. TH What felt a bit haywire?
8. PT Well one of the big things was that yesterday um, the Institute of Yyyyyy at XXX where I teach, contacted me and um, said we hope it's not too late but we want to offer you work for next semester. And that's three weeks from tonight. And my idea was that that's not on, haven't offered it to me and that's not going to play part of the next six months. And now I'm actually thinking well, actually yesterday when I got it I just wrote it off, I thought no, sorry, I'm moving on, but now I'm actually thinking well if I drop a day in private practice at XXX, I'm doing uni and that's a substantial amount of money to help me get through the next few months, so it actually could work out. I've emailed the uni and I said to them this is quite late notice and I have thought about going in a different direction, but if you can give me the dates and the semester break, then **maybe I can make it all work**. Because I, I make, even though I made it clear I want some time off in September and when we started first semester this year I was on annual leave from XXX and going in Thursday nights, and that wasn't cool because you know I was working on my holidays. So yeah, I've let that idea settle a bit and I've sent them an email and I'll see if they contact me today, they're closed tomorrow and they might get back to me Saturday or Monday and I've said I'll let you know my decision by early next week.
9. TH Okay. So it looked a bit different after you slept on it or something by the sound of it.
10. PT Yeah. Yeah actually I don't know what clicked over. I had a lunch with a friend today or brunch and um, like I think I told you my car was written off a few weeks ago, it was flooded, yeah, so I'm looking to buying a new car and I was thinking about getting the cheque back from the insurance and trying to add a bit more money in for myself and maybe borrowing some money off my brother or maybe getting a small loan, and thinking I'd spend \$15,000. And then I was talking to this friend and he was saying well why don't you get a loan for the whole amount and pay it off, and the case I've got from the cheque, I can pay off credit cards and just restructure my debt kind of situation. And that helped a lot just in terms of going well there's a different way to do things and I was going to settle on a very just cheap standard old car and maybe you know I'm only going up to \$20,000, I'm not going to go a \$40,000 car, but **I'm thinking well I could get something decent**, something actually quite nice.
11. TH You know are you feeling it would be worth committing to, to get something nice?
12. PT Mmm. Well it was also through another friend earlier in the week who had said well I've got X amount of thousands of dollars in credit cards and I'm already paying \$250 interest every month, so why not put it into a loan and where I'm not going to keep using the same amount of money in credit and the interest will keep being the amount it is – I'll pay off the loan and the interest will reduce over time. Sounds good.
13. TH Hmm. Looks like you've talked to people that have... that have been there before.
14. PT Yes, yeah people have had these ideas and, and I think sometimes I, just now that I'm talking about it, I take on a bit of my parents' way of doing things that they've had big business, they've had good

*cash flow and that's all I've seen, I haven't seen really people on a smaller income, budgeting and doing things slowly – where they've just had the money to spend whatever they want, whenever they want.*

15. TH Well, it's a different situation but I guess the, the thing has been to get your head around your situation doesn't it and you know it's been quite important in relation to this car matter to be figuring a way that didn't depend on your parents simply forking out I think.
16. PT Mmm. And there's, and yeah I mean I thank them for that offer because they did offer, and now dad's come straight back and said I found out that you know there's this place in Vvvvv, this dealership that we know someone who knows someone and they can get you a good price and we'll go along with you and I said thanks for the suggestion but I've also got to do that myself, I may pursue that person, but I don't want dad to come along with me to the yard and see all the finances and know how much I spend and yeah. I mean **they tend to come over the top of me, so if I slow down** and say appreciate your help and this is the amount of help I'll accept off you if that's okay with you, then **that's good**.
17. TH Yeah, I guess it's you know it's **sort of creating a space for yourself** isn't it in a way and as opposed to getting overridden or bulldozed or something. It's not always easy to resist you know, there's a temptation to go down that path I guess, so in a way it would be an easy road to a new car or something perhaps.

### 5.2.1 Vignette

Th: .....we're moving towards something.

Pt: I just think of Danny Boy again, you know the hills are calling.

Th: Are calling

Pt: To find your calling. I kind of never understood that term fully until now like when I found my calling.

Th: It means something doesn't it....

### 5.2.2 Formulation using self-state data

This passage, coming 27 minutes into the session, is considered the narrative highpoint by the author. The therapist gives a positive rating, “b-touched” at this point, and another positive rating of “a-moved”, about 20 seconds after this passage, marking a high point, in hedonic terms, in therapist ratings for the session. In contrast, the patient does not make a rating during this passage, although two ratings are made near it, one of “d-sober” 30 seconds before; and another of “d-calm”, about 35 seconds after the quoted passage. This suggests that, for the patient, the experience was not one of high emotion but rather neutral, although the qualifiers “sober” and “calm” could suggest stillness, or clarity, of thought. The patient gave higher hedonic ratings at other points of the session, including “b-touched” about 2 minutes after this passage.

The semantic content of the early part of the session relates to work preparations and collaborations, outside the network of the family of origin (i.e. patient's independent network), with progressive assertion of doing things according to a model he distinguishes from that of his parents. This culminates in a realization, “*to find your calling*” expressed in a metaphoric way, as a response to the world (“*you know the hills are calling*”). The passages that follow this excerpt contain a range of ratings for the patient. They include reflective, silent periods, and use of metaphoric language, recognizing suffering and loss, with acceptance of the shift towards greater autonomy in relation to family of origin. Phrases such as, “*you know the hills are calling*”, and, “*to find your calling*”, use the second person pronoun, in a way that is both personal and general (finite and infinite). The use of analogical

language also personalizes, and universalizes, the patient's relationship with the world. This conveys the sense of being an actor (agent) in the world. There is a sense that the realization of calling is a preparation for intimate relatedness. The reference to "Danny Boy", in the vignette, is a referent particular to this therapeutic dyad. Common referents build over time in a therapeutic conversation: it isn't unusual to make reference to motifs shared previously in therapy. Such a referent is referred to, linguistically, as "anaphoric" ('referring back').

### **5.2.3 Structure of Session: theme; development; resolution/recapitulation**

Themes in this session relate to occupation, preparation and establishing a place in the world. These are introduced by the patient, inadvertently, with the phrase, "*Good to go?*" which has the immediate referent of the recording device being ready, while also resonating with the theme of preparedness. The development involves recognizing difference (differentiation from family of origin) within the patient's self, and learning to use this, while letting go, to some extent, of the model of action previously internalized (the family model).

The session opens in a lively way with reference to preparatory efforts in relation to work, and purchase of a new car, used as examples of ways in which the patient is doing things differently: being able to collaborate with others and use their assistance selectively; being able to, "*slow down*", thereby "*creating a space*"; holding this space while recognizing the danger that family could, "*come over the top of me*". The patient uses a high proportion of transitive clauses, with use of the personal pronoun "I", in a manner that conveys a sense of ownership of, and involvement with, the process. There is reference to refusing assistance from parents. This is balanced by utilization of advice and offers of aid from other, non-familial contacts.

The patient spontaneously relates these external experiences to the situation in therapy: "*I guess it's also coming in the context of us coming up to a break*". He describes the experience, metaphorically, as, "*I'm coming out of some sort of haze*", invoking a vision of "*slow growth*", contrasted with "*too rapid expansion*", seen as a family model associated with disaster and stress: "*we all just battened down the hatches and went to battle stations*". This had been replicated in his adult life: "*it's a case of too rapid expansion*"; where "*things crashed, things fell apart*". The conversation takes a turn towards metaphor, capturing the sense of readiness, when the patient says "*It's kind of like strike while the iron's hot but the striker has to be ready as well, it's not just about the iron*". This is responded to playfully by the therapist, invoking alternative images of "irons" ("*the first image that came into my mind was of an iron, but I'm not sure that's what you meant*"), leading to further elaboration: "*No. No, a much more violent iron....I picture....like one of those old fire stokers and it's got the pointy end on it and it's getting red hot...*". The patient comes to express a sense of potency: "*it's about being potent*", referring to dreams shared previously, another example of shared referents emerging over time. Sharing of mental images, as well as words, is evident in these exchanges.

The reference to potency draws attention to the theme of sexuality, although in a way where it is owned as integral to self. The preparations and collaborations in relation to work and personal affairs; the sense of gaining of momentum in finding a personally effective way of organizing self; and the recognition of potency, culminate in the realization of calling, a significant psychological event in any life. In the final third of the session there are a number of metaphoric references to sea, ships, weather and dangers. The patient likens self to, "*a ship*

*that's forging ahead*"; *"will a storm come along and divert it or hit it too hard"*; *"the first thing that comes to mind is parents coming in and rocking the boat"*; *"I used to be defenceless....they'd come in and I'd be wiped out"*; *"they don't feel like we're all jumping ship"*; *"so many oceanic metaphors today"*; *"like mother duck and little ducklings and eventually you have to go off away from the pack, navigate away"*; *"it's a vast ocean, there's room for everyone"*. The therapist has the sense the patient is gaining the ability to navigate these dangers and, using an anaphoric referent, says, *"...some hooks are loosening a bit"*. Finally, there is reference in the closing passages, of resolution in a relationship, that involved the patient taking a position (effectively saying "no"), in relation to a former female friend. This recapitulates the assertiveness, mentioned earlier in the session, in relation to family. Finally the theme of preparedness is recapitulated in anticipation of a new space for self, in the forthcoming break in therapy: *"it would be nice to have Thursdays a bit more open too"*. There is a sense of resolution here, not only in relation to the session, but also in relation to the upcoming separation.

#### **5.2.4 Patient Evaluation**

The patient makes 24 ratings, completing just over 11 of 15 pages of transcript, running out of time for the task. The valence of ratings is 14 positive (2a; 9b; 3c); 6 neutral (d); and 2 negative (2f) suggesting an overall positive experience of the session, although the last two ratings are negative "f" ratings. Given the overall content of the session (see above and below) and the incomplete nature of rating (last part of session not rated), there are still grounds to see the experience as positive, although with some sense of realistic struggle with emotional, relational issues.

The breakdown in the ratings starts with a series of positive ratings in the first 10 minutes of the session: "b-excited"; "b-connected"; "a-lively"; "b-connected"; "b-connected"; "a-elevated"; "b.annoyed"; and "b.lively". This suggests the patient begins in a positive mood, pleased with his progress, as described in his various preparatory and organizational activities. The "b.annoyed" is a paradoxical rating, reflecting involvement in situations requiring assertion in relation to his parents, despite advice to the contrary. This could be consistent with satisfaction, and a sense of aliveness, derived from his capacity to assert, despite annoyance relating to a repetitive, intra-familial dynamic. It conveys a mixed set of affective information that wouldn't be recognized by a third party rater.

The tone then shifts to the neutral "d-sober"; followed by "d-accepting of"; and "d-connected", when the patient is reflecting on family efforts to overcome adversity, and the impact this had on the patient. The mood here is reflective: the descriptor adjectives do not suggest indifference or negativity. Rather, there seems to be a recognition of personal realities that both patient and family have endured, reflected in the comment: *"Yeah.... it was like weathering the storm, we all just battened down the hatches and went to battle stations.... it was about every man for themselves"*. Although the storm weathered was a common reality, it didn't have a unifying effect: rather individuals within the family were left having to fend, *"for themselves"*. The mood lifts when the patient responds to the therapist's comment, *"... a sense of well sort of determination at the moment, to make a go of things"*, with a "b-excited" rating.

The ratings are then in the middle range with "d-accepting of"; followed by "c-absorbing"; "c-engaged in"; "c-humour"; "c-strong" and then "d-sober", followed by the two "d's" that frame the section described previously, where "calling" is realized ("d-sober"; "d-calm").

There is a sense of continuing involvement, and reflection, in this period. The next rating is “b-touched” in response to the therapist’s remark, in relation to the impending break, that *“there seems to be some confidence”*. When the therapist links the patient’s comment about, *“coming out of the haze”*, to *“standing tall”*, the patient makes a further rating of b, “b-proud”. This is followed by the rating of “f-sad”, a definite negative rating, congruent with the content, *“...Because I used to be defenceless.... and I’d be wiped out”*. While there is reference to being “wiped out”, it is accompanied by realization that it could be different now, *“I don’t have to wait to that point where I get wiped out to intervene.”* Hence the rating seems consistent with a reflective state, rather than with being emotionally overcome. Similarly the final patient rating of “f-trepidation” is congruent with the content of a personal decision to move away from the current place of work, with concern about how the employer may react. The subsequent content reflects a belief that this might be negotiable: *“my fears aside, they might be quite happy for me”*. In the passage after this there are references to oceanic metaphors, and necessary separations. There are “ducklings” who, *“go away from the pack, navigate away”*); and there is the use of a clause with a sense of the infinite: *“it’s a vast ocean, there’s room for everyone”*, followed by a sustained silence of about 2 minutes. The sense is of a peaceful moment. When the silence is broken, the patient refers to, *“What’s been helpful lately”*.

Overall the session conveys the sense of someone gaining, in assertiveness, and the establishment of direction. The mood is initially upbeat, becoming more reflective. It is unhurried, with some significant pauses and recapitulation of themes, as the patient indicates a readiness for the impending break, tempered by realistic anxieties about ongoing familial tensions and uncertainties. Initially the positive mood is reflected in the patient making a number of ratings on his speech turn. Overall the patient makes 10 ratings on his own speech turn and 14 on the therapist’s speech turn. In the second half of the session, there is a lifting of hedonic tone on two occasions rated on the therapist’s speech turn, suggesting a response to recognition, by the therapist, of positive attributes in the patient.

Following the standard procedure, a 15 minute interview was recorded following the rating of the transcript. Overall, the procedure was found acceptable, and interesting, to the patient. When asked whether it was similar to a normal session, the patient said, *“no real difference it felt quite natural.... I had a lot going on and I was quite lively.... it felt good”*. The patient responded to a question about any discomfort with the procedure by saying, *“not that I can think of... safe procedure, non-intrusive, so yeah, it’s fine”*. In relation to the process of rating, *“...you get a feel from your own words off the page ....just talking and processing a lot of stuff and towards the end there I was relaxing a bit more and allowing me to be...I felt as I was rating it as well I was relaxing too”*. This suggests that the process did allow re-connection with remembered feeling states. He goes on to say, *“rating it a week later you can see your words, you can see my words (emphasizing ownership), you can notice more, notice what helps, notice what feels right, notice where your feelings go.”* In relation to difficulties using the scale, he says, *“it’s just such a grey area to use a word to attach to a non-verbal sensation or experience....probably goes hand in hand with it – I don’t know if anything can be improved”*. These comments suggest that the patient understands the nature of self-states, and their relation to affect. He compares this process favourably with standardized scales where, *“the therapist sees behind the scenes maybe but the client doesn’t see”*. He then describes how one of the ratings could have been different: *“with this kind of thing it is more*



*like well, I was putting down a “f” but it was when I was sad, so I wasn’t really outraged....I was sure I was in the right region but you know.....could have a “b” in sad*”. This illustrates the complexity of affect rating, and how apparently “negative” affects may be experienced “positively”. The patient indicates he would be willing to undergo the process again, and looks forward to further feedback.

Overall the evidence suggests that there was no marked distress in the session, and that the patient’s experience of both the session, and subsequent rating process, was positive, associated with a sense of therapeutic engagement.

### **5.2.5 Therapist evaluation**

The therapist makes 26 ratings (of the whole transcript), 17 of these ratings being made in the period corresponding to the patient’s (incomplete) rating. The hedonic range of the ratings is largely positive with 23 positive ratings (1a; 9b; 13c); 3 neutral (d) ratings; and no negative ratings. The therapist begins with a “c-engaged in” rating, suggesting involvement. The next rating is not until about 10 minutes in, where a positive rating, “b-touched”, relates to recognition of adversity and vulnerability, reflected in the therapist comment, *“that was a big blow up for the family wasn’t it”*. As the patient elaborates the experience, the therapist remains engaged, rating “c-interested”, then is moved to another positive rating shift, when the patient refers to *“coming out of some sort of haze”*, suggesting self-growth. The therapist rates “b-touched”, followed by a shift back to “c-engaged in”. Ratings remain in this mid-range with “d-accepting of” and “c-interested”, followed by another positive rating shift, in relation to the patient’s use of the metaphor *“strike while the iron’s hot”*, rated “b-excited”.

Ratings continue at the “c” level (“c-amused”; “c-engaged in”), until the emotional high point of the session, with successive ratings of “b-touched” and “a-moved”, as discussed in 5.2.2. There is an oscillation between “c” and “b” ratings covering the latter part of the session, with “c-engaged in”; “b-warmth (reassure)”; “c-engaged in”; “b-touched; “c-engaged in”; “b-amused”; “b-touched”; “c-engaged”. Generally, the therapist ratings of “b” or higher, are made on turns of the patient. However the “b-warmth (reassure)” rating is made on a therapist turn (67), relating to an effort at recognizing difficulties that have been faced, and the sense of efficacy, that seems to be described by the patient in this session. This sequence is interrupted by a “d-accepting” rating, consistent with the patient covering material relating to an ambivalent relationship. There is then a further sequence of three “c” ratings; one “b”; then “c”: “c-engaged in; “c-interested”; “c-engaged in”; “b-surprised”; “c-engaged”. The last “b-surprised” rating relates to the patient’s positive anticipation of breaks when he refers to, *“it would be nice to have Thursdays a bit, a bit more open too”*, suggesting the patient’s reference to confidence about using the session time without anxiety, during a break, is welcome.

The therapist makes more ratings on patient speech turns, making 19 such ratings; and 7 on therapist speech turns. With the exception described in the previous paragraph, “b-warmth (reassure)”, the ratings on therapist speech turns are all “c” ratings (6 “c-engaged” or “c-engaged in”), consistent with the therapist being active in therapeutic engagement. This includes the “Ok” to start the session; and the reference to the next meeting, that draws the session to a close: *“it’ll be more just the follow-up from today”*.

The therapist found the rating procedure reasonable, although recognized that there was a difference between rating after the fact, and the experience at the time. There was a sense the

session had been productive, with elements of mutuality and recognition, and indications of therapeutic progress.

#### **5.2.6 Relation between patient and therapist evaluation**

Of the 24 patient ratings where there was a possibility of synchrony, only 6 were synchronous (25%). In this study, synchrony has been defined as where the rating was made on the same turn, or on consecutive turns, where those turns are brief. Of these 6 ratings, only 2 were also congruent, with congruence defined as within one point on the a-g scale. On turn 36 the patient rates “c” and the therapist rates “d”; and on turns 47-48, both therapist and patient rate “c”. This lack of synchrony is most marked at the beginning of the session where the patient makes 8 ratings (all positive), while the therapist only makes one rating of “c” at the commencement of the session.

The session opens with the patient’s remark, “*good to go?*” Indeed, the patient does seem to be in a positive frame of mind, taking long turns, being pleased to relate various preparations, and the way he has dealt with family members. During this period he makes 4 out of 8 ratings on his speech turn, a higher proportion than in the remainder of the session, where 6 out of 16 ratings are made on his speech turn. The early narrative has a self-possessed quality, with the therapist being an interested, encouraging party to the discourse. The last three quarters of the session, has patient ratings with more varied hedonic range. There is a move towards more equal lengths of speech turn, and evidence, on several occasions, of positive hedonic shifts, in response to therapist contributions to the conversation (see 5.2.4). There is building of the theme, culminating in the exchange which includes use of anaphoric language (particular to this dyad), with the appearance of something “new” in the patient’s experience: the realization of “calling”. This is followed by a reflective mood, with use of language, encompassing the infinite: “*it’s a vast ocean, there’s room for everyone*”. This remark is followed by a shared silence, the second in this session, broken by the patient, who says, “*What’s been helpful lately...*”, suggesting the silence was a comfortable, quasi-meditative period. While some anxiety, and associated fears of being overwhelmed, or dominated, by familial “others”, are evident, these are expressed as background fears, rather than actualities, with recognition that being “*defenceless*” is probably located in the past.

The willingness to talk about experiences of vulnerability, suggests a sense of safety in relationship. The consideration of “fears” indicates a reflective capacity, accompanied by the sense that such fears can be contained. Sexuality is referred to with the sense of gain, in terms of potency and readiness, although coupled with recognition of the need for emotional closeness. There is a sense of space in the session, reflected in one of the closing comments where the patient imagines having “*Thursdays a bit more open too*”. Overall the mood is positive, with increased mutuality and reflection as the session progresses.

#### **5.2.7 ESOs realized in language, and implications for patient’s homeostasis**

The valence is predominantly positive for both patient and therapist, with a sense of social engagement. The early part of the session, with references to preparation and organization, suggests a degree of mobilization, not evident in the earlier session (Pilot 1; 3.11.1.7). However this is talked about, rather than experienced in the session. There are a number of pauses, and two extended periods of silence, suggesting the patient was internally engaged during the session. There are references to fears and stressful events. In the main these are “talked about”, rather than actuated in the session, although there are periods in the second

half of the session where the patient seems to experience mild anxiety as he talks of his fears. The experience of realization, in relation to his “calling”, conveys the sense of new experience, associated with calmness and clarity: it is a realization within the range of social engagement. The use of language and metaphor, carrying a sense of universality, (e.g. *it’s a vast ocean, there’s room for everyone*”), suggests a sense of inclusion in the larger world. Using the operationalized forms of ESO, the patient appears to be experiencing in the range of social and internal engagement (SE; IE); with fleeting periods of insecurity (IS). There are references to more stressed and disturbed conditions, and to increased, purposeful activity. These descriptions would be consistent with external, and internal, mobilization; and states of alienation (EM; IM; AS). There is little evidence of activation of these modes in the session.

#### **5.2.8 Progress in realization of self**

For someone who has struggled with anxiety and difficulties with self-definition, in the face of dominant others in his life, this session reflects a greater sense of self-possession and belief. There is a capacity to share and use relationships collaboratively, evidenced not only by the therapeutic relationship, but also by reported cooperative efforts with others in his network, and decreased reliance on family. While some significant relationships with others remain ambivalent, and fears persist, the recognition of “calling” is significant in this session, consistent with the self-commitment required to realize the patient’s objectives, in relation to love and work. This is achieved, while retaining the capacity to recognize and express vulnerability. This session, in contrast to Pilot 1 (3.11.1), is not marked by self-criticism, or “low self-esteem”. The contrast, between this session and the earlier one, is developed in 5.3.

#### **5.2.9 Physiological Predictions**

There is little sense of disruption in this session. In the main, the patient remains socially engaged, with some evidence of anxiety when talking of longstanding fears, and some recognition of emotion, such as sadness, proportional to content in the session. Although there are 2 “f” ratings, the patient shows no obvious distress at these times, and his comment in feedback, that one could equally well have been rated a “b”, seems to confirm that he remained unperturbed. The expectation, in terms of ESOs, would be that the “smart” vagal system was probably the primary regulator in the session, with the patient remaining in SE (socially engaged) or IE (internally engaged) modes. The rather long silences probably reflect the IE state. In the second half of the session, there may be some periods where expression of fears triggers brief periods of insecurity (IS), where transient reduction in vagal tone might be expected, although these are not sustained, and would probably be difficult to pick up, using available physiological measures. The most likely findings here would relate to evidence that speech turns slow breathing, for the patient, contributing to metabolic regulation. There may also be evidence of resonance, demonstrable in breathing patterns, between patient and therapist. Breathing waveforms, in naturalistic conditions, are complex with contributions from waves of varying frequency, with different generators, contributing to the overall waveform. Complexity is likely to be more marked during conversation. Therefore, resonance between patient and therapist may be more probable during silence. The narrative climax of the session, reflected in the vignette above, is associated with neutral “d” ratings from the patient, although there is a sense here of emotional realization. It would be interesting to see if there is evidence of slowing of breathing in this passage. This could reflect increased vagal tone.

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
<i>Patient</i>	24	<i>a-f</i>	+ve	<i>Internal and relational; sensitivity to other</i>	<i>SE; IE; IS</i>	<i>Occupational; existential</i>	<i>Self and other</i>	6	+	+
Therapist	26	a-d	+ve	engaged	SE	Stays with	Other	6	+	+

Table 5.1: Summary Pilot 1.2

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
<i>Patient</i>	21	<i>a-e</i>	+ve	<i>Internal and relational; sensitivity to other</i>	<i>SE; IE; IS</i>	<i>Relational ; sexual; existential</i>	<i>Self and other</i>	6	+	+
Therapist	21	b-d	+ve	engaged	SE	Stays with	Other	6	+	+

Table 5.2: Summary Pilot 1 (reproduced here from Part 3; 3.11.1, Table 3.4)

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

### 5.3 Pilot 1 and Pilot 1.2: Transformation of the vulnerable self.

Recordings of Pilot 1 (3.11.1) and Pilot 1.2, are the same dyad, 20 months apart. While there are significant differences evident, both sessions were considered, by patient and therapist, to be reasonably representative of the therapy. Hence any shifts need to be understood as occurring over time, and not simply described by these two conversations. It should also be born in mind that in Pilot 1.2 the patient comes into the session with a positive mood, and that mood fluctuations, for any person, are likely to continue to colour interactions, at any given time. The summary data for the two sessions are similar, with the theme in Pilot 1.2 being more occupational, where Pilot 1 had greater focus on relational / sexual themes, although there is overlap between the two sessions. The number of ratings is somewhat higher in Pilot 1.2, and the proportion of synchronous (simultaneous) ratings somewhat lower.

The focus of this discussion is on the ways in which the patient's self is represented, in the two sessions. In Pilot 1 evidence is presented that the primary motif of self is a subjugated, suffering self, often referred to as object; or as the suffering grammatical object, subject to domination, and definition, by others. In Pilot 1.2, while the earlier version of self is remembered, self is consistently presented as an actor among other players, one who can maintain autonomy, and a sense of existence, in the face of challenge. Moreover articulation

of forms of self-world relatedness, using analogical language, suggests a significant capacity for participation in the human world of symbolic exchange.

### 5.3.1 The Self in Pilot 1 (full transcript Appendix 4.1)

As the session begins, the patient refers to some, *“interesting conversations”*, although goes on to illustrate enjoyment in interaction with children of a female friend, indicating these are lively occasions, involving play and connection: *“we play and I tickle and sometimes I tuck them into bed”*. Here the “voice” of self is participatory, not feeling overwhelmed. However this is not so evident when the patient talks of interactions with adults. A relative assumes knowledge about the patient and another person, lacked by the patient: *“You know she’s in love with you don’t you”*; to which the patient responds, *“I tried to say it’s your opinion and tried to get evidence...”*. He puts forward other explanations but is left feeling, *“it’s frustrating and scary if it’s true”*, unable to convince him-self of what is true. While he says, *“I want to be in equal relationship”*, he finds himself constantly uncertain, feeling doomed to positions of mismatch and confusion: *“it’s all grey and that’s my fear”*. Others may only, *“want to be around me just because I’m a piece of arse”*. In this session there are frequent references to “it”, and feeling like an object, both in sexual, and other, senses.

However in a therapeutic sense, he has a capacity to think reflectively about this situation: *“maybe I feel like an object sometimes....you know I thought about the meat hooks in the analogy and maybe I do feel like a piece of meat a lot of the time”*. Here the patient is using a metaphor, originally applied to his relation with parents, *“who would put the meat hooks in”*, referring to being subject to their control. The use in this session shows a different application of the metaphor, to sexuality, with an internalized sense of self-definition. He suffers when he feels this is confirmed by the way he is treated. This re-application, and development of the original metaphor, is an example of a *“moving metaphor”* (Hobson, 1985, pp. 53-61). It is one of three anaphoric referents discussed in Pilot 1 and Pilot 1.2, reflecting ‘language in common’ in the therapy, often used partially, because both therapist and patient share meaning with respect to these referents, that therefore don’t require full elaboration, as they would if introduced for the first time. *“Smooth communication..”* between people requires the development of such *“...mutually known common ground”* (Tomasello, 2010, p. 4).

The patient refers to a relationship, in which he was involved, that had become a focus of discussion in a group. The sense of being at a disadvantage, or subject to others that define his state of mind, or threaten him, is heightened by his use of dramatic metaphors: *“I was accused of being attracted...”*; *“I made the statement I feel like I’m being lynched”*; the leader of the group *“was leading it.... she was trying to expose stuff that I might not be facing”*. He doubts himself: *“I’m being dishonest, and I don’t know”*. As in the earlier example, others claim to know matters (his attraction to a woman), unknown to him: *“And if I’m attracted to her, I don’t know that. So I don’t think I am”*. In these passages the patient, at times, has the courage to challenge how others describe him, but is troubled by uncertainty: *“part of the lynching term for me is that my sexuality then becomes out there and it’s on display for all, and I feel I have to protect it”*. Despite what he says to the group about not feeling attracted, he goes away feeling more uncertain, reflecting, *“I don’t think so”* (implying he may be wrong, and perhaps others know more).

He recognizes part of his confusion relates to dissociation from sexuality: *“It’s just sexuality for me is so detached from me as a person”*. As this theme is elaborated, there is frequent use of the object pronoun, “it”: *“what do I do with it”*; *“hard to get in touch with it by myself, or*

with a partner when it's coming out here, there and everywhere"; "need to figure it out through action", followed by a more specific elaboration within a particular relationship, involving sexual attraction, where after a business lunch, a woman suggests coffee, "*so she's put it out there*". There are references to "*suss(ing) it out*"; "*if it doesn't happen it's cool*"; "*we were both kind of towing it around*", and further uses of "it", in relation to comparisons with other relationships. At the same time the difficulty of these situations, and the risk of rejection, are recognized: "*it's such difficult territory to negotiate*"; "*her saying thanks for the invite but not suggesting anything else: that for me was rejection*". Here the subject matter that could have been taken as "it", referring to 'dissociated sexuality', involves something more like the high stakes of personal relatedness, and the question of being valued as a person. This sense, of much being at stake, is illustrated by the remark, "*I don't want to put it out there and then have her react as if we're only colleagues like I'd be so embarrassed, I'd be mortified*".

The narrative high point of the session is reached (see 3.11.1.2), where the central issue is the **vulnerable self**. The patient is moved when his disclosure of, "*a really bad image of myself, really bad self-esteem*", is met with acceptance and recognition by the therapist, who recognizes the patient's concern: "*you wonder whether you could be loved*". The patient looks at the "*bad parts of myself*", and thinks, "*that's what they see, so why would they want that?*"; "*I'm just a piece of meat that will satisfy their hunger....they like me for what they can get out of me*". The therapist recognizes the vulnerability that is disclosed (evident in the emotional intonation of the patient): "*you get to a pretty vulnerable place with this sometimes*".

The theme shifts subtly, as the patient describes situations of loss, or loss of connection, with people, without sexuality figuring prominently. There is less use of "it", and more reference to particular friends, although with the sense that somehow relationships inevitably leave the patient subject to outcomes involving depression and confusion. There are recollections of subjection to parental definition, where the patient had "*to have a fake birthday with other kids for years... like to get them off her back... she had the power to do that*".

This leads to the sense of holding different views to the family in relation to religion, whilst also being suspicious of the views of a well-known atheist writer, "*..as I'm reading it I'm not quite agreeing with it, I'm not quite seeing the extent of what he's saying..*"; "*I'm scared of defining myself as an atheist*". For the family, however, holding a different position isn't acceptable, and the patient is left on the outer: "*Like they're a whole gang hanging out together like and they couldn't understand that I don't believe it*". Although themes of subjugation, and objectification, are prominent in this session, the patient also shows a capacity to reflect, developing themes in relational and emotional terms. There is a sense of therapeutic progression, with the central focus being recognition of the vulnerable self, representing a key point in a shift from a position of isolated suffering.

### 5.3.2 The Self in Pilot 1.2

The pronoun "I" figures prominently, in the opening passages of Pilot 1.2: "*I've just come from...*"; "*I went there...*"; "*I wrote...*"; "*when I meet with...*"; "*I want to discuss...*"; "*I'm seeing him...if I go into....I want to see him (more)*"; "*I went into...*"; and so on. In these clauses the patient represents himself as an actor, capable of negotiating and interacting with others, with a sense of presence and capability. A number of "doing" words suggest the capacity to be a player in the world, rather than paralysis through anxiety or uncertainty. It is

evident acceptable exchanges are going on: *"He's given me...."*; *"the Institute....contacted me and said.....we want to offer you"*. This contrasts with the opening of Pilot 1, where adult others were seen as holding the patient at a disadvantage, or dominating. The patient seems to have self-belief: *"maybe I can make it all work"*, and gives the example of a purchase which seems to go with a personal re-evaluation, *"I could get something decent, something actually quite nice"*. This same matter (the purchase) is used to illustrate the capacity to say no to familial help, thus resisting subjection to control. More than this, it seems associated with a new model for action: *"I said thanks for the suggestion but I've also got to do that myself.....they tend to come over the top of me, so if I slow down and say appreciate your help and this is the amount I'll accept .....if that's OK...then that's good"*. The therapist recognizes this shift by saying, *"sort of creating space for yourself"*.

This new "model" is elaborated, and contrasted to the old familial model of overextension and collapse, identified in the family's past behaviour, and the patient's, the preceding year. The resolution of the past period, with the family, was costly to the developing self: *"it was like weathering a storm, we all just battened down the hatches and went to battle stations.....survival mode which wasn't about grouping as a family, it was about every man for themselves"*, a position of alienation. The hoped-for resolution in the present, relates more to collaboration with a network of non-familial others, coming together, rather than splitting apart, entailing flexibility, and preparation for an upcoming break in therapy: *"I guess it's also coming in the context of us coming up to a break as well and I guess a sense of well sort of determination at the moment to make a go of things"*. His comment, *"I'm coming out of some sort of haze that I've been in for a while"*, suggests a shift experienced as emergence.

As the session progresses, there is a shift towards metaphoric language, related to psychological themes. The phrase, *"strike while the iron is hot but the striker has to be ready as well.."*, is expressed in universalized language, initially without personal pronouns, and is then elaborated between patient and therapist, with use of images, the patient saying, *"I picture..,"* and, *"it's almost like that you know and you refer to this dream about the weapons and the guns and stuff..."*; the therapist says (earlier), *"the first image that came into my mind..."*. The metaphor involving the "iron" (a weapon), for which one "has to be ready", relates to potency and efficacy, representing a movement in shared images built up over the period of therapy. Current 'readiness' represents a departure from earlier dreams, and stories, of anxiety, in relation to weapons. A common body of language has developed, not only of words, but also images. Shared referents are seen as part of a therapeutic language extending beyond the verbal domain. Sexuality is now owned, as the patient senses potency, in contrast to the sense of dissociated sexuality in Pilot 1, although this is not to say that anxieties in this domain have been completely resolved.

The narrative climax of the session is reached with a further anaphoric reference, to the song *Danny Boy*. The patient, using poetic license, adapts the sense of the lyric that applies to him, presenting it in analogical form: just as the *"hills are calling"*, so he senses the world calling. This exchange with a larger relational "world" allows one *"To find your calling"*, where "your" is being used in its general form. The sense is of a form of discovery, at once personal and universal. This is an example of realization, involving personal instantiation in the current self-state, of knowledge previously held in a general semantic way.

While anxieties are recognized, later in the session, they are expressed in language that allows for the possibility of maintenance of self. The state of trauma is presented in the past tense: *"I*

*used to be defenceless*". The language is conditional, using modal adjuncts: "*they would come over the top and I'd be wiped out but it doesn't have to*". There is emergence of a more poetic, universal tone, and peaceful silence: "*so many oceanic metaphors today....it's a vast ocean there's room for everyone*", in contrast to the "*everyone for themselves*" world, referred to earlier. The therapist makes a passing reference to a phrase used at greater length in Pilot 1, when he says "*some hooks are loosening a bit*", incorporated seamlessly into conversation. There is a recapitulation, now in a context outside family, of the capacity to assert and "say no" in another relationship, with acceptance of associated loss. Loss is recognized in this session, but doesn't seem to evoke the degree of anxiety evident in Pilot 1. Finally, the patient anticipates enjoying his own space, saying, "*it would be nice to have Thursdays a bit more open too*".

### 5.3.3 Recursive Tropes; Semantic Drift

The earlier Pilot 1 session is characterized by a series of topics, or turns in the conversation (tropes), introduced by the patient. Each trope introduces a topic portrayed as the 'horns of a dilemma' where, typically, the influences of others are being weighed in relation to matters of personal concern, such as whether the patient is attracted to a person; or is the object of attraction; or what constitutes the "right" action in response to various situations. There are fifteen such tropes in this session, set out in Appendix 4.2, with a clausal analysis highlighting each trope as having a 3-part structure consisting of, 1) setting the topic and the "two horns" of the dilemma; 2) the dilemma itself; and 3) an equivocation, rather than any resolution. Typically, particularly in the first half of the session, the patient is inclined to find the views of others outweigh any internal judgment he may have. The situation is felt to be "*scary*" and there is great concern in relation to the possibility of being "*wrong*". It is as if there is a lack of internal resource to fall back on, a sense of *aporia*, or inadequacy, in responding to the views expressed by others. The general formulation, by the patient, of the basis of his dilemma in interpersonal exchanges, is "*am I reading the signals wrong?*" (Clause 1021). The possibility of "being wrong" seems to be associated with a degree of paralysis in relation to acting, or bringing about resolution. A frustrating aspect of the situation for the patient is that he finds, despite whatever may have been said by himself and others, situations remain unresolved, suggesting awareness that the resource of language, taken at face value, may be insufficient for resolution of personal dilemmas.

In the first trope, the patient sets out concerns relating to two friends: "*interesting conversations with XXX and YYY*". One of these people, YYY, identifies XXX as being in love with the patient: "*he was saying 'you know she's in love with you right?'*". This highlights the dilemma as to what right action could be for the patient, in this interpersonal context. He recalls past experience, "*there was sexual tension coming from her*" although this was refuted by XXX: "*she said, 'No, there's nothing'*". This leaves the patient in a quandary that is a "*bit scary*". While he attempts to take a position, he finds himself left with uncertainty, making an equivocation, with no resolution of the matter: "*Like I tried to say you know it's your opinion..... and er exactly what we mean by it isn't always clear*".

Generally the other tropes follow this pattern relating to matters of significant concern with failure to resolve situations through action. On one occasion, in Trope 2, there is what might be termed a "pretence of resolution" when the patient states, "*Um, maybe I'd go okay I've put*



down firm boundaries and they know it's clear, I don't want anything from them and if they still want to be good friends with me then that's their choice." However it is clear that this hasn't happened, hence the comment is *irrealis*, relating to imagined possibilities rather than action. Generally the patient is left in a position of doubt and uncertainty, although on one occasion, he is able to note a positive aspect to the experience: *"I mean the benefit is that, is that, we get to do the work when everyone else is hiding it maybe. I mean it's a good thing"*. On another occasion the semantic content reveals internalization of earlier aspects of the therapeutic conversation: *"I've taken your words about, well it's all well and good to think of it in your head and, you know, analyse and hypothesize, but you need to just take action, you need to figure it out through action"* (this is a reference to a conversational exchange that occurred at least 6 months earlier).

In Trope 8 the patient introduces a topic of immediate salience, relating to a woman with whom he senses romantic possibilities. He introduces the topic in terms of "dating", and search for a "middle ground": *"because, I've never dated before and, well not much, and I don't ...obviously there's no rules, but it's such difficult territory to negotiate"*. The topic is introduced with a sense of anxiety about its difficulty. The dilemma is given ideational definition, *"So I don't know the middle ground... I'm going to date and see what it's like to be in the middle ground .... and I don't want to be the guy who has three dates in one night, but I don't want to be the guy who dives into relationships either"*. However there seems little prospect of resolution: *"So but again you know it screws with my control issues this whole, this whole um unsure, you know unsure if she likes me....um but yeah I mean it screws with my mind because I don't know about this stuff"*. While he gives examples of reading cues as rejection (e.g. *"I'm reading that as I'm not free for you"*), he is able to give further ideational definition to his position through a clear statement of his feelings, *"I'm attracted to her, she's been in my mind, I'm not totally sure about where I, what I want from it, but I know I want a date"*. The therapist is able to recognize this while also drawing attention to what is absent (action): *"So that's part of it, isn't it... .. um whether that's okay to do that, to act on that"*. The patient outlines the nature of his dilemma in relation to the "mortifying" possibility of wrongness, suggesting powerful inhibiting affects: *"But I mean I don't want to put it out there and then have her react as if oh god we're only colleagues, like I'd be so embarrassed, I'd be mortified that I took her cues wrongly"*. This leads the therapist to suggest that this seems to suggest an importance beyond 'simple' rejection: *"It's a little bit different isn't it from, I mean you mentioned rejection a little while ago as well but this sort of thing and, just having it completely wrong, is you know a bit different"*. While this does not lead to resolution of the dilemma, there is a shift of topic, with movement to Trope 9, elsewhere (3.11.1; 5.3.1; 6.3.2) considered "narrative climax" of the session.

Therapeutically this relates to the disclosure and recognition of the "vulnerable self". Rather than try to reassure the patient, the therapist comments, *"you wonder whether you could be loved"*. In contrast, others have tried to challenge the patient's acknowledgment of *"a really bad image of myself, really bad self-esteem"*: *"Because I was saying some of this to YYY, I was able to actually say it and I had to sit with it when he was saying no it's not the case"*. The acceptance and acknowledgment of the vulnerable self by another (the therapist here) may be an important step in the patient being able to care for himself, and reflect upon experience.

While there are no examples of tropes that are associated with resolution of the “topic at hand”, there is an example of what might be termed a “micro-resolution” within the therapeutic relationship. This would be consistent with the idea that dynamic interactions *between* people need to occur, before the individual’s capacity to resolve interpersonal situations can be established reliably. In Trope 14 the patient introduces the topic of an old, unresolved grievance with his family of origin. He is critical of the family’s use of deception: *“And other fantasy stuff like enrolling as a different birthday in preschool and me having to have a fake birthday with other kids for years”*. The therapist tentatively checks his apprehension of the matter, *“I think, somewhere along the lines that that would help you get into school or something”*. However the patient is able to correct this impression and make what is the key point for him: *“um yeah I don’t think it was to do with school, I think it was um so mum could work more”*. This indicates mother was acting on her own agenda, and, in a sense, *overruling his agenda*. This is an exemplar of the reality expressed in this session, of low confidence in the face of strongly expressed positions from others, and hence difficulty in acting towards resolution of interpersonal conflicts and desires. At this point the patient is clear and articulate about *his* position. For the therapist this enhances understanding and the sense of “togetherness” with the patient. On a small scale it is an example of “something actually happening”, in reality, as opposed to the examples of ‘paralysis’ through lack of internal clarity and confidence.

The situation is in contrast to the session 20 months later, Pilot 1.2 (see also transcript A4.3; discussion, 5.3.2; 6.3.2). Here, the introduced tropes are characterized by collaborative engagement with others and preparatory actions, often involving others outside the family of origin. In interaction with family, action is described in terms of politely refusing intervention from family, for example, in relation to a significant purchase. The lack of internal “space”, reflected in Pilot 1 by fears of “being wrong”, and “not knowing the middle ground”, seems supplanted by relative ease in relation to friends and colleagues. A new approach to the interpersonal sphere is captured in the patient’s comment: *“they tend to come over the top of me, so if I slow down... that’s good”*, where “they” are his parents. It is as if he can now remain “present” even when there is a threat of domination. This leads the therapist to comment that the patient is *“sort of creating a space for yourself”*. There is also actually more “space” in the therapeutic exchange: there are more silences, and more than twenty fewer conversational turns in the session, relative to Pilot 1. The three part structure of tropes in Pilot 1 has changed, with resolution instead of equivocation following the introduction and exposition of topics. The session culminates in the realization of *“calling”*, consistent with a person now sensing himself as someone who “can do” and can organize, in relation to others. What was, in Pilot 1, a gradual semantic drift towards a more definite and actuated position, now seems consolidated in a person with connections and an effective voice. Rather than being at the mercy of others, he is becoming a player in a world that is ‘calling’ to him.

#### **5.3.4 The Emergence of Self**

Both sessions, Pilot 1 and Pilot 1.2 demonstrate a reasonably clear narrative form, with development of themes, narrative climax, and recapitulation of themes, as the session ends. The language, with anaphoric referents, is demonstrably part of a larger conversation. The earlier session refers to a self subject to domination by others, and to states of alienation and the experience of feeling like an “object”, accompanied by frequent use of “it”, in reference to

self-experience. While, in this sense, “object consciousness” (Meares, 1999; Jackson, 1867) figures more prominently here, there is also an evident struggle to challenge processes of domination. This implies an actively striving subject (“I”), an aspect of the “becoming” of self that has been described philosophically (Hegel, 1807); and in relation to the psychoanalysis of normal development, the so-called “forward edge” transference (Tolpin, 2002).

The description of “feeling ganged up on”, in Pilot 1, taken with the experience of “defencelessness” referred to in Pilot 1.2, illustrate a point about trauma: when the person, especially the young person, feels that external forces, in the form of significant others, are united against his or her position, there can be loss of the sense of agency. In the second session the greater use of an “I” form signifying “self as agent” (MacMurray, 1961); and the realization of personal experience, using linguistic forms that are symbolic, infinite in tense, and simultaneously personal and universal, suggest a move towards a more coherent and confident self. In this session, the notion of a more self-aware “subject consciousness” (Meares, 1999; Jackson, 1958), is foregrounded.

Both subject, and object, consciousness could be considered, in a dynamic sense, “moments” of self, remembering that self is a whole. These moments are initially outside conscious awareness. They are not “things” of which one can ever be completely aware. They are “always present” in self, reflecting self’s dependence on grammatical structure: ‘self’ can be an object of attention, but is also always present as subject in relation to experience. This grammatical structure is not completely dependent upon verbal language: the infant is an object and a subject in interpersonal, communicative exchange.

However, *development* of self does depend upon language and its elaboration. The grammar of subject, object, and verbs describing process, allows differentiation. In this sense language is different from mathematics. A “verbal equation” is not equivalent to a mathematical equation, because there is differentiation implied by occupying the position of subject or object. If one considers this in relation to the two pronouns that have been highlighted in Pilot 1 and Pilot 1.2, one could state two verbal equations, “it is it”, and “I am I”. In both cases the general sense of the clause would be that one side of the verb (subject, say) would refer to the “general case”, while the other side (object, say) would refer to the particular case. Understood in this way, we can see that the declaration of “I-ness” with respect to oneself would refer to something beyond the bare “I” or “me” of subject and object. This can be seen as “myself”, the area of personal growth, capable, under therapeutic conditions, of continued development throughout life (Meares, 2000, pp., 8-14). Self is manifest in conversation, and the expansion of that conversation through the medium of symbolic (language) exchange, constitutes therapy (Henderson-Brooks, 2006, p. 2). One marker of progress will be the shift towards narrative form, integrating autobiographical memory, rather than the more constricted forms of *chronicle* and *script*, seen when traumatic consciousness limits expression (Meares, 1998, pp. 875-891; Henderson-Brooks, 2006, p. 42; Meares, 2005, pp. 88-90).

A passive experience of object consciousness occurs when we experience life “happening to us” (one is “object” of others’ actions), often associated with the sense of external forces and others controlling experience. While becoming a ‘doer’ helps the individual’s sense of agency, providing a more “owned” form of object consciousness, subject consciousness is an aspect of a larger process of self, beyond specific states of consciousness: “*Consciousness in its intentional, or object, mode is not self itself, but a revealing of self*” (Meares, 2012, pp. 89-

90: citing Jackson, 1958). The revealing of self may be more important therapeutically than the identification of specific states.

Hence the therapist, in Pilot 1, empathizes with the struggle of the vulnerable self to be recognized. In Pilot 1.2 growth in self is evident, having occurred whilst maintaining recognition of vulnerability, rather than denying it. In this thesis, core vulnerability, represented paradigmatically by the infant's cry, and affective expression, is seen as indicative of personal value, within an embodied value system that persists throughout life. Processes of resonance and relatedness are as important as objective definition, generating 'cohesive harmony', as opposed to fragmentation or alienation (Butt et al, 2010). In the early part of Pilot 1.2 alienation is remembered, as "*everyone for themselves*", in contrast to the harmonic character, later, of, "*it's a vast ocean, there's room for everyone*".

These considerations, in relation to "I", "it", and "self" will be discussed further, in the light of previous usage in psychotherapeutic literature, in 5.6.

#### 5.4 Control 5: partial transcript

The first page of this transcript is given below, with full transcript in Appendix 5. The transcript is of a dyad, given roles of "interviewer" and "interviewee": the interviewer is "INT", and the interviewee is "SUB". The interviewer was instructed to inquire about the other's occupational and life history, without attempting to challenge, or push the interviewee beyond what is comfortable for them. Names are de-identified.

INT     *Hello [name].*

SUB        *Hello [name].*

INT        *Right, it's nice to see you today.*

SUB        *Yes?*

INT        *Yes and I'd suddenly like to get to know a little bit about you. (Hm) And I guess I already am aware that you're a psychologist and I wonder how you feel about your work nowadays?*

SUB        *Mmm. Well I really enjoy what I do (Uh-huh) and I think I've been lucky to create where I am now in my work.*

INT        *Hm. Hm.*

SUB        *I sort of have been able to do pretty much everything that I think I wanted to do in my career. Really in many ways, yeah, so I feel very satisfied.*

INT        *So - right, you consider yourself lucky?*

SUB        *Pretty much.*

INT        *Pretty much? Okay, okay.*

SUB        *Yeah.*

INT        *Right. So it sounds like the work kind of gives you a lot of meaning?*

SUB        *Yeah it does (Hm-mm) it does, (Hm-mm) yes.*

INT        *Right. And you've got future plans I gather?*

SUB        *Well um, I, I guess I see myself as continuing with the current balance of things probably being as they are at least for another couple of years, I'm not sure beyond that. (Hm-mm). I guess one of the things that's interesting too about my time, at the moment, (Hm-mm) is I wonder sometimes if I'm saying no to things (Hm-mm) that in the past I would've done prematurely.*

SUB        *Because sometimes I think, like the other night I was marking theses (Yes) and my husband came in and said, "Gee I hope that's the last theses you'll ever mark!" and I was thinking well it could be the last theses that I ever mark, I don't really have to do this anymore, I could just*

*say no. And then I go through this thing of, you know am I saying no to things that might be hard to say yes to again or kind of thinking about later life sort of issues in your career you know? (Yes). And you begin to say no and hand things over to younger colleagues or whatever.*

#### 5.4.1 Vignette

- SUB* .....there was other things that happened as always happens, was a fire in our home.
- INT* Oh gosh.
- SUB* *Hm. Which kind of meant I didn't really work on my PhD possibly for as long as maybe a year, because we were out of our home for four months and then this coincided with both the children going overseas – ( name) going to the orphanage and (name) going to study in Bologna.*
- SUB* *So all of these things kind of had to be attended to and I felt like, (name) left in such traumatic circumstances because during that four months we lived in seven different houses, and didn't have access to our possessions for much of that time.*
- INT* *Must have been a very hard time.*
- SUB* *It was unbelievably difficult, but it was difficult for him because he just wanted to have his things so he could pack up to go overseas. So I think we moved back to our home something like two days before Christmas and he had to leave about the 20<sup>th</sup> of January. And we went to visit them I suppose as a kind of way of cheering ourselves up after all this tough time. So that was an unexpected turn of events.*
- INT* *Yes, yes surely you just don't expect something like that to happen, but sounds like you gave yourselves a treat afterwards.*
- SUB* *Yeah, yeah.*
- INT* *And in some ways recovered from it.*
- SUB* *Yeah and I think it's pretty much, it's kind of, it's gone now because for a long, long time – well we still have possessions in boxes because our entire world became probably this room full of boxes.*

#### 5.4.2 Formulation using self-state data

This exchange occurs over about 2 minutes, and is relatively interactive. It marks the high point in terms of the interviewee's ratings of hedonic tone, with a rating of "a-moved" corresponding to the interviewer's comment, "Yes, yes surely you just don't expect something like that to happen, but sounds like you gave yourselves a treat afterwards". During this period the interviewer makes 4 ratings: the two made closest to the interviewee rating, are both "c-affected by", suggesting a sense of affective connection. Recognition the interviewee had not only survived, but, with the family, "gave yourselves a treat afterwards", may have conveyed the sense of self, and family, being valued, contributing to the positive rating by the interviewee. The content is arguably the most dramatic of the interview, and hence could be considered a narrative climax. However the form of this conversation is of a number of matters taken up, with subsequent moving on to other topics. There are a number of stories told, all of which contribute to broadening of knowledge about the interviewee.

#### 5.4.3 Structure of session; theme; development; resolution/recapitulation

The interviewer initiates conversation, framing the task as "getting to know" the interviewee. Periodically the conversation is structured by the interviewer, with prompting questions. The interviewee speaks fluently, recounting a number of personal stories in an engaging way, without becoming distressed at any point. Initially the interviewee expresses satisfaction with her working life, the starting point of the interview: "I sort have been able to do pretty much everything that I think I wanted to do in my career....I feel very satisfied". As an illustration of satisfaction, associated with a lessening of career ambition, there are several references to

pleasure that *“I’m saying no to things that in the past I would’ve done”*. This theme of “feeling satisfied”, and recounting illustrative stories of achievement; coping with adversity; familial background; and current interests, gives an overall sense that the interviewee is not seeking to develop themes, or to explore new territory, but rather to share personal knowledge. Themes introduced by the interviewer are taken up successively: work and study; family background; choice of career; hobbies; adult life; life after completion of higher studies; “pet subjects”; and interest in culture. These are responded to openly, with stories that carry personal significance, including periods of challenge, adversity, and “culture shock”. The sense of being pleased with the current balance is reiterated, in a sense recapitulating the initial portrayal. The interviewer takes responsibility for closure, with a polite announcement (following a prompt from the researcher), of the need to end.

#### **5.4.4 Interviewee Evaluation**

The interviewee makes 11 ratings, a relatively small number of ratings in this study. There are some long gaps between ratings, the longest 12 minutes. The ratings are all in the positive hedonic range with 1a; 3b; and 7c ratings. All are given word descriptors: “a-moved”; “b-surprised”; “b-touched” x 2; “c-engaged” x 2; “c-affected by” x 2; and 3 “c-interested”. The positive hedonic range, and descriptors used, all suggest the interview was comfortable for the interviewee, and that there was reasonable engagement, without disruption or distress. All ratings are made on the speech turns of the interviewer, suggesting attentiveness, and affective responsiveness to, the interviewer.

The interviewee is articulate, giving answers that assert her position, with illustrations in the form of stories of personal significance. In the first five minutes, while the interaction is being established, the interviewee uses “I” in association with verbs, indicating a sense of stability, satisfaction and self-confidence, as in *“I really enjoy what I do”*; *“I have been able to do ....everything.... I wanted”*; *“I feel very satisfied”*; *“I see myself as continuing with the current balance”*; *“I could just say no”*; and *“I actually like saying no”*. The position taken, while showing self-confidence, does not convey any pressing need for action. There tend to be intransitive statements, reflecting states that “are as they are”. Even the capacity to “say no”, presented as a new (-ish) development, and reiterated a few times, is spoken of as a new state of affairs, now established, rather than the subject of doubt. The interviewee is able to speak with warmth about past memories, and significant others (e.g. grandmother), presenting a positive view of relationships, both in her family of origin, and the family established with her partner. Although traumatic events (e.g. the fire) are presented, they are described as challenges overcome, through which growth has occurred. While the possibility of change is foreshadowed as the patient gets older, there is a sense this will be done in the time and manner of her choosing.

While the majority of the ratings are “c”, consistent with interest, engagement and responsiveness (“engaged in”; “interested”; “affected by”), there are four occasions when there is a positive shift towards “b” or “a”. The first of these is “b surprised” which occurs when the interviewer says, *“Oh right and you’re happy about that I gather”*. This follows the interviewee’s second reference to “saying no”, and could be consistent with feeling the interviewer has offered unexpected support for her position. This is followed, about 4 minutes later, by “b-touched”, corresponding to the interviewer’s recognition of her fondness for her town of origin, as the interviewer says, *“correct me if I’m wrong, but a sense of you know, I wish I didn’t have to leave kind of thing”*. About halfway into the interview there is another positive shift to “b-touched”, when the interviewer recognizes the process of children leaving home might be experienced positively, *“It sounds quite nice after your mothering days are*

*over that you can kind of sit back and you know look after yourself and hear from them".* The final shift is that discussed in the vignette, "a-moved", occurring about two thirds of the way into the conversation. Here the sense of recognition might be heightened by the overcoming of adversity (the fire), *"yes surely you don't expect something like that to happen, but sounds like you gave yourself a treat afterwards"*.

The interviewee seems happy to speak and takes about 80 per cent of the speaking time with a number of long turns, including four speech turns of over 2 minutes. The longer speech turns occur in the last third of the session, suggesting a process of "warming to the task". In giving feedback about the experience of doing the interview, and subsequent rating, the interviewee said that she found it, *"positive, uplifting, interesting"*, and that she had the *"experience of being listened to very carefully"*. She didn't have any difficulty with the procedure, and found the rating process *"surprising"*, while commenting, *"I sometimes felt afterwards (words that) fitted my experience better"*. She was more comfortable with the sliding a-g scale. She appreciated the experience because, *"experiences of being listened to closely and being the focus of a conversation are rare in day to day interactions"*.

#### **5.4.5 Interviewer evaluation**

The interviewer makes 54 ratings, quite a high number, relatively, in this study. Of these, 38 indicate a hedonic shift on the a-g scale. All ratings are made with both letters and word descriptors (except for 1 "b" rating), with hedonic range of a-f (2 "a-moved"; 1 "a-accepting"; 4 "b-touched"; (1 "b"); 19 "c-interested"; 5 "c-engaged"; 4 "c-affected by"; 3 "d-unaffected by"; 7 "d-accepting"; 2 "e-disinterested"; 4 "e-unengaged"; 1 "f-annoyed"; 1 "f-irritated". Overall the majority of ratings are in positive hedonic range, with 35 ratings between a-c; 10 neutral d ratings; and 8 ratings in the negative hedonic range, e-f. The majority of negative ratings are in the second half of the interview (5 out of 8), while the most positive ratings (a-b) are in the first half (all 7 rated in "a-b" range). The interviewer makes 33 ratings on her speech turn, and 21 on the interviewee speech turns. However, given the interviewer's comments tend to be brief, many of these ratings would have been responses to the interviewee's expression.

There was a tendency for the interviewer to become less engaged (reflected in "e" ratings), when the interviewee related stories of people she knew, rather than matters in which she had been directly involved. "F" ratings occurred consecutively, in the last part of the session, possibly relating to a sense of disagreement about points raised, although these are followed by two "c" ratings, suggesting there was no prolonged discomfort. The two "a" ratings were in the first third of the conversation. All three "a" ratings, "a-moved" x 2; and "a-accepting", seemed to be empathic responses, to the interviewee's experience of being an only child, who found it difficult adjusting after leaving a small town for the city.

The interviewer's comments on the experience of the interview, and subsequent rating process were mixed. She felt the interviewee had an, *"upbeat tempo which automatically became part of my way of relating to her"*, and that this meant *"I did not feel awkward or uncomfortable at all, because the subject dictated what was going to be explored"*. She wasn't willing to do the procedure again, although the main reason given was that she felt there was too much of a connection with the interviewee (they had a work relation). This reflects a problem with subject selection, rather than the procedure. With regard to the rating process, she reported: *"It was useful going through the transcript of the session"*; *"it brought back my reactions in the actual interview"*; and *"the rating scale is useful"*, although she also

commented that, for her, there hadn't been any experience of strong affect, and that, therefore, the last letter, "g", seemed irrelevant in this interview. She found the sliding a-g scale, "*rather easy to use*".

#### **5.4.6 Relation between interviewee and interviewer evaluation**

The interviewer frames the conversation by initiating, prompting and closing the interview. The interviewee is responsive and articulate, apparently warming to the interview as it proceeds. The interviewer commented that, the "*subject (interviewee) dictates how the interviewer interacts....in some cases making it difficult for the interviewer to move a little more freely*". This comment is consistent with the interview being a vehicle for the expression of the interviewee's *self*, not that of the interviewer, an analogous situation to the therapist-patient dyad. While this may not always be the case in interviews, it often is. Given the high frequency of interviewer ratings, and low number of patient ratings, it would be expected that there would be a significant proportion of synchronous (simultaneous) ratings. Of the 11 opportunities for synchronous rating, there were 6 ratings either on the same speech turn, or on consecutive (brief) turns. Of these, 4 were congruent in terms of hedonic rating (all simultaneous "c" ratings). The other two synchronous, albeit incongruent, ratings were "e-unengaged" by interviewer, linked to "b-touched" for interviewee; and "d-accepting" by interviewer, linked to "b-touched" for interviewee. The first of these incongruent coincidences suggested communicative connection and engagement was retained by the interviewee, even during a moment when the interviewer may have been temporarily distanced, or disengaged. Similarly, although self-state rating at one stage shows some annoyance in the interviewer (2 consecutive 'f' ratings); the interviewee's state remains in the "c" range, without apparent disruption to her expressive flow. This is perhaps an illustration of the "private" nature of self; not necessarily evident to the other. Some of this private information is added when CSERS is employed.

Overall there is a strong sense of flow in the interview. The transcript was one of the longer ones in this study. The available time in the session was largely filled with talk: there were few pauses, and no sustained silences. This is in contrast to some of the therapy sessions. This may have been influenced by the demand nature of the task: where subjects are asked to do an interview, they may feel a responsibility to talk. The sense, in terms of the content of the conversation, is that the interviewee is expressing matters about which she is comfortable. There is no sense of a struggle to explore or understand conflicted areas of experience, as would be expected in therapy.

#### **5.4.7 ESOs realized in language and implications for homeostasis**

The content of the interview includes matters involving adversity; dislocation; culture shock; and loss, i.e. there is allusion to material with significant emotional content. However the interviewee's hedonic range is consistently positive, with no sense of being overwhelmed or unduly anxious at any point. The "b-surprised" rating could be indicative of a slight orientation response to something unexpected, with the "b" rating suggesting a "pleasant surprise". ESO's alluded to include struggle with adversity, determination, and going forth into unknown territories (all heroic motifs requiring internal or external mobilization, and perhaps internal engagement). They also include stories of emotional connection with family, processes of development, and social change, relating to life stage (all reflecting social engagement). The interviewer experienced some transient loss of engagement, and a brief reaction of annoyance, although it is clear in subsequent feedback this was not felt to be of



significant intensity. In the main the interviewer is responsive and engaged, and feels comfortable with the situation. Given the fluency of the interview, and range of subject material, the predominant mode in this interview would be one of social engagement (SE), with other ESOs (IM; EM; IE; IS) being referred to, but not experienced. The comment by the interviewee, about feeling she was, “*listened to very carefully*”, reinforces the sense of social engagement, and also the significance of such attention in conversation, “*rare in day to day interactions*”.

#### 5.4.8 Progress in realizing self

The interviewee seems to have a sense of agency in her life, relating autobiographical material in a coherent way. In interview situations, people probably have a bias towards presenting positively. In this case, the presentation is certainly positive, although with a range suggesting genuineness.

#### 5.4.9 Physiological Predictions

It was expected this conversation would remain in the range of social engagement, with vagal regulation predominant. There is little evidence of anxiety or disruption. Shifts in the interviewee, from “c” to “a” or “b”, could possibly be associated with greater vagal influence, with slowing of breathing, and heart rate (greater HRV). However these shifts are brief, and of small magnitude, unlikely to be detectable with the data recording methods used in this study. The lack of pauses, or sustained silence, may mean fewer opportunities for breathing synchrony, as this is less likely when one person is speaking, and one listening. The longer speech turns of the interviewee are expected to be associated with relative slowing of respiratory rate. The brief turns of the interviewer may make this phenomenon more difficult to demonstrate, in her case.

	Ratings	Range	Dom.Val.	Rel. Char.	ESO	Theme	Focus	S.R.	Progress	Acceptability
Interview-ee	11	a-c	+ve	Internal coherence; social engagement	SE	Occupation; social relations; personal development	Self	6	n/a	+
Interview-er	54	a-f	+ve	engaged	SE	Stays with	Other	6	n/a	+/-

Table 5.3: Summary Control 5

Dom. Val. = Dominant (hedonic) Valence; Rel. Char. = Relational Characteristics; ESO = Embodied Symbolic Orders; S.R. = Simultaneous Ratings

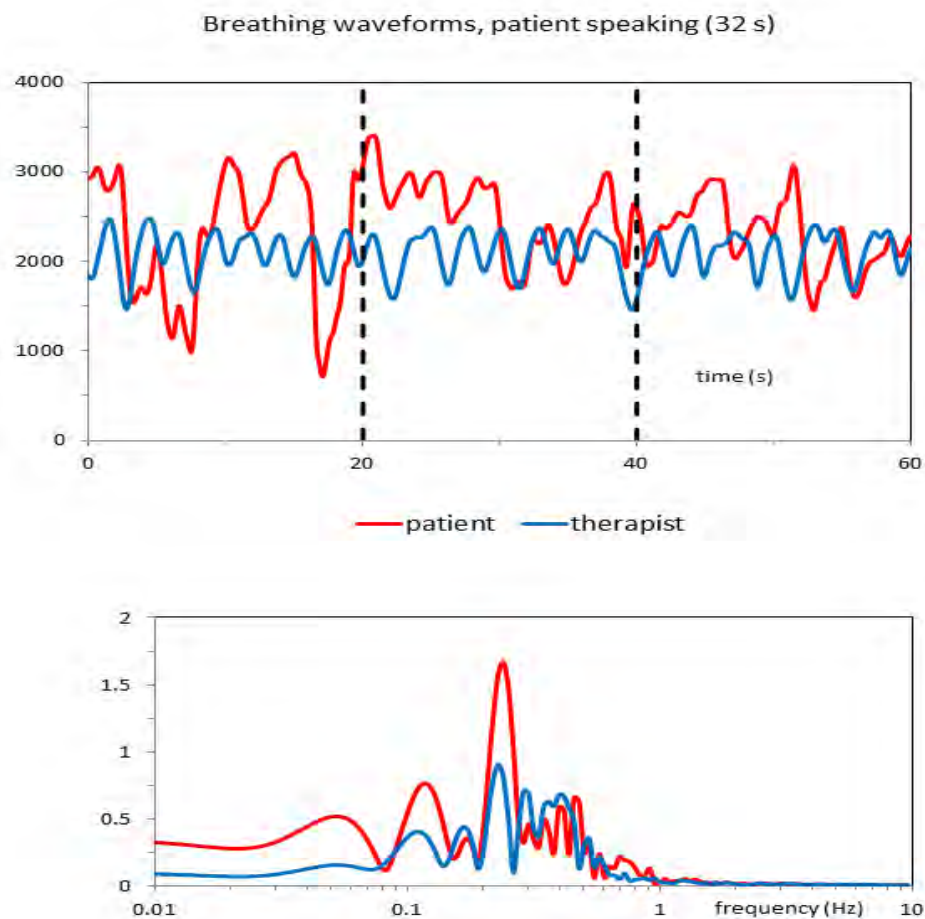
### 5.5 Comparison of Control 5 and Pilot 1.2

In both dyads, there is a coherent, expressive voice (of the patient in Pilot 1.2; interviewee in Control 5). The language of the patient in Pilot 1.2 employs more metaphor, and is exploratory, while in Control 5 there are more stories from the person’s past and present, that are self-contained. Another difference is that there are more pauses, and sustained silences, in Pilot 1.2. The use of “I” in Pilot 1.2, has more dynamic reflection involving self; compared to Control 5, where there is the sense of a stable and (relatively) unchanging self. In Pilot 1.2

there is greater use of transitive clauses, implying processes of change; while in Control 5 there is more use of intransitive clauses describing, or asserting, “states of affairs”, with less emphasis on change.

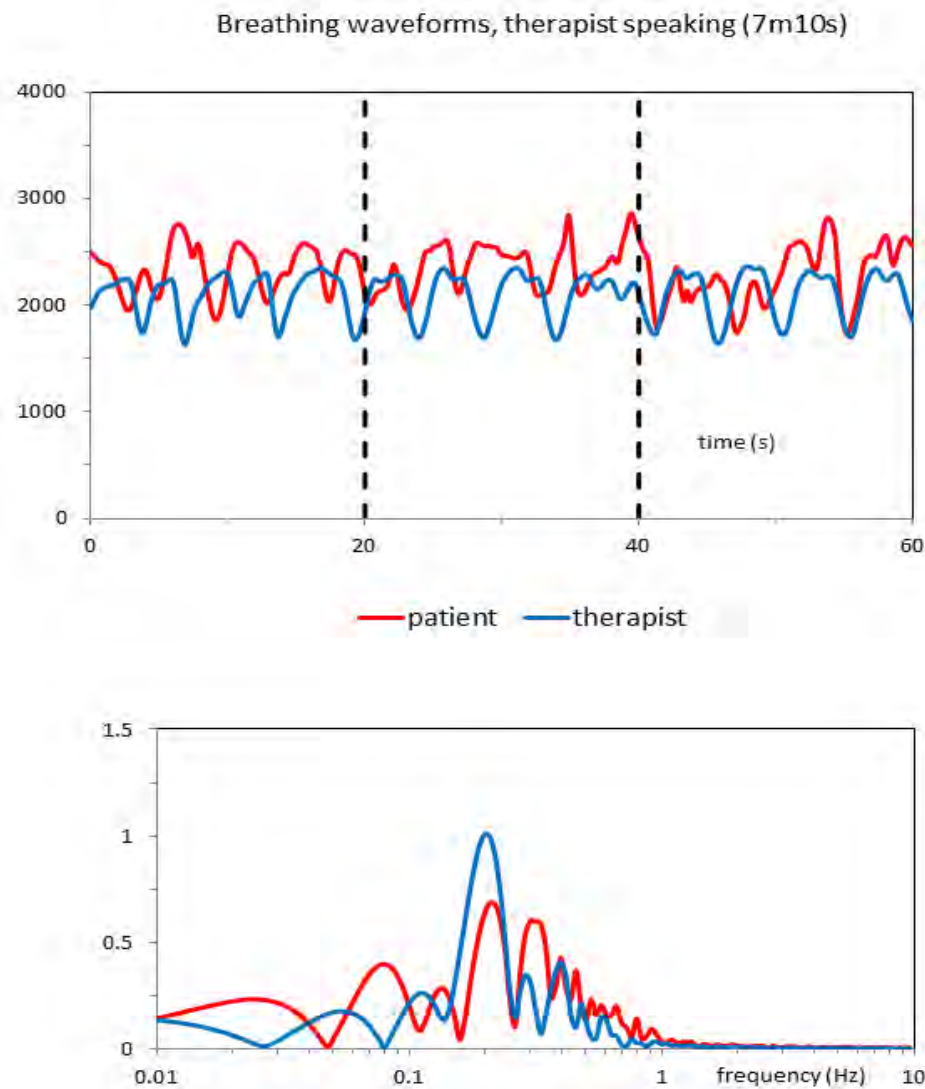
### 5.5.1 Physiological Data (relating to predictions)

In contrast to Part 2, where experimental data in the main relate to controlled conditions, data in this section were collected under conditions of uncontrolled, spontaneous conversation, in both therapy and interview contexts. In Figures 5.1, 5.2, and 5.3 there is demonstration of relatively slow breathing on the part of the speaker (whether patient or therapist). Comparison of Figs 5.2 and 5.3 shows transition back to slower breathing, by the patient, when resuming the role as speaker. The breathing rates of the listener remain in a moderate range (less than 20 bpm), consistent with maintenance of the social engagement mode.

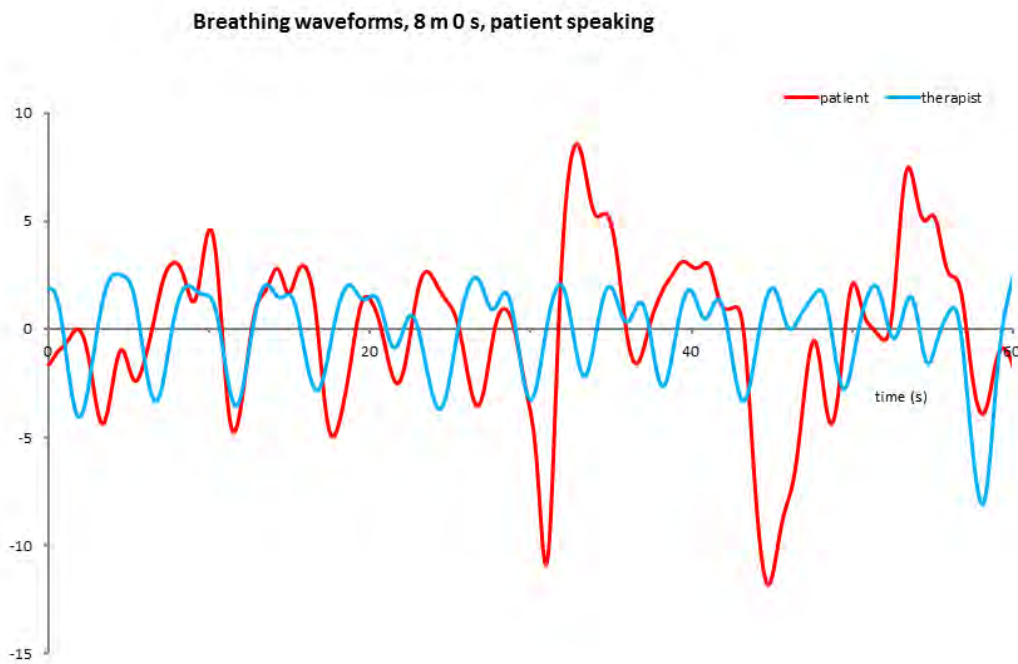


**Fig. 5.1** Patient speaking turn illustrating slower breathing of speaker (10 bpm) vs listener (19 bpm). Note period of synchrony reflected in dominant frequency peaks in the marked area (between dotted lines). Note also wide spread of frequencies, consistent with complex waveforms, with multiple generators.

There are also segments (between the dotted lines) where frequency analysis (the lower graphs in Figs 5.1; 5.2) demonstrates resonant frequencies, consistent with a degree of breathing synchrony. The complex frequency characteristics of these lower graphs are consistent with complex waveforms with multiple generators, as is often found in living systems.

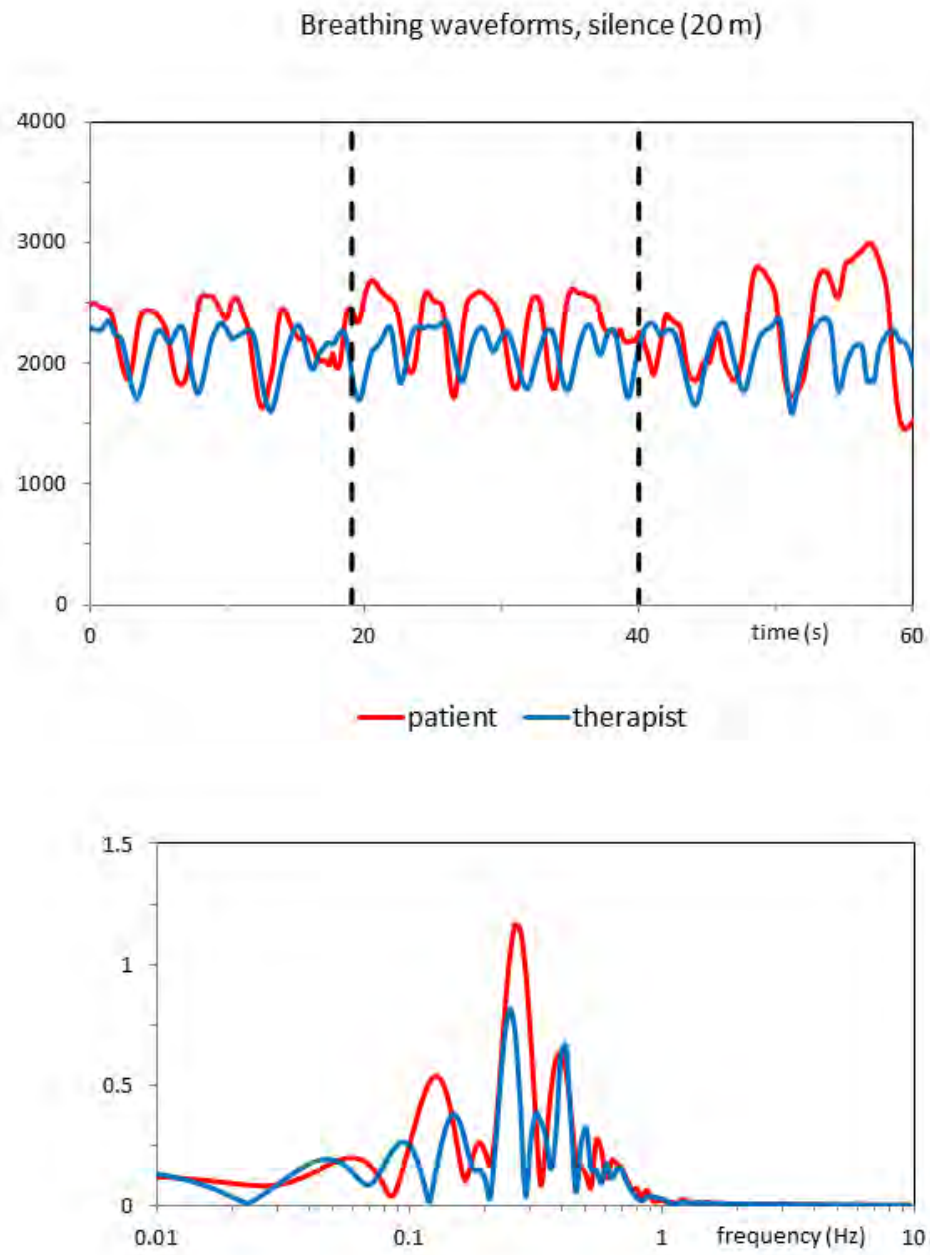


**Fig. 5.2** Therapist speaking turn illustrating slower breathing of speaker (13 bpm) relative to listening condition (for therapist illustrated in Fig. 1). The patient, now in the role of listener, has a slightly faster breathing rate compared to the therapist in this sample (14-15 bpm), although this represents a quickening relative to the speaking condition of the patient in Fig. 1 (10 bpm). A degree of synchrony is evident in the resonant peaks in a complex breathing waveform, defined by the area between the dotted lines.

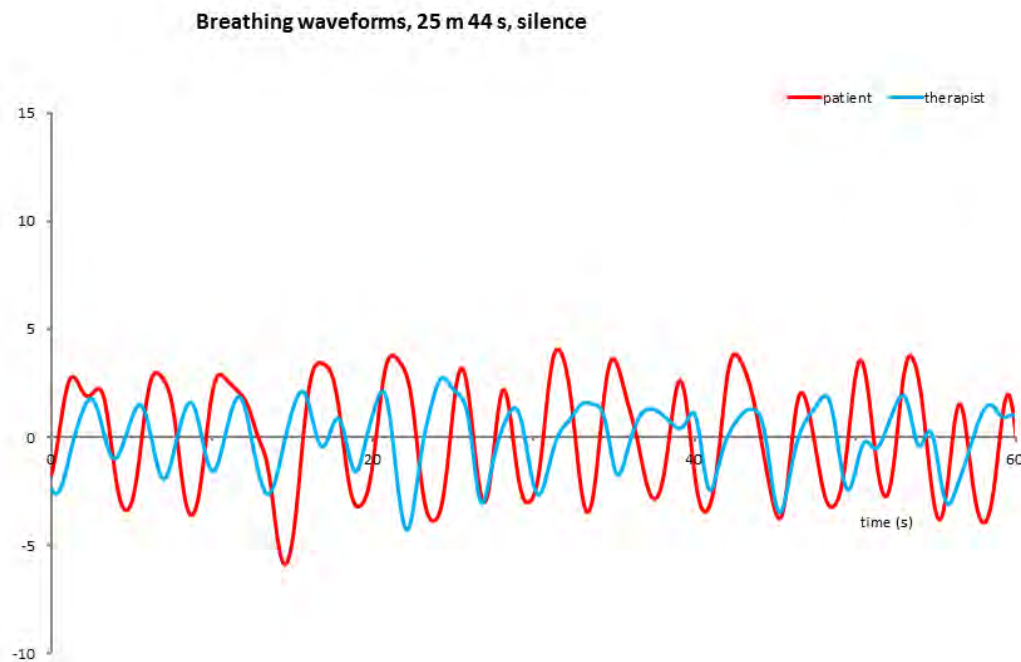


**Fig. 5.3** Patient speaking turn showing reversion to slower breathing (10 bpm).

Figures 5.4, 5.5, and 5.9 were taken during periods of silence during the therapy session. In 5.4 there is demonstration of a degree of resonance, reflected in a shared dominant peak in the frequency analysis (lower graph), relating to the segment between the dotted lines. In Figures 5.5 there is a similar respiratory rate for both therapist and patient, consistent with a degree of synchrony in breathing pattern. In 5.5 and 5.9 there is a similarity in the amplitude of breathing cycles, not always evident during the speaking parts of the session (e.g. 5.3; 5.6; 5.7; 5.8). Breathing waveforms, as demonstrated in 5.4, remain complex, even in silence.

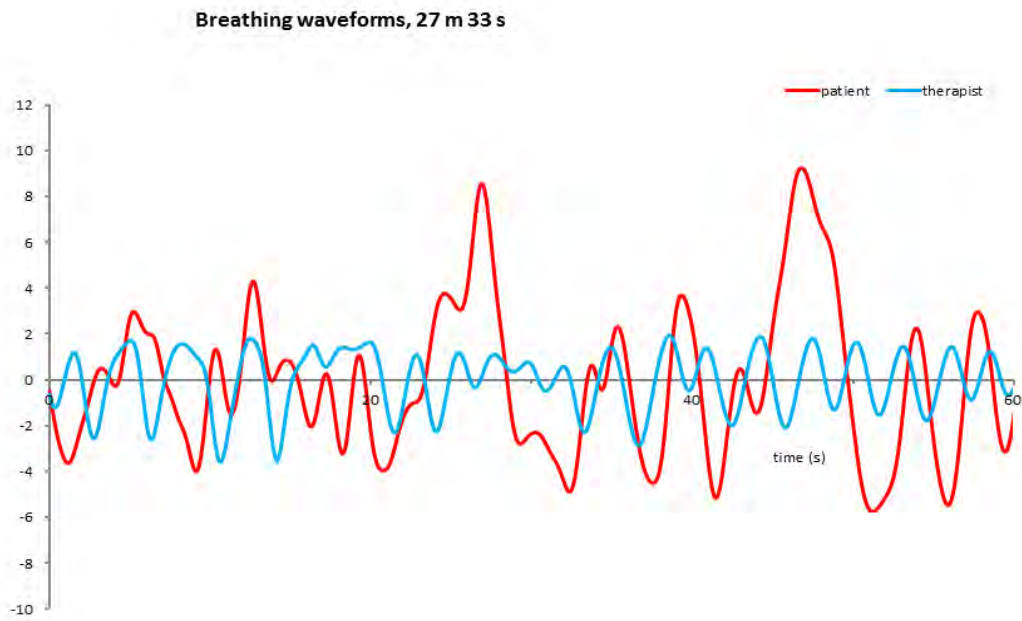


**Fig. 5.4** Breathing waveforms during silence illustrating similar respiratory rates (13-14 bpm) with evidence of near-synchrony in two dominant resonant frequencies.

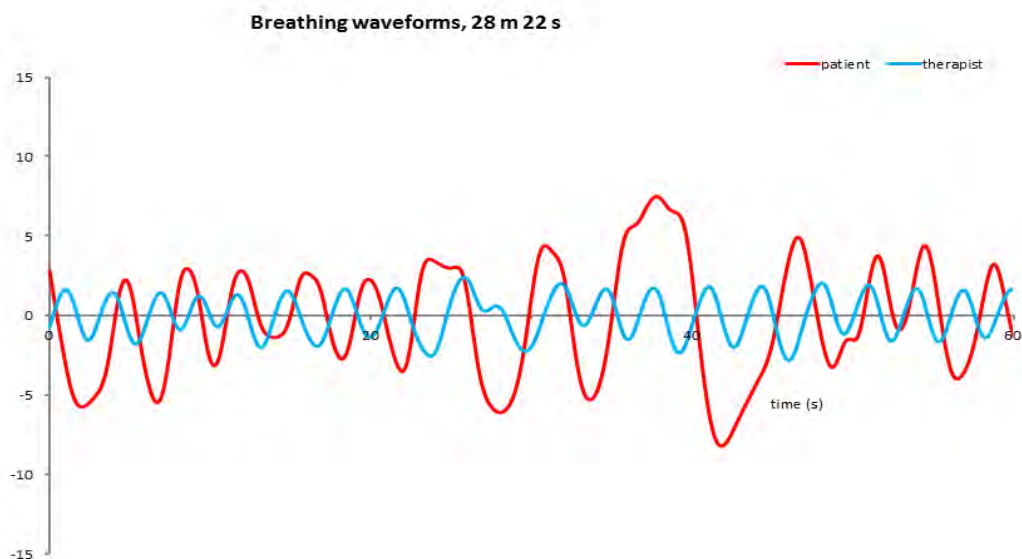


**Fig. 5.5** Further breathing waveforms during silence showing similar respiratory rates (14-15 bpm) and closer approximation of amplitude than evident during speaking phases (Figs 5.1-5.3).

Shown in the following pages, figures 5.6, 5.7, and 5.8 relate to the period of the session considered the narrative climax, or emotional highpoint. The larger narrative unit corresponding to this section covers a period of 3 minutes or so. These three graphs occur within a 76s timeframe. Coordination between sound and breathing recording was not sufficiently accurate to relate breathing patterns to specific sentences, so correspondence is approximate. It is evident in all three graphs that the patient takes some deep, high amplitude respirations, likely to reflect vagal upregulation (recalling that in Part 2, and in other literature, the relationship of slow breathing and enhanced vagal function has been established). In 5.8 there is an alternation of slow (about 10 bpm), and faster (about 17 bpm), breathing rates. While any interpretation is highly speculative, the hypothesis is put forward that the “realization” that forms part of the narrative climax, may contain an element of “surprise” that could stimulate an orienting response, accounting for this kind of alternation.

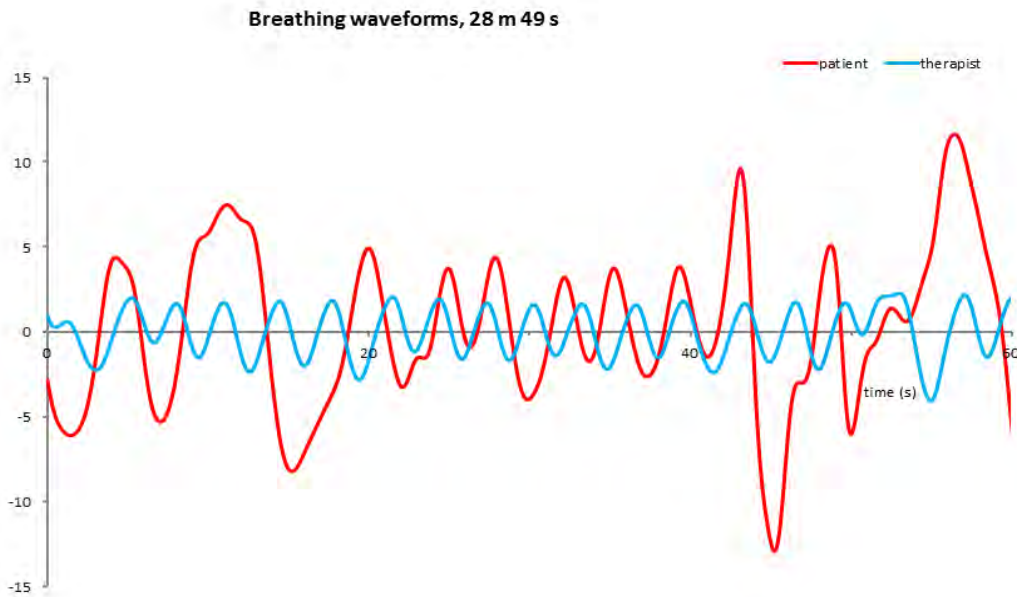


**Fig. 5.6** Breathing forms around narrative climax of session, showing slowing of respiratory rate in the patient (10-11 bpm), consistent with earlier “speaking turns”, with two large amplitude respirations, possibly reflecting ‘vagal upregulation’.

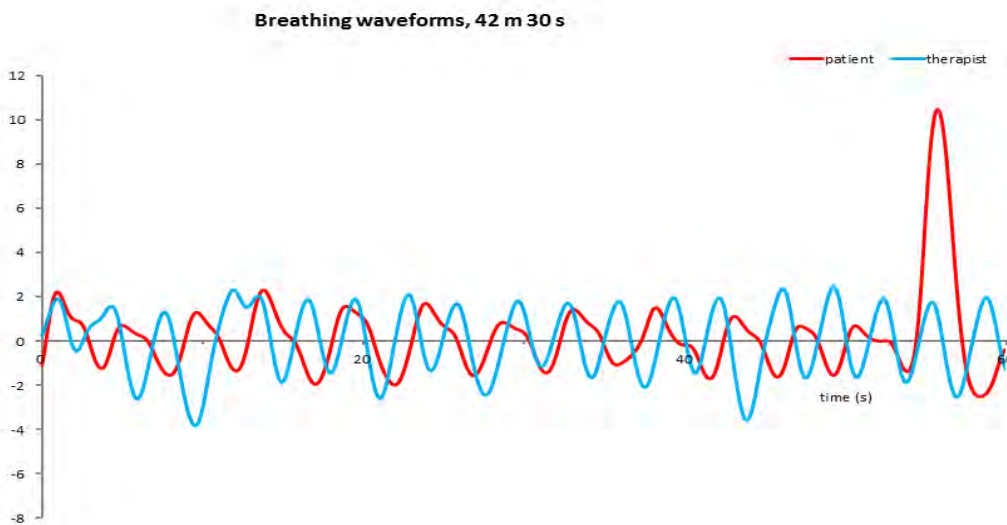


**Fig. 5.7** Breathing forms around period of narrative climax showing slowing and increasing amplitude of patient waveforms, possibly reflecting vagal upregulation. Therapist waveforms, as with earlier samples (Figs 1-6), on average smaller in amplitude with faster respiratory rate, relative to patient.





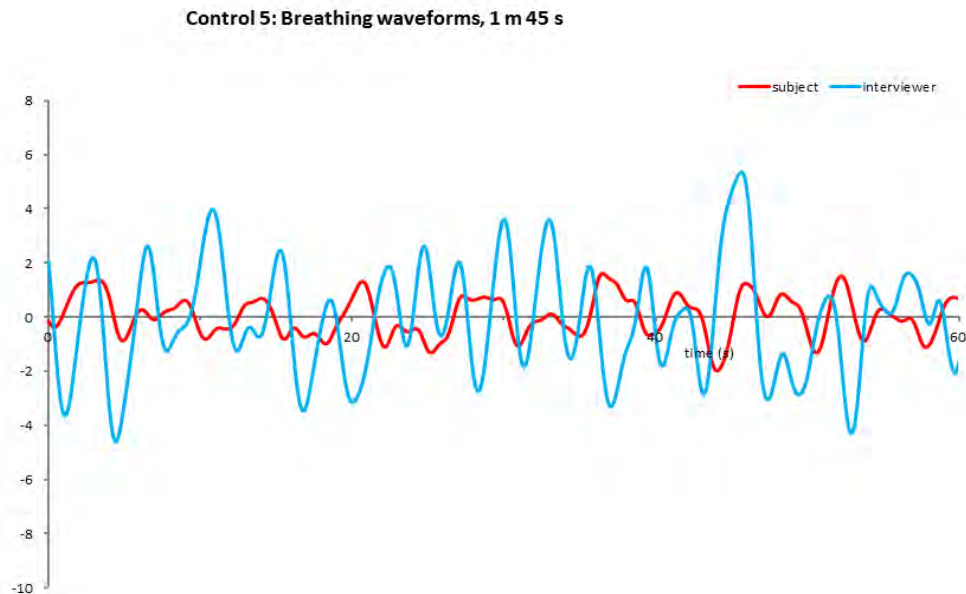
**Fig. 5.8** Breathing waveforms, near narrative climax, showing patterns of alternate slowing with increased amplitude, and more rapid, regular waveforms in patient, with associated regular waveforms of therapist of relatively even amplitude. Potentially relevant, given that the narrative climax involves “realization”, could be that recognition of changed meaning could involve stimulation of an “orienting” response.



**Fig. 5.9** Further breathing waveforms during silence illustrating similar amplitude with some differential in respiratory rate (14 bpm patient; 18 bpm therapist)

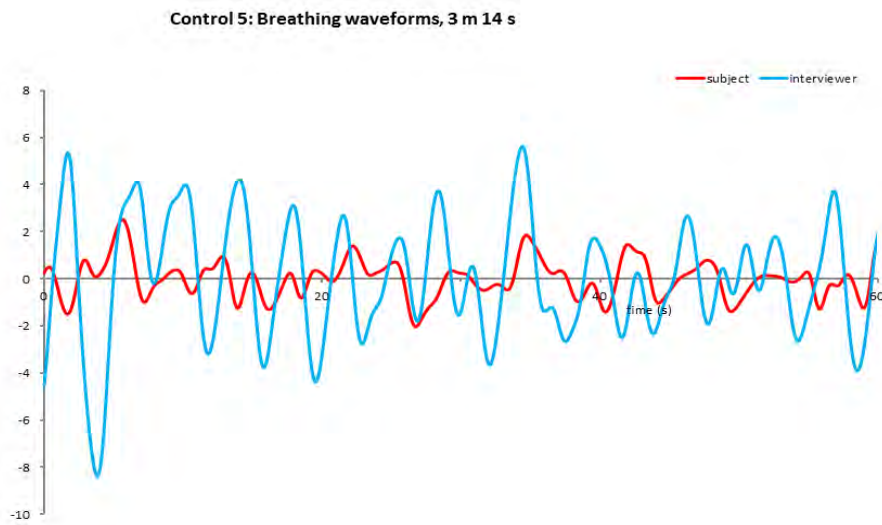


The tendency for speaking, relative to listening, to slow breathing rates is also evident in the recordings of breathing in the control session, as illustrated in 5.10 and 5.12. The low amplitude recording of the interviewee is at times, however, a little difficult to interpret. This session was dominated by one speaker, so it was not possible to identify a sustained speech turn of the interviewer. However in a passage where the turn-taking was relatively even, represented in 5.11, the respiratory rates between interviewer and interviewee were similar, suggesting a degree of synchrony.

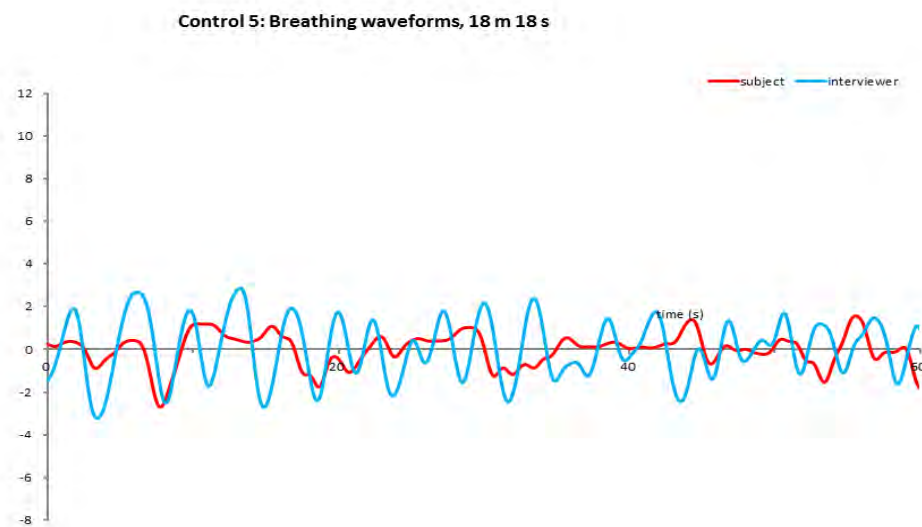


**Figure 5.10** Interviewee speaking (red); interviewer listening (blue) demonstrating differential breathing rates of 12-13 bpm (red/speaker); and 17 bpm (blue/listener).

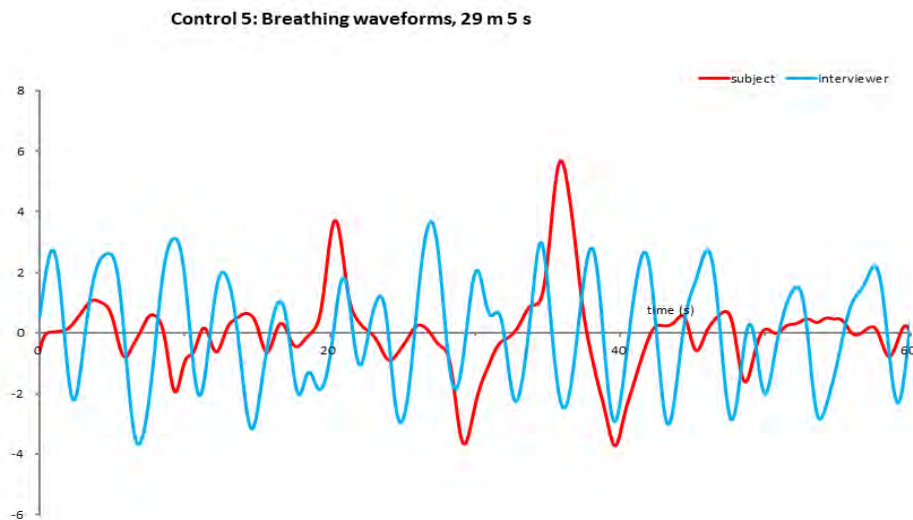
In both Figs 5.10 and 5.12 the speaker has a respiratory rate slower than the listener, similar to the situation demonstrated in the figures representing the therapy session (Figs. 5.1; 5.2; 5.3). In Figure 5.13 there is a clear increase in the depth and amplitude of breathing relative to the earlier Figures 5.10, 5.11, 5.12 (compare the red lines). This occurs at a period of the session where the CSERS rating for the interviewee was “a-moved”, suggesting that it occurred at a relative emotional highpoint. In a manner similar to the findings at the narrative climax of the therapy session, this would be consistent with a degree of vagal upregulation.



**Figure 5.11** Turn-taking segment, showing similar breathing rates, approx 16 bpm.



**Figure 5.12** Interviewee (red) speaks; interviewer (blue) listens showing differential breathing rates: interviewee 12 bpm; interviewer 18 bpm



**Figure 5.13** Turn-taking segment corresponding to interviewee rating “a-moved” (i.e. possible emotional high point of session), demonstrating large amplitude breath waveforms for interviewee (red) in contrast to predominant low amplitude waveforms for most of the session. Interviewee (red) breathing relatively slow 11 bpm; interviewer (blue) 16 bpm.

Overall the physiological data, under conditions of spontaneous, uncontrolled conversation, while far from conclusive, support predictions of slowing of breathing in relation to speaking, suggesting that talk has metabolic implications possibly involving enhanced vagal activity. There is, consistent with predictions, evidence of synchrony, both in speaking and silent phases. It is not clear, under these conditions, as had been hypothesized, that the degree of synchrony is greater during silent phases (although not disproven either). The finding of slowing of breathing during phases of enhanced significance (narrative climax) gives some indication of a relation between meaning and bodily autonomic response.

### 5.6 Discussion: Prioritizing the personal, and impersonal (I, It, and Self)

The relationship of language to the “becoming”, or development, of self, in the first place, primarily informed by feeling, is critical to human growth in general, and to psychotherapy, in particular. The position taken in this thesis is that self-growth requires coordination of language and feeling, in the context of relationships providing conditions of emotional safety and intimacy. Such coordination of language and feeling has been described as “*the true voice of feeling*” (Hobson, 1985, p. 93). This implies a capacity, not only to use language, but to engage in a genuine way, as a member of a community. The role of language in healing is crucial to “talking treatments”, or psychotherapies, generally. In psychoanalytic theory, the question of whether understanding relates to agencies within the mind (as in the Freudian theory of *id*, *ego*, and *superego*), or to the whole person concept of self, is of central importance. The role of gender has also been a concern in psychoanalytic theory, evident in the writings of Freud, Lacan, Klein, and many others. However, if the primary emphasis is on

self and relationship, which, in themselves, are non-gendered terms, gender may come to be seen as somewhat less critical to the development of mental life. Where possible, in this essay, the practice has been to use the terms “he and/or she” or “her and/or his”, to de-emphasize gender as the primary issue in development of *self*. This is not to deny the importance of gender in development. Indeed a further theme in this work has been the embodied nature of self: clearly gender is a critical aspect here. What has been considered *primary* to experience, and self, has been personal feeling, and the flow of consciousness, shaped by the environment and, importantly, by language.

In elaborating his ideas about primary and secondary process, in *The Interpretation of Dreams*, Freud recognizes a difficulty: “*I have set myself a hard task, and one to which my powers of exposition are scarcely equal. Elements in this complicated whole which are in fact simultaneous can only be represented successively in my description of them, while, in putting forward each point, I must avoid appearing to anticipate the grounds on which it is based: difficulties such as these it is beyond my strength to master.*” (Freud, 1900, p. 745). Although he may not have been aware of it, he could be making the distinction between synchronic language and diachronic language; or between the whole and the parts. While Freudian elaborations are in terms of interacting parts, it can be seen that there was awareness of a whole, greater than the parts. He goes on to say that “primary process” is dominated by “*activity..... directed towards securing the **free discharge of the quantities of excitation***”, while secondary process, “*succeeds in **inhibiting** this discharge*” (ibid., p. 759). Inhibition is crucial to the development of secondary process, and is also central to the Freudian theory of repression: “*....it is key to the whole theory of repression: the second system can only cathect an idea if it is in a position to inhibit any development of unpleasure that may proceed from it*” (ibid., p. 761). Thus, classical psychoanalytic theory sees secondary process (logical, goal-directed, rational thought; in touch with ‘external reality’), as an achievement, that results from inhibition of the unruly, illogical, passion-driven “primary process”. As such it is a form of rationalism, seeing development as the triumph of reason over passion. “Ideas” have an inherently linguistic form; whereas the term, “cathect”, means, “affectively invest”. It could be argued that the process of affective investment (“cathecting”) is primary in development, rather than ideas, given the pre-verbal infant has limited access to “ideas”; the world of words, clauses, and concepts.

Freud’s rationalist position is developed further, when he puts forward his “structural” theory, in relation to the mind in *The Ego and the Id* (Freud, 1923). The German version refers to “*Das Ich*”, and “*Das Es*”, considered here in relation to the terms “I” and “it”, which seem closer to Freud’s intent. By using the latinized nouns “ego” and “id”, the translator, Strachey, may have contributed to reification of these terms, making them more “thing-like”, relative to the original use of pronouns, emphasizing the *personal*, or *impersonal*, nature of the object, or process, in question.

Freud states, “*all perceptions... received from without... and from within – what we call sensations and feelings – are conscious from the start*” (ibid., p. 18), thereby recognizing the centrality of **feeling**, to conscious states. This is not a notion that he develops, although he later says, “*We approach the id with analogies*” (Freud, 1933, p. 4682), suggesting an

understanding of the need to approach the representation of feeling through analogy. While he recognizes the primacy of thinking in images, he sees it as a *“very incomplete form of becoming conscious....unquestionably older than the latter (words) both ontogenetically and phylogenetically”* (Freud, 1923, p. 20). He refers to a passive experience in life where *“we are ‘lived’ by unknown and uncontrollable forces”*, seeing this as the perceptual system present from the start, and referring to this system as the “it”, consistent with *“whatever in our nature is impersonal”* (ibid., p. 22-footnote). The impersonal “it” is seen as something *“upon whose surface rests the ‘I’”* (ibid., p. 23), leading to the Freudian metaphor of the “I” being *“like a man on horseback”* (ibid., p. 24), with “it” being the horse. The “I” has ever, *“to hold in check the superior strength of the horse”* (ibid., p. 24). Specifically he states that *“The ego (‘I’) represents what might be called reason, and endeavours to substitute the reality principle for the pleasure principle which reigns unrestrictedly in the id”* (ibid., p. 24). Reason is identified with language, known by Freud to be located in the left brain, reflecting the state of neurological knowledge at the time: *“as we know ... its speech (centre) ... (is) on the left-hand side”* (ibid., p. 25). In contrast the *“scene of the activities of the lower passions is in the unconscious”* (ibid., p. 25); the “location” of which is not known.

In his discussion of superego and ego ideal, Freud asserts the significance of early relationships, although indicates a primary paternal influence in relation to this development: *“in the origin of the ego ideal.....there lies hidden an individual’s first and most important identification, his identification with his father in his own personal prehistory”* (ibid., p. 30). He sees social feelings as arising out of the frustration of hostile impulses and feelings, *“social feelings arise in the individual....built upon impulses of jealous rivalry against brothers and sisters. Since the hostility cannot be satisfied, an identification with the former rival develops”* (ibid., p. 36). Social engagement is not seen as primary need, or primary instinct, in this description, but rather as a compromise formation. He does not consider, at least in this passage, that hostility may arise out of traumatic circumstances. He contends, *“Psycho-analysis is an instrument to enable ego (‘I’) to achieve a positive conquest of the id (‘it’)* (ibid., p. 55); expressed later as, *“Where id was, there ego shall be.”* (Freud, 1933, p. 4687).

In a recent discussion of the relationship between language, healing, and silence, the views of Hegel, Kierkegaard, Freud, and Lacan, are considered (Berthold, 2009). Hegel saw language as essential to development of self, referring to the *“divine nature”* of language (Hegel, 1807). Freud, in keeping with Hegel, considered, *“The talking cure... puts the obscure, fermenting ‘something’ of insanity into words, and in this way gives a sort of clarity which, as Freud saw it, was the best that could be hoped for”* (ibid., p. 300). Kierkegaard is more suspicious of words, suggesting that professors, full of fine talk should be “stripped”, to see what they are really made of: *“Yes to strip them of their clothing, the changes of clothing, and the disguises of language, to frisk them by ordering them to be silent, saying: ‘Shut up, and let us see what your life expresses, for once let this (your life) be the speaker who says who you are”* (Kierkegaard, 1967, cited in Berthold, 2009, p. 300). Lacan, while critical of Freud, in relation to his emphasis on rationality, is often identified as neo-Freudian in his emphasis on the “word of the father”, or *“‘the symbolic’, the domain of language, the key vantage point from which all other ‘registers’ of psychic life must be approached”* (Lacan, 1966, cited in

Berthold, 2009, p. 301). He sees therapy as essentially a task of evoking speech, *“it might be said (therapy) ...amounts to overcoming the barrier of silence”*, or, *“to get her (the patient) to speak”* (Lacan, 1964, in Berthold, 2009, p. 301). Kierkegaard, while suspicious of language, recognizes his dependence upon it, saying he gets ill when he doesn’t write (ibid.). He has a version of “talking cure”, involving *“indirect communication... designed to lead the reader to take responsibility for self-authorship – ... a cure whose talking will be elusive, strange, and mysterious...”* (ibid., p. 303).

For Hegel, Freud, and Lacan the development of self is seen as relating to the development of “symbolic order” related to the ascendancy of language, and repression of instinctual life (ibid.). Kierkegaard’s version of the place of language in healing could be taken to refer to recognition of the value of a form of expression, related to Freud’s notion of primary process, or in the Conversation Model, related to the primary flow of conscious experience reflected in non-linear, associational thought. His reference, to letting one’s life *“be the speaker”*, would be consistent with humans as “living symbols”, occupying embodied places in communicative space, that go beyond verbal language. He also contrasts the view of Hegel, later also found in Freud, of faith in objective knowledge, arguing that *“truth is subjectivity”* (Kierkegaard, 1967, cited in Berthold, 2009, p. 303). For the CM this would relate to recognition of the personal reality of the patient taking precedence, in the therapeutic setting.

The notion of “Embodied Symbolic Order” (3.9) refers to an integration of internal value systems with language, reflecting a less abstract concept, than the symbolic order implied in the work of Freud and Lacan, where language is seen to be involved in a conquest, or mastery, of emotional forces. The recognition of the value of silence is also crucial to the notion of a space where self can grow, perhaps illustrated by Pilot 1.2, which includes a significant amount of silence and reflective space, arguably where “I” differentiates, and self ‘becomes’.

Mothers and fathers have always figured prominently in psycho-analytic theorizing, with good reason, given that they are primary players in developmental process, for any given individual. There is a danger, however, often evident in lay views of therapeutic process that responsibility for emotional difficulties ends up getting laid at the feet of parents. In fact, therapy and healing relate more closely to empowering patients to take responsibility for their own lives. Klein’s description of the “depressive position” highlighted the importance of early stages of development, where the bond between mother and infant is central (Klein, 1935). Benjamin, writing from an intersubjective perspective, also highlights the significance of the relationship with mother in shaping development (Benjamin, 2004), as, of course, have many psychodynamic writers. Benjamin’s interest is in elaborating development of the self beyond the experience of “doer and done to”, focusing on the importance of mother-infant attunement, of a mutually engaging nature, accounting for what she calls the “moral third”: a relationship based upon recognition of the vulnerability of the other that motivates care. She contrasts her position with Lacan’s: *“Unfortunately Lacan’s oedipal view equated the third with the father, contending that the father’s “no”, his prohibition or “castration”, constitutes the symbolic third”* (ibid., p. 12). Her description of the development of the “third” relates more to processes of resonance and empathy, whilst still incorporating limit-setting arising

out of care. This is a version of personal development not relying upon prohibition and inhibition, but rather as an outcome of resonance and playful interaction.

Inevitably, when either “mother” or “father” are emphasized, theories tend to become polarized, or characterized as having a maternal or paternal bias. There is an advantage to seeing that what is being described is personal process, taking place in relationship. The “passions” represented by the horse, in Freud’s metaphor for related parts of the mind, of “rider and horse” (ego/id; I/it), devalue feeling as being of a lower order than the reasoning faculty of the mind, the “ego / I”. The metaphor is about learning to tame, or at least exert influence, over the dangerous, beast-like passions, naturally inclined towards aggression, competition and hostility. Language, as the tool of reason, is seen by Freud to be embedded in the left cerebral hemisphere, suggesting that the processing of the logical left hemisphere needs to inhibit and control the emotional right hemisphere. In this view, dominated by drives and the theory of repression, it is little wonder that expressions, by the patient, of disagreement, and failures to respond to the analyst’s expressed understandings, are classed as “negative therapeutic reactions”, or “resistance”: after all this would simply reflect natural hostility to superior reason. Indeed Freud says, “*We tell him that he is dominated by a resistance*” (Freud, 1923, p. 16).

Other theorists have come to see the situation differently. In working with patients that displayed negative therapeutic reactions, Brandchaft comments that “*I believe that observation is being obscured in psychoanalysis by continuing to regard primary factors as defensive or secondary, while secondary factors are installed as primary. The primary factors in these patients proved to be the particular self disorder emerging from the transference in the forms of archaic, intensified, distorted longings, now out of phase, which originally should have formed the basis of sound psychological structure.....The factors that proved to be secondary in these cases were drives; conflicts...castrations; separation; and superego anxieties*” (Brandchaft, 1983, p. 348). Here, Brandchaft emphasizes the need to see the legitimacy of the patient’s position, and the value of self: the therapist is required to help understand the patient’s position; not to give an external, “correct” view.

We currently recognize that early development is informed by patterns of feeling, with affect regulation achieved through dyadic care and play. Such activity is modulated through right hemispheric influence, involving inhibition by the right orbito-frontal cortex of right-sided limbic and mid-brain structures (Schoore, 2012; Panksepp & Biven, 2012), associated with effective regulation of affective experience, in relationship to significant others. The left hemisphere can also exert an influence on affect, but is less effective in doing so. When the left-brain attempts to exert control through “‘verbal’, ‘logical’, and ‘analytical’” functions, with deficient right hemispheric modulation, the left brain may tend to “overpower”, the right brain (Doidge, 2009, pp. 280-2). This may give rise to a dissociated, traumatic form of consciousness, rather than to an integrated experience of self. Social engagement and the need for relationship are *primary* motivators, utilizing feeling as an internal value system, both in relationship to self, and other. Language can be affectively invested through playful and imaginative engagement. Indeed without affective investment and affective expression, language is empty, and lacking in conviction. Moreover, as described in Part 4, many features

of language arise from contributions of the right hemisphere: particularly in relation to motivation, affective expression and prosody.

The id or “it” takes on a different value, when seen to include the *affective heart* of experience. Far from being “impersonal”, it is felt to be highly personal, while at the same time being an aspect of experience *shareable* with others, where similarity (“fellow feeling”) is sensed. Hence it is a critical bridge to communicative understanding. There is an illustration of this in Pilot 1: the patient comments on the group that has “accused” him and left him feeling “exposed”, seeing himself as an “it” (see 5.3.1; 5.3.3). The situation is ameliorated when a member of the group says, “*it’s not a crime to have feelings*”. The patient responds to this: “*I appreciated that, that’s a nice statement because it’s validating, it’s okay to have your feelings, you don’t have to be lynched even if you do have your feelings*”. However the task of finding a voice, or expressing what is felt, is challenging. It has to be approached analogically, and is never completely mastered.

Patients are likely to experience a challenge, as one put it, in finding “*The words to say it*” (Cardinal, 1984). She refers to finding the courage to express what is heartfelt. Indeed the neutral form of pronouns (“it”; “one”) may have the interpersonal value, in psychotherapy, in allowing difficult matters to be talked about, without the sense of “pointing” often inherent in use of personal pronouns. Rather than representing something impersonal or “beast-like” that needs to be tamed, or mastered, the affective heart of a person is a central motivator, that can be harnessed creatively, and is to be understood as the basis of creativity for any individual. Imagery is also to be understood as central to personal process, and to thought, more generally. It is not simply an inferior, or primitive, aspect of thought.

In this section, the ways in which participants refer to themselves have been highlighted in terms of the use of “I” and “it”, and the spatiality, and transitivity, of conversation. The shift, between Pilot 1 and the later Pilot 1.2, from use in self-reference of the “it” form, towards use of “I”, in association with language with greater transitivity (indicating agency), and use of metaphor, conveys the sense of someone finding his place in the world. The use of “I” by the interviewee in the Control 5 session is confident, although relatively “intransitive” (less oriented towards change or action). There is also little “conversational space” in that there are few pauses and no sustained silences, again in contrast to Pilot 1.2. There is some suggestion in these observations that, for growth of self, not only speaking and listening are required, but also the spaces “in between”: for reflection or simply “just being” (quasi-meditative states). This is consistent with Hobson’s concept of “aloneness - togetherness” (Hobson, 1971, p. 97; Hobson, 1985). In Figures 5.6; 5.7; 5.8 (Pilot 1.2) and Figure 5.13 (Control 5) there is demonstration of the slowing of breathing, suggesting vagal upregulation, at points of relative emotional intensity / narrative climax. This would be consistent with feeling, in both therapy and control situations, being associated not only with a sense of significance and value, but also with metabolic regulation, consistent with the polyvagal theory.

When we speak of *self*, we speak of the whole, reflected in pronominal language: a process which includes, but is greater than, “I” and “me”. It is a singularity defined through personal inscription of feeling, not the generic inscription of conceptual language. Linguistic analysis



of healthy people expressing their experience tends to show alternation between “I” perspectives, and “other” perspectives, reflected in the use of pronouns (Pennebaker, 2011, pp. 12-13). This suggests that, in health, the capacity for conversation, initially reliant upon the “actual” other, can be carried on within the stream of one’s own thought. Where trauma has significantly constricted this capacity, there is a need for facilitation of an effective voice of self, through the psychotherapeutic conversation.

The communicative response of self, both external and internal, is understood as a coordination of language and feeling, not a subjugation of feeling. In traumatic circumstances, the flexibility of feeling response is lost, and situations of dominance may be manifest. These reflect constrictions and dissociations in consciousness, rather than repression, and limit development of self, understood as an unfolding process with inherent value. It is trauma that leads to distortions in maturation, not self. *“A **mature self**, when it emerges, is a generator of bodily space and time, in the first place for the person’s own self and then, with further development, becoming a generator of the kind of **space for others** that **engenders players** in the human world”* (McLean & Korner, 2013, p.7). The personal nature of feeling and imagery; involvement in conversations (in words **and** images) with others, and within ourselves, constitutes what is significant in human lives. While based in personal experience, it can be seen as transcending the personal, part of a chain of continuity with past and future generations.



**Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

## **Part 6**

### ***Realization***

**Psychotherapy process:**

**Shaping the symbolic maelstrom towards a narrative of self**



## Psychotherapy process: shaping the symbolic maelstrom towards a narrative of self

### 6.1 Introduction:

*"The past beats inside me like a second heart"*

*John Banville, The Sea*

In this final part, self is considered in terms of psychotherapy process, understood as the emergence of an effective narrative voice, capable of providing the necessary analogical fit, in relation to the world, to sustain personal coherence and resonance. The private experience of self is represented in the public domain of interpersonal life.

As we journey through life we are always at the forward edge of a past beating within us. Through processes of memory, language, and acculturation, this becomes our "*second nature*" (Edelman, 2006). When we consider that much of our attention is directed, in anticipation, towards the future, it would also make sense to say our *expectations*, conditioned by personal worldviews, and organizing principles, are carried within us, and provide another "beat", or rhythm, in daily living. The importance of language to this bodily beat of experience is that it is a chief way, for humans, of organizing self, given "*we are the only species with a syntax-based language*" (Edelman, 2006, p. 61). Syntactic language supports, "*metaphor and analogical reasoning*", so that, "*We're always planning ahead, imagining scenarios for the future, and then choosing in ways that take remote contingencies into account*" (Calvin, 1996, Loc 942). Sensorimotor sequences (relatively automatized coordinations involving the basal ganglia, in concert with motor, sensory and prefrontal cortices) give us "*a kind of basal syntax*", related to skill acquisition and 'emotional intelligence' (Edelman, 2006, p. 61; Goleman, 1995). Memory does not provide replicas of experience; rather "*Memory, which is recategorization influenced by value systems, trades off ultimate precision for **associative power***" (Edelman, 2006, p. 33, my emphasis). This evolutionary selection, for **associative power**, demonstrates the importance of non-linear, non-logical wanderings of the stream of consciousness to individual development. Logic and linear thought are secondary developments. Selectional, re-entrant brain processes, "*lay the grounds for the emergence of a self*", and are involved in differentiation (Edelman, 2006, p.37). Understanding the personal value of individual selves requires elaboration of feeling, not through naming of individual affects, but rather through expression of stories that fit with personal, familial, communal, and cultural contexts.

Hegel's *Phenomenology of Spirit* (Hegel, 1807), in many ways, prefigures aspects of psychoanalysis and psychodynamic thought. It describes the ontological development of thought, although in idealized form. Hegelian "dialectic" clearly has a relationship to the notion of conversation, although it is a rather formal term. The current perspective seeks to ground conversation in "actual language used"; and the embodiment of thought through feeling and bodily experience. A thumbnail sketch of Hegel's *Phenomenology* is given, to illustrate the dynamic process of "becoming", for self. Its forward orientation, implying ongoing and evolving experience, with constant efforts, choices, and obstacles to negotiate, highlights *self as process*. The *Phenomenology* begins with desire, oriented towards an "other" (significant other), who must somehow survive as a separate other, despite the efforts of self at possession. Interpersonal rivalries are discussed in the ritual of the duel, with its outcomes of hollow victory, and pointless defeat. The individual is subject to possibilities of domination, elaborated by Hegel as the "master-slave" dialectic. The "slave", or dependant, in this dialectic, gains in skill acquisition, so that the possibility of a more independent life arises. If a sense of separateness, and of the separateness of others, is achieved, then the individual now engages with the world in a manner where she, or he, can make objective distinctions, gaining knowledge of the 'facts' of the world. For Hegel this does not amount to a satisfying state, rather it is the "unhappy consciousness" (ibid., pp. 119-138). To develop

further, the individual must become vitally engaged in what they are doing, both in relationships, and occupationally, in order to gain a personal, empathically-based knowledge of the world. In this quest guidance may be found in terms of traditions, such as religion, although the individual is in a position where discriminations and discoveries need to be made personally. The scientific attitude is to pursue further knowledge through one's personal strivings, based upon the evidence that can be ascertained in life, rather than being satisfied with what is handed down by tradition.

Such a description is idealized, and individuals may derail, or become fixated, at any stage on such a life-journey. Some may be dominated by desire, the starting point of the Hegelian journey; some may stay in dependent relation to others; some may be fixated on the facts (objectivity); others may be content with following traditions. Moreover, all of these possibilities could be consistent with functional, as well as dysfunctional, personality. Nevertheless, we do see a form, in Hegel, of development of the mind that speaks to possibilities for growth of self. The forward orientation of *becoming*, contributes to the sense of the self growing and seeking, making use of the most basic of affective systems, the *seeking system* (Panksepp & Biven, 2012, pp. 95-145). Hence there is a link between Hegelian philosophy, and the basic orientation of all living creatures to seek what they need, and what allows them to thrive, from the environment.

### 6.1.1 Summary

It is feeling that motivates humans. Experiential regulation of affect is reviewed, with reference to the general images of affect (Tomkins, 1995). The fourth general image, involving coordination of, 1) maximization of positive affect; 2) minimization of negative affect; and 3) the minimization of affect inhibition (the first 3 general images), is seen as most significant in relation to the development of character. Minimization of affect *inhibition*, in terms relevant to psychotherapeutic practice, can be equated with opportunities for affective *expression*. Affect is an aspect of communicative process, not a "thing" to be considered separately. Response to affect involves the need for *analog(ue)s*, in relation to negative affect; and *variants* in relation to positive affect (ibid.). These reflect the need for analogical relatedness; and amplification, in the therapeutic conversation.

Conversational process is understood in terms of "given" and "new" elements that structure conversation, and are themselves structured, by perceived significance for self. A "motivated selection" of extracts, taken from Pilot 1.2, is used to illustrate principles of conversational exchange, and realization of self.

Traumatic scripts, using illustrations from study data, demonstrate dissociative processes. Apart from scripts, chronicles, and narratives, a fourth traumatic form, or rather absence of form, described as "no story", is put forward. Dissociation is understood as a realm of experience, held largely outside relational space, impeding development of self, and, in particular, slowing emergence of a confident, *prospective self*. Such a self is able to articulate evolving narratives, serving a self-organizing function. The therapeutic process is seen as one of re-association, relying upon non-specific communicative, and relational, factors, and understanding of role.

Objective correlates of self are discussed. As demonstrated in this project, the role of speech in slowing breathing has likely autonomic correlates. Breathing synchrony, perhaps, reflects an unconscious form of interpersonal resonance. Study data also illustrate a possible connection between moments of heightened significance in therapy, and autonomic response. The language of self develops through the interpersonal domain of affective relatedness in conversation; and the culminative (ongoing) growth of personal messages, allowing the individual to grow in textual complexity, and find an effective voice within a community.

## 6.2 The experiential regulation of feeling

Psychological understanding necessarily encompasses feeling, the intrinsic human value system and motivator. It also requires language, the system underpinning verbal thought (Thibault, 2004, p. 273), the basis of much conceptual organization. In Parts 2 and 4 (2.4; 4.5.3), the general ways in which affect influences behaviour were enumerated, as described in the account of “General Images” of affect (Tomkins, 1995, pp. 66-73). They help show how selectional processes shape individual selves. It is made clear that humans are self-organizing systems, even before integration of verbal language:

*“In the case of the human being, the fact that he is innately endowed with positive and negative affects which are inherently rewarding and punishing and the fact that he is innately endowed with a mechanism which automatically registers all his conscious experience in memory, and the fact that he is innately endowed with receptor, motor, and analyser mechanisms organized as a feedback circuit, together make it all but inevitable that he will develop the following General Images: 1) Positive affect should be maximized; 2) Negative affect should be minimized; 3) Affect inhibition should be minimized; 4) Power to maximize positive affect, to minimize negative affect, to minimize affect inhibition should be maximized.”* (ibid., p. 67)

While points 1) and 2) look like a simple version of behaviourism, this isn’t necessarily the case when one considers that affects interact, and one may inhibit another. Hence, although positive affect is reinforcing, it may, for example, be chronically inhibited by fear, or by moral convictions about what is socially acceptable: e.g. shame may make a great range of behaviours seem unacceptable. Nevertheless, at an individual level, these first two principles directly reflect the “reward” and “punishment”, referred to above. The third principle, that “affect inhibition should be minimized” relates to *expression* of affect: *“The inhibition of the overt expression of affect will ordinarily produce a residual form of the affect which is at once heightened, distorted, and chronic and which is severely punitive.”* (ibid., p. 69). While this is obvious in the case of negative affect, Tomkins points out that it is also the case for positive affect: *“chronic inhibited positive affect is also painful since it leads to distress or anger by the fact of inhibition, or to chronic fear, shame or self-contempt at the ever present danger of disinhibition”* (ibid., p. 69). This principle, speaking to the *human need for affective expression*, highlights the need for reciprocal communicative engagement with others, for a state of affective balance to be maintained.

The fourth “general image” is conceived of, by Tomkins, in terms of “power”. He refers to coordination of the first three principles. While it is likely that effective coordination will maximize personal efficacy, and, in that sense, be associated with a sense of empowerment, power tends to imply domination in interpersonal terms. This principle, in my view, refers to a coordination, or organization, of affective life, serving the purpose of sustaining lively engagement with the world. As such this coordination involves the organizing principles, or internal working models, that shape relational life, and, over time, the emerging personality. Once verbal language is established, all of these “general images” require coordination and integration with, and through, verbal exchange.

Affects are inherently brief, requiring amplification and coordination, in order to become part of a meaningful fabric of experience for the individual. Experience is organized into scenes, *“the basic element of life as it is lived”* (ibid., p.179). Scenes form the basis of “script theory” (ibid., pp. 179-83). Scenes can be viewed externally, as seen by “others”; or be defined by the individual: the private, “self-based” view. Scripts are developed on the basis of two principles: that of *variants* and *analogs* (ibid., p. 184). Of these **variants**, involving recognition of, *“changes in something which in its core remains the same”*, are most relevant

to elaboration of positive affect as illustrated by the example: “*if one’s wife is wearing a new dress, one does not say to her, ‘you look very similar to my wife’ but rather, ‘I like the new dress you’re wearing’*” (ibid., p. 184). According to the Conversational Model, positive affect is enhanced through amplification that builds upon *self*, something which in its core remains the same, in the sense described by Tomkins. The principle of variants can also be thought of, in linguistic terms, in relation to the *given* and the *new* (Halliday, 2004). This is explored further, using study data from Pilot 1.2, in section 6.3.

**Analog(ue)s** may be applied to either positive, or negative, affect. They are particularly powerful in “*dealing with negative affect scenes*” (ibid., p. 185). Depending upon the way an individual has organized her, or his, “internal working models”, such analogic constructions, termed by Tomkins “nuclear scripts”, can “*become the major mechanism whereby a negative affect scene is endlessly encountered and endlessly defeats the individual when the ratio of positive to negative affect becomes predominantly negative.*” (ibid., p. 185). This is clinically relevant to situations where trauma has dominated early, pre-verbal development. This is a situation where internal working models have become organized, outside the awareness of declarative memory systems, around negative feeling.

This form of ‘analog’ may become problematic for the individual. Transformation of such a “script” requires ‘analogical’ intervention. The impact of trauma, and the ways that narratives become organized into scripts in these circumstances, is important in terms of clinical interaction, and understanding the level of response required. A traumatic script, “*is made in isolation and shut off from the domain of discourse. No discrepant information can enter into it. It is a system of ‘facts’*” (Meares, 2000, p. 83). Confronting, or directly challenging, such a system will be ineffective, and is likely to be traumatizing, or lead to fragmentation. It is governed by “invariant organizing principles” that Meares’ terms “the impinging narrative”. This is not only internally impinging, but also leaves the person in the position of susceptibility to further impingement (Meares, 1995).

The ways in which trauma may be reflected in language have also been described as *scripts*, *chronicles* and *narratives* (Meares, 1998). These are organized in relation to implicit memory systems in the case of scripts and chronicles, and episodic (autobiographical) memory, in the case of narratives (ibid.). Meares’ use of “script” corresponds roughly to Tomkins’ use of “nuclear script” based around negative affect. A main reason for the form of the traumatic script is the impact of intense, “vehement” emotions, which have the effect of disorganizing conscious states, leading to fragmentation, with a dis-coordinating effect that over-rides the natural synthetic effects of attention and apperception (Meares, 2012, pp. 114-18). In conversation, the form of scripts may be broken up by the conversation itself: conversational form being different from recitation of a story, having “bits” of narrative, interspersed with the concerns, and foci, of the relational engagement. However fragments of “script” and “chronicle”, with their traumatic basis, get incorporated into therapeutic conversation. These can be identified, and modification in conversational form can be used as a “measure” of progress (Henderson-Brooks, 2006).

### 6.3 The “Given” and the “New”, as process in psychotherapy

*“I dreamed a thousand paths,*

*I woke and walked my own”*

*Chinese proverb*

In Part 3 (3.6), the structure of a conversation was described in terms of the *given* and the *new*, when viewed from the listener’s perspective; or as *theme* and *rheme*, from the speaker’s



perspective. That is to say that a conversation proceeds on the basis of exchange: there is something given, and then responded to, with an additional, “new” piece of information. From the speaker’s point of view there is a topic, or “theme”, introduced; then a form of development of the topic: the “rheme”. In this section a selection of clauses from Pilot 1.2 is discussed (full transcript, A4.3). This selection is, in itself, a response to what is “given” by the session as a whole. The author has made a selection on the basis of perceived significance, without necessarily being able to analyse, or explain in detail, why the particular selection was made. This process of “motivated selection” (Butt et al, 2012), partly conscious and partly unconscious, is also typical of conversational responses. The style of analysis here is not objective clausal analysis. Rather “motivated selections” used, are discussed, through what could be called “impressionistic analysis”, likely to be closer to what psychotherapists actually do during a session, where the therapist is always in the position of participant, as well as observer. In therapy, responses are made with a degree of self awareness, without time and space for detailed objective analysis of every word or clause. The selection is discussed with regard to the process of change in psychotherapy, in terms of the “minute particulars” of conversational exchange (Hobson, 1985, pp. 161-257; Meares, 2005, pp. 176-7).

### 6.3.1 Clause selection Pilot 1.2, in narrative unit groupings

- 1) *Pt Good to go?.....*  
*.... Maybe I can make it all work.....*  
*.... I'm thinking well I could get something decent.....*
  
- 2) *Pt .... they tend to come over the top of me, so if I slow down.....that's good*  
*Th ..... sort of creating a space for yourself*  
*Pt ..... rule has been .... invest in a resort and have it go under....*  
*Th ..... whether that whole sense of things collapsing a bit.....*  
*Pt ..... I think it was like weathering a storm, we all just battened down the hatches and went to battle stations.... it was about every man for themselves... ....*  
*.... I'm coming out of some sort of haze....*
  
- 3) *Pt It's kind of like strike while the iron's hot but the striker has to be ready as well, it's not just about the iron.*  
*Th .....when you say irons and strikers.... the first image that came into my mind was of an iron, but I'm not sure that's what you meant at that time.*  
*Pt No. No, a much more violent iron..... I picture..... like one of those old fire stokers and it's got the pointy end on it and it's getting red hot and – .....*  
*Pt .... it's almost like..... this dream about the weapons and the guns and stuff, and you know you can have a loaded weapon and it's dangerous but in the hands of the right person it's used properly.*  
*Th ..... like having a sense that you know having a loaded weapon in the sense of having your own power.*  
*Pt ..... it's about being potent.....*
  
- 4) *Th..... we're moving towards something.*  
*Pt I just think of Danny Boy again, you know the hills are calling.....*  
*Pt To find your calling. I kind of never understood that term fully until now like when I found my calling.*  
*Th It means something doesn't it.....*
  
- 5) *Pt....still have that fear..... like a ship on the seas that's forging ahead, will a storm come along and divert it off course or hit it too hard.....*

*Th ..... your comments remind of an image which is a Leunig image, you know Leunig, they've got the, it was a kind of sine wave you know. Look not too extreme, just a fairly sort of undulating you know he has one of his little figures placed at each peak and each trough and you know the really sort of sunny expression when they're at the peak and the expression at the trough. But you know it sort of seemed to be saying to me something about you know even with ups and downs you can kind of live within containable limits.*

- 6) *Pt ..... the first thing that comes to mind is parents coming in and rocking the boat.....  
..... I used to be defenceless..... and they would come over the top and I'd be wiped out.....  
Th ..... Defenceless – that's a vulnerable place to be....  
Pt ..... they don't feel like we're all jumping ship....  
Th ..... sort of image coming to me of .... navigating in a way.  
Pt .....So many oceanic metaphors today..... the big boat and little tug boats..... like mother duck and little ducklings and eventually you have to go off away from the pack, navigate away.... ..... it's a vast ocean, there's room for everyone..... ..... (silence)*
- 7) *Th ..... some hooks are loosening a bit.....  
Pt Just thinking about letting go.....*

Exchanges are numbered into groupings corresponding to narrative units, as described in Part 3 (3.6). Some exchanges are selections from longer units while some (nos. 3 and 4), are taken from brief narrative units, largely represented in the selected quotes. While some other aspects of these conversations have already been discussed in Part 5 (5.2; 5.3; 5.6), the emphasis here is on the process of *given* and *new*, as a model for exchange, and personal growth, in psychotherapy. Growth relates to the culminative nature of the development of self as living text. Self becomes increasingly defined and specified over time.

### 6.3.2 Commentary on narrative units

- 1) The patient's first comment, "Good to go", as "given", has the additional resonance, or connotation, of "preparedness" (see 5.2.3). The following statements in the first grouping, "*.... Maybe I can make it all work..... .... I'm thinking well I could get something decent*", confirm this impression. The therapist is 'given' the sense of readiness and possibility. Interestingly, there is a parallel process in Pilot 1 (Part 3: 3.11.1). The patient's first comment in that session, also referring to the recording device being "on", is "*..are we live?*" (see transcript Pilot 1, A4.1). Both comments are informal, off-hand comments made in a style consistent with the patient's personality. Yet, in both cases, there is resonance with the way the session unfolds. In Pilot 1, this is with some sense of existential anxiety (see 3.11.1.2 ; 5.3.1), captured inadvertently in "*are we live?*", with its implication of uncertainty about the state of aliveness, even though this is not the primary referent. These resonances seen in the context of the session as a whole, might be understood as occurring in the *synchronic* dimension of language, in a manner analogous to music (resonant harmonies; overtones; multiple notes, co-occurring as chords). This multiplicity of meaning does not require reduction, or deconstruction. It is, rather, a whole resource, partially seen at any given time.
- 2) Having established a sense of readiness the patient develops his theme, with a "rheme": "*they tend to come over the top of me, so if I slow down.....that's good*".

Now there is a sense of recognition of a change, found useful in interpersonal situations. The therapist responds to this *given* with alteration of mood. Where the patient's model of change, "slowing down", could be seen as cautious or possibly leading to inaction, the therapist recognizes it as a creative strategy: the therapist's *new* to the patient's *given* is, "*sort of creating a space for yourself*", conveying a sense of space that facilitates greater engagement and activity. In this context "slowing down" is actually, "becoming more personally dynamic". The patient goes on to elaborate the theme by defining a "rule", to which he had been subject, in the context of family misfortune: "*rule has been....invest in a resort and see it go under...*". The therapist's response to this *given*, "*whether that whole sense of things collapsing a bit...*" is somewhat tentative, but represents what has been said, in a way that could apply to the family as a whole, or to the patient personally. The *new* element in this response could relate to this shift towards a more psychological rendering of the theme: "collapsing" here could reflect both family disruption, and also personal fragmentation, or disruption, associated with individual experience. The patient responds by moving towards analogy: "*I think it was like weathering a storm, we all just battened down the hatches and went to battle stations.... it was about every man for themselves*". Here we see an analogical treatment of a traumatic circumstance, with development of a personal narrative that locates self within a broader (universal) field. It refers to the outcome as a period where it was "*every man for themselves*", a situation of alienation, likely to have reflected a personal experience of alienation. This is now referred to in the past tense, with further development (*rheme*) in the comment, "*I'm coming out of some sort of haze*". This suggests an experience of emergence, further reinforcing the established sense of readiness.

- 3) The next selection is a fairly concentrated exchange, continuing use of analogy and metaphor. It picks up on themes present in the earlier session (Pilot 1) of sexuality, and uncertainty around self-efficacy. In introducing the theme in this narrative unit the patient combines a powerful image with a sense of connection to self: "*It's kind of like strike while the iron's hot but the striker has to be ready as well, it's not just about the iron*". This is in contrast to earlier "treatments" of this theme, involving referents originally brought up in dream material shared previously in therapy, where the sense of capacity to handle something dangerous was in doubt. Now it is realized that it is the *combination* of self, and instrument, that is important, although there is perhaps still some uncertainty about readiness. The therapist responds to this *given* by making use of his own internal image, and sharing it with a degree of humour (there is shared laughter in this passage), a strategy that may make it easier to stay with a "hot", potentially "dangerous", subject: "*when you say irons and strikers.... the first image that came into my mind was of an (clothes) iron, but I'm not sure that is what you meant at that time.*"

The humour, and play with images, might be considered the *new* element therapeutically. The patient responds good-humouredly, able to emphasize the element of danger: "*No. No, a much more violent iron.... I picture.... like one of those old fire stokers and it's got the pointy end on it and it's getting red hot and ....it's almost like.... this dream about the weapons and the guns and stuff* (anaphoric referent), *and you know you can have a loaded weapon and it's dangerous but in the hands of the*

*right person it's used properly..*". Imagery is being shared, with potential for "violence" made explicit, although contained by humour. The theme of readiness is reiterated, using more symbolic language. The therapist responds by "giving back" what has been understood, in a way where the *new* element is the applicability of these metaphors to the person of the patient: *"like having a sense that you know having a loaded weapon in the sense of having your own power"*. The patient responds with a statement accepting this possibility, but expressing it with the neutral pronoun "it", allowing the sense to remain both personal, and universal: *"it's about being potent"*. This is a reiteration of earlier themes, including the sexuality theme in Pilot 1; but with realization of readiness in manners extending beyond the sexual sphere, to more general self-efficacy.

- 4) This exchange is considered the narrative high point, involving a further realization (see also 5.2.2). Given that the preceding narrative unit (above) contains content that is "hot" and "dangerous", the therapist's comment, *"we're moving towards something"* is, perhaps, slightly transformative: the sense of approach renders what was "hot", as something warm, with "we" suggesting the possibility of togetherness in the understanding of the session. The patient's *new* to this *given* is, in fact, "old", an anaphoric referent, reflecting shared understanding that had arisen in therapy long before this session: *"I just think of Danny Boy again, you know the hills are calling"*. The pace of this segment is slow, and measured, with pauses and a sense of space, culminating in the realization, *new* to the patient's own *given*, *"To find your calling. I kind of never understood that term fully until now like when I found my calling."* Here the word "calling" takes on a new depth of meaning for the patient: it has become a personal "message" (clause as message) that can now be declared to the wider world, becoming a part of a system of shared representation (clause as representation). The language is emotionally figurative rather than conventional, or stereotypical. The therapist responds in an affirming way, with the *new* element being recognition of the moment: *"It means something doesn't it"*.
- 5) This narrative climax is followed by a long silence, of about 2 minutes. When conversation resumes the patient makes the slightly agrammatical statement, *"to settle but nothing particular on my mind you know"*, suggesting a sense of quietude and space. While some self-confidence is recognized, there is emergence in this section of conversation about remaining fears, now seen as questions, or possibilities, rather than inevitabilities: *"still have that fear..... like a ship that's forging ahead, will a storm come along and divert it off course or hit it too hard"*. The language is metaphorical, and doesn't "point", even though both therapist and patient understand that it refers to fear in the family context. These are serious, not unrealistic, concerns for the patient. The therapist responds to this *given*, using humour to contain anxiety: *"..... your comments remind of an image which is a Leunig image, you know Leunig, they've got the, it was a kind of sine wave you know. Look not too extreme, just a fairly sort of undulating you know he has one of his little figures placed at each peak and each trough and you know the really sort of sunny expression when they're at the peak and the expression at the trough. But you know it sort of seemed to be saying to me something about you know even with ups and downs you can kind of live within containable limits."* (Leunig is an Australian artist and cartoonist well known for his

whimsical images). Here the therapist develops his *theme* of the Leunig image (an image associated from the therapist's experience; a "new" to the patient's "given" image of storm waves), with the *rheme*, describing the image as one consistent with survival, in terms of mood states. It is a "normalizing" response seeking, indirectly through development of a shared image, to contain the fear of the patient. It is an example (like the "iron" in "3" above) of the therapist using, and sharing, an internal image, when it seems, analogically, to "fit" the patient's expression.

- 6) The patient allows himself (perhaps feels safe enough) to develop the theme of childhood fears, describing them, with a sense of duality, as both past, and present, experience. He comments, "*the first thing that comes to mind is parents coming in and rocking the boat*". Here he is more explicit about the fear, going on to emphasize the traumatic reality faced: "*I used to be defenceless..... they would come over the top and I'd be wiped out*". In this case, a state of significant trauma is remembered, one where it is likely the psychological position was one of immobility, or near-paralysis, with a constricted sense of self, and experience of domination by the other. The therapist responds to this relatively dramatic *given*, by simply staying with the material, providing (arguably) the *new* element, of recognition of the patient's vulnerability, without trying to change topic: "*Defenceless.... that's a vulnerable place to be*". The patient continues using ocean-related metaphors and, in the context of the session, expresses the importance of not being seen to be deserting the group, when he says, "*(so) they don't feel like we're all jumping ship*". The therapist again brings internal imagery into play, staying with nautical metaphors: "*sort of image..... coming to me of ... navigating in a way*". This exchange is enjoyed by the patient, who sums up light-heartedly: "*So many oceanic metaphors today.... the big boat and the little tug-boats.... like mother duck and little ducklings and eventually you have to go off away from the pack, navigate away...*"; then becoming more reflective, "*.... it's a vast ocean, there's room for everyone (silence)*". There appears to have been a degree of transformation, with shift into a shared symbolic register, where the patient is sensing a place in a community of fellows, able to participate with a sense of equality. He has developed his metaphoric characterization of the developmental, therapeutic process (separation – individuation), and has responded to this *theme*, with a universal *rheme*. The silence that follows is peaceful, broken by his remark, "*What's been helpful lately*", suggesting a sense of personal progression.
- 7) At this stage the session is winding down. The therapist uses an anaphoric referent, the (meat-) "*hooks*", in passing, the referent being sufficiently shared to need no elaboration: "*... some hooks are loosening a bit*". The patient's response is to move, within a period of 15 seconds or so, to another topic. This is introduced by a linking phrase that could be understood as picking up on the "meat-hooks" referent, although not explicitly: "*Just thinking about letting go*". This becomes the topic, in a sense, for the remainder of the session, starting from the common referent, which would signify a "letting go" of family influence; to references in the present to other relationships, where "letting go" is required; and finally to the therapeutic relationship, where the temporary "letting go" of a break is anticipated positively: "*nice to have Thursdays a bit.... more open*". There is a sense that such transitions (endings) can be negotiated successfully.

Therapist and patient are engaged in a creative effort. The exchanges, in the form of *given* and *new* contributions to the conversation, have a culminative effect: personal messages are built up and taken in, leading to shared, and new, forms of self-expression. Anaphoric referents contribute to personalization of the process, as they do in any sustained relationship. In therapy, the therapist is conscious of sustaining a focus on the patient's world, and fostering the emergence of a self with an effective voice, someone who can become a full participant in the speech fellowship to which he, or she, belongs, utilizing *clause as representation*, with a sense of ownership, based upon secure exchanges (*clause as exchange*), and the development of a sense of a substantive, culminating personal text (*clause as message*). The examples given above illustrate this kind of process, and help clarify ways in which self is transformed through language. While some liberties have been taken with the use of some technical terms from linguistics (*given; new; theme; rheme*), the form of "impressionistic analysis" used here is justified similarly to the use of the "Change in Self-Experience Rating Scale" (CSERS): it is closer to the way psychotherapists, and generally 'selves-in-relationship' operate, in the intermediate "space where we live", which is neither completely objective nor completely subjective (Winnicott, 1971, pp. 104-10). In this space we see gradual emergence of the capacity to be alone, and to be together with others.

#### 6.4 Difficult places, dissociative spaces: the zone of trauma

*"The wind cried Mary"*

*Jimi Hendrix*

People are often moved by witnessed trauma. Yet, frequently we switch off, or dissociate, from pain and suffering. The global era of communication means an enormous range, and explicit content, of suffering is continually on show. We prefer to be blind to it sometimes, finding it "too much". This is done consciously, and unconsciously. Much as one may bear witness to the suffering of others, one is inevitably caught up in personal experiences of trauma. The title of Hendrix' song (Hendrix, 1967) refers to a sense of inner turmoil when his girlfriend "*stormed out of the apartment*", making a sudden break in the relationship (Wikipedia, 2014). It also, however, can be seen as reflective of the conversation between self and world ("the *wind* cried"), and the personified nature of suffering. The "voice" of the world may be loud: the wind goes from "*whispers*"; to "*cries*"; to "*screams*", before reverting to "*cries*", as the song progresses. If the world is experienced in such a way, there may be a need, sometimes, to "scream back", perhaps evident in the sounds of Hendrix' guitar; or to respond creatively, by writing a song. The "Mary" of the title could be a particular woman, or the symbolic Mother-Mary.

Experiences of loss and trauma are inevitable in relational life. Even on the battlefields of war, dying soldiers call for their mothers. In extremity, it is still natural to seek comfort. Soldiers traumatized in war often suffer as much from trauma they have inflicted, as from trauma to which they have fallen victim. So it is with trauma based in the early relational environment: "*borderline patients are not so much afraid of staying in an empty house as they are terrified of being trapped in a haunted house – a house haunted by the memories of what others have done to them and what they, in turn, have done to themselves and others.*" (Zanarini & Frankenburg, 1994, p. 26; quoted in Korner et al, 2007, p. 304). The role of the clinician is to remain supportive and non-judgmental, even when the patient may have been "inflictor" of trauma. If concepts like trauma and violence, aggression, and sexuality are to be

approached with understanding, rather than judgment, a developmental framework recognizing the bases of trauma is required.

On one view, the most basic form of “aggression”, “*is almost synonymous with activity*” (Winnicott, 1950-5, p. 204). Activity, of course, is essential to establishment of the self-world relationship. Movement may be towards (progression; contact), or back into oneself (withdrawal; decrease of movement towards stillness). Early on, the action of a young infant who kicks out his, or her, leg, striking a carer, will be almost universally “glossed” as “she (or he) didn’t mean it”: it isn’t seen as intentional, or psychologically violent. The infant, in the first six months or so, is in a stage before the development of concern for, and awareness of the separateness of, others (ibid., pp. 204-7). Excessive inhibition of this need to move and express instinctual capacities for aggression is thought to result in a form of dissociation, referred to as “splitting” (after Klein), where “good and bad” develop along separate lines (ibid., p. 207). In this situation “*love loses some of its valuable (lively) aggressive component*” (ibid., p. 207).

Consideration of movement can be taken back earlier: it is common knowledge, to any mother or father who has observed an ultrasound in pregnancy, that the foetus is moving limbs and body, even in the womb. This could be understood as a form of “monadic” relatedness, because at this stage of life the foetus cannot relate to others as “wholes”. Rather, the totally dependent, but whole (psychologically undifferentiated) foetus only has access to the rhythms and sensations of others, and the external world, filtered through the body of the mother: truly “*through a glass darkly*” (Corinthians, 1:12, KJV). Meares describes two basic forms of relatedness: dyadic and triadic (Meares, 1998, pp. 876-9). Dyadic relatedness begins with the proto-conversation (ibid., pp. 876-7). Triadic relatedness involves development of symbolic play, an activity initially carried on by a child in the sphere of the carer, involving play with the objects of the world (toys and the like), which become invested with personal meaning (ibid., pp. 877-9). This is the beginning of personification of the self-world relationship which carries on through adult life, in the manner described earlier in discussion of the Hegelian process of ‘becoming’. “Monadic” relatedness, *in utero*, could be seen as a third form of relatedness.

The biblical quote originally highlighted the *adult*, seeing the world “through a glass darkly” (from an adult perspective); in contrast to “*face to face*” (Corinthians, 1:12), conveying the immediacy of the child’s view, of dyadic (infant-carer) relatedness. The phrase could also be applied to the relationship of the foetus to a world at most be perceived dimly, and not as a whole. It is a stage of life preceding communicative relatedness. This early movement, which has sensory, sensible concomitants, may have correlates in adult life, in states referred to in meditation as “objectless awareness”; or even Buddhist “nirvana”. The transition from the state of intra-uterine “monadic” relatedness, through birth, to the shock of a now physically separate relationship to the world, and other, is itself a situation with risk of trauma, if supportive care is not sufficiently available. Severe neglect results in “failure to thrive”, and can be lethal. While this circumstance can’t be conceived adequately in linguistic terms, it may represent a “fourth form”, in addition to the three narrative forms, *script*, *chronicle*, and *narrative*, mentioned previously (Meares, 1998), although a form defined by absence, rather than presence, of relationship.

While movement can be seen as beginning the self-world relationship, the cry is, arguably, the beginning of communicative relatedness, and hence a foundation of great value to the infant, despite its initial reflexive nature, for dyadic, and other forms, of relatedness. The infant now participates in communication, contributing to the sense of *significance* in relatedness, discussed in Part 4 (4.3). Self-world relatedness, starting rudimentarily with movement in the world, needs to be integrated with communicative gestures, to establish

grounds for coordinated relatedness. Unintegrated aggressive impulses, may later give rise to violence, where the perpetrator, while conscious of the act, is not fully aware of the effect on others.

Sexuality involves the self-other relationship in a bodily way. It requires integration of bodily function with expressive sensitivity, at both feeling, and verbal-conceptual levels, to be achieved without mismatch, i.e. to feel safe and fulfilling. However, this is not what generally happens. The risk, and sense of exploration of sexuality, may be part of what is exciting, or pleasurable, but has such felt power for individuals, as to often blind them to the experience of the other, so that mismatches are extremely common. The coordination and integration required for sexuality, generally considered a private domain (with very strong cultural influences), and one for which children are often ill-prepared, may be such as to make it particularly susceptible to traumatic forms of experience.

After these preliminary comments, trauma is considered from a linguistic/therapeutic perspective. It is difficult to discuss trauma publicly without making attributions of blame. When this occurs it tends to be unhelpful, often leading to a compounding of trauma, and cycles of retributive pre-occupation. Yet trauma affects most, if not all, lives at some point. The experience of being “haunted” by such experience, and in some cases dominated to the point of personal paralysis, leading to failures in development, is common. When trauma is discussed people often think of violence: sexual or simply physical. Other impingements like expressed anger, denigration and humiliation also come to mind. While it is beyond the scope of this thesis to describe, or consider, all forms of trauma, and associated disturbances of development, there is substantial evidence for links between emotional trauma and various forms of mental disorder (e.g. Kendler et al, 2003). What will be discussed are the linguistic forms that narrative takes under conditions of trauma.

#### **6.4.1 Four forms of traumatic expression**

Four situations, of “no story”; “script”; “chronicle”; and “narrative”, are described with reference to clinical material: firstly the situation of failure to thrive, followed by illustrations of script, chronicle and narrative, using the material from the session, Pilot 1.2. In contrast to the “no story” situation, these latter three forms are based in language. While it is possible to find examples that illuminate the form of script, chronicle, and narrative, it is not the case, in Pilot 1.2, that one of the traumatic forms is dominating the session. Rather, periods of traumatic experience are being talked *about*: the patient is not in its grip. It is often the case that a more integrated patient (as in this example) is capable of talking with greater coherence, providing clearer linguistic illustrations of trauma, than the patient who, in the grip of trauma, lacks coherence. Even allusions to such experience, however, may engender a level of anxiety or re-experiencing. Each of the three language-based forms, is considered in terms of “fuzzy logic” (Zadeh, 1965, see also 2.6; 2.10; 4.5.3), contributing to understanding how organizing principles, established early in life, manifest in conversation.

##### **6.4.1.1 No story**

The medieval anecdote of the Emperor Frederick, at the beginning of Part 1, is recalled at this point: in a situation of extreme emotional privation, with no communicative interaction, “*the children all died*” (Fernando-Armesto, 1997, p. 148). Modern evidence is also found of the severe effects of such privation (Spitz, 1946). To put it bluntly, such circumstances can and do lead to death, to which relatively few bear witness, in developed societies. Medical people are one group more likely to do so. The trauma is not so much of impingement, as of gross neglect. As a medical person, it was a source of some distress, and helplessness, for me to witness this kind of event. The experience has not been forgotten. My account may lack sufficient eloquence, to convey the horror of this ‘psychological absence’ but, suffice it to



say, it was a truly “*bad place*” for a human (the patient) to be. The outcome was fatal. For me, having seen, in the course of professional life, many patients with severe pain; near death; people devastated by violence; subject to degradation; and all sorts of loss and misfortune, I can think of no sadder situation than this:

*I was working as a young doctor, in a country with limited medical facilities, on a paediatric ward. A young girl was there perched on her bed; unmoving with wide eyes. She was nearly five, although only had the weight and size of an infant of 15 months. She sat upright with a vacant stare. There were nurses trying to engage her, to talk to her, to cajole her, but there was no response. She wouldn't take food. It was too late they said. They had seen it before. There wasn't any specific illness that could be found. She was malnourished of course but nothing else. She sat hour after hour. Not sleeping much. Not really awake. Some sort of limbo. Staring; no words; no language; no response: no self at all, or so it seemed. After about 16 weeks she disappeared in the night. The next day it was said that she died at night: alone. It was a life that never happened. No family; no traces left. Her stare looks through me still. I don't remember her name.*

The girl was alive, but forgotten, as far as significant others were concerned. Psychologically she had never really lived. The situation of being left, or forgotten (French, “*oublier*”), was utilized in medieval times as a final torture, following the many predations of torturers, the *oubliette* was, “*A dungeon only accessible by a trapdoor at the top*” (Wiktionary, 2013): a place where there was no possibility of escape and people were simply left (forgotten) until death. Whether at the beginning, or end, of life (whenever that may come), neglect can be of such severity, as to compromise, or effectively obliterate, mental life, leaving the individual in the situation of a psychological vacuum.

This deeply traumatic psychological space is perhaps what is meant by existential “voids”. It is, arguably, the instinctual fear driving the “separation or isolation call” (MacLean, 1985). It is the “no-thing”; the “no connection”; the “no self at all”. As such it contrasts with the “script”, “chronicle”, and “narrative”, where trauma at least takes form. Isolation and emotional privation (the absence of communication), are universally feared. Given that language, in human development, becomes a significant aspect of what constitutes *self*, there is a form of “darkness”, central to human fear and vulnerability. The “void” of complete isolation is symbolic “darkness”, characterized by “no story”; “no recognition”; “no connection”; “no sense of existence”. Such fears, deep within the psyche, mean that language has, and always will, serve a function, for humans, in relation to the prevention of, and healing from, trauma. Some form of organization through language is preferable to none.

#### 6.4.1.2 *The Script*

*“I used to be defenceless... and they would come over the top and I'd be wiped out...”*

Here the patient is recalling states of trauma dating from familial interactions that have occurred repetitively throughout life. For some people such states will be the main form of relatedness, and adaptations will have to be made to an *ongoing* traumatic state, where an “*impinging narrative*”, of ‘other(s)’, dominates experience (Meares, 2000, pp. 98-100). In adapting to a situation of traumatic relatedness the most effective response is to restrict activity, and consciousness, to a very limited scope, a set of “*invariant*” organizing principles based upon acceptance of the impinging script (ibid., p. 98). In the example given, were that to dominate ongoing experience, such a script might be something like, “I’m weak; I’m helpless; *I’m defenceless*”. This is barely a story at all, but may, nevertheless, allow some relational organization. To use the *if... and .... then*, form of fuzzy logic (2.6; 2.10), such a limited script might allow for an organization like: “*if I am so weak and others keep coming over the top of me then I need to keep out of their way and do what they say*”. When such a form of organization is dominant, it is likely that change will feel threatening; it may take

considerable time to establish new patterns. Transformations won't be possible on the basis of instruction, as this will involve repetition of the old pattern. The establishment of safety, and development of analogical forms of relatedness, will be required. The presence of language and communication provide hope for self. A basic understanding that the need for adaptation has stemmed from the need to protect a self that has value, will assist the therapist to maintain a therapeutic position.

#### 6.4.1.3 *The Chronicle*

*"I think it was like weathering a storm, we all just battened down the hatches and went to battle stations.... it was about every man for themselves..."*

In this short passage the emphasis is on a stress, to which both patient and family were subject, where the outcome was psychological isolation: *"every man for themselves"*. If this circumstance is sustained, the person (patient) is left feeling everything is up to them, that existence is only possible if effort and activity are maintained. If such a situation dominates before a sustaining sense of self has emerged, the person is likely to be in a state of stimulus entrapment (Meares, 1998, p. 884; 2005, pp. 88-96), where the sense of existence is inextricably tied to externally orientated activity, and continuing stimulus from the environment. This is the situation of constricted traumatic consciousness, lacking the duality of self (Meares, 2005, p. 83; Benjamin, 2013). Since experience is reliant upon stimuli, the patient's language is likely to be reflected in *chronicles* involving recitations of events and facts, without the colour of personal experience. It would generally lack the metaphoric language evident in this extract. Looked at in terms of fuzzy logic, there could be a principle in operation, along the lines: *"if I keep doing things and I keep working hard then I might survive"*. A limited kind of story is possible here, although it is without expectation of success or growth, and with little expectation of intimacy or connection with others. Put in terms of affective states, such a strategy is sometimes associated with inhibition of affective expression, the 3<sup>rd</sup> "General Image" of affect (Tomkins, 1995), or in fuzzy terms: *"if I notice a feeling or emotion and it gets stronger then I better hide it or escape, or even shutdown completely"*. As for the script, understanding that the patient is motivated to keep the (valuable) self safe, may help the therapist to remain engaged.

#### 6.4.1.4 *The Narrative*

*"So many oceanic metaphors today.... the big boat and the little tug-boats.... like mother duck and little ducklings and eventually you have to go off away from the pack, navigate away... .. it's a vast ocean, there's room for everyone... (silence)"*

In this passage we see a sense of connection, use of analogy and metaphor, and the development of stories (in bits and pieces), with future orientation, permitting of an inner life, where silence feels safe, and *"there's room for everyone"*. Felt experience has a lively narrative form that can be shared with access to the common sense of language. There is a poetic quality to the language consistent with the possibility of change (Meares et al, 2005b). There is the sense of possibility rather than dread of inevitable doom, or dull repetition. This flexibility brings into play the 4<sup>th</sup> General Image of affect (Tomkins, 1995): a life can now be coordinated. From an emotional viewpoint, the "fuzzy" view might be: *"If I notice a feeling or emotion and there is no threat that can be seen, then I am free to direct my attention as I please"*. There is room for exploration.

#### 6.4.2 Dis-integration; the double life.

*“One great splitting of the whole universe into two halves is made by each of us; and for each of us almost all of the interest attaches to one of the halves; but we all draw the line of division between them in a different place. When I say that we all call the two halves by the same names, and that those names are 'me' and 'not-me' respectively, it will at once be seen what I mean.”*  
(James, 1890, p. 289)

The natural tendency is to divide one's experience of the world into that which is “me”, or mine; and that which is “not-me”; that to which I am indifferent. This kind of division, or dis-association, like that described earlier (Winnicott, 1950-5), may occur early in life, in which case it forms an implicit form of relational organization.

It will be seen from the examples above that, under traumatic circumstances, people will lead restricted lives, based upon the *need* to adhere to *some* form of organization. Traumatic forms of organization have their basis in dissociation. Under good conditions the self has both multiplicity and continuity, maintaining a *sense* of unity. Multiple “selves” will be evident in differing relational circumstances, at different stages of life, and in different moods. In traumatic dissociation, the sense of continuity and unity is lost. Different selves may be evident that seem incompatible, with little connection, or internal capacity to communicate within self. Effectively some areas of experience are hidden, sometimes even to the person him, or her, self (“not-me”, to myself).

It is a favourite subject of media exposes to reveal the “dark secrets” of respected public figures, who have led “secret lives”, involving sexual indiscretion, or criminal behaviour. Normally, secrets are kept as a matter of choice. However when the secret takes up a substantial part of someone's life, the situation becomes one of divided affective investment, with loss of integration. Separation between the public persona, and private self, is present in all people, to some extent. It is most likely to lead to dysfunction, when affect inhibition has been a dominant interpersonal strategy in the public domain. Shame is often a major affective influence, driving the person to hide what he (as it commonly is), or she, is doing. One response to the frustration of chronic affect inhibition may be emergence of the “double life”, a theme developed by Robert Louis Stevenson, in his character(s), “Jekyll and Hyde”, discussed below in 6.5.2.

#### 6.5 The Prospective Self.

*“He is good dreamer; he is open”*

*Nungurrayi, Kukatja People, Gibson Desert, Western Australia*

*“I am not saying they love each other. Oh, no. Football is not a matter of life and death... it's much more important than that. And it's more important to them than that...”*

*Bill Shankly, Manager, Liverpool FC,  
(describing the relation between Liverpool and Everton fans)*

For self, a story is better than no story. Even the rudimentary, bare *script* is at least something. While, in such a life, there is little sense of continuity, there is at least a form of organization, a faint ember of life. A limited, stereotypic, convention-bound story, or chronicle, can sustain life, but of a limited kind, with a constricted sense of self. A developed self has the sense of

his, or her, place in the world; of involvement in the action of life; the capacity to dream of many stories, roles and adventures: the sense of a narrative self. Even so, life is coloured by stories of trauma and loss.

“No story”, as defined here, is the place of horror, or alienation, instinctively feared. This is the kind of world of experience from which we shy away, “not wanting to know”. It is beyond, or outside, the social. One’s response is akin to the message, (fictionally) written on the gate to hell: “*Surrender as you enter every hope you have*” (Alighieri, c. 1310); or the existential version of Sartre, where hell is the place of “*no exit*” (Sartre, 1958). The “city” of Hell, in *Inferno*, is “*Dis*”, where inhabitants are tortured by the “*confusion of tongues.....denying all possibility of clear communication or thought*” (Kirkpatrick, 2006, p. 367). Horror, or ‘hell’, relates to being denied the possibility of connection through language.

Trauma throws the person off balance, into helpless, or reactive, states, limiting the development of personal narrative. Emotional balance is attained, in the first place, in early dyadic interaction. Balance occurs through affective and gestural exchange, in the proto-conversation. The loss of communicative connection, as referred to in the vision of “*Dis*”, also occurs in this pre-verbal domain. Balanced *mental* life depends on communicative exchange, throughout life.

Individual maintenance of balance is illustrated by the Australian aboriginal elder (woman), Nungurrayi: “*He is good dreamer; he is open*” (Poirier, 2003, p.111). For Nungurrayi’s people (the *Kukatja*), the spirit, or *kurrunkpa*, reflects balance between the seat of emotions, or *tjurni*, sensed in the abdominal area; and *kulila*, the organ of thought, sensed as inside the head (ibid.). Perhaps *tjurni* reflects, to some extent, what is referred to, in English, as “gut feeling”. For aboriginal people, thought doesn’t occur in isolation: “*the mind .... stands in relation to whatever is acquired through listening to other people or stories; and second, through the tjurni, the seat of emotion, from which the kurrunkpa departs for dream experiences.*” (ibid., pp. 111-12). Balance attained through the effective sharing of personal worlds, allowing a collaborative belonging to the “mob”, is an important aspect of what Australian indigenous people mean by the “Dreaming”: “*dreams as human action in the world, and as social process – is more valued than actual dream contents, or dreams simply as objects*” (ibid., p.110). Expressing personal experience may be more important to the economy of self than language that conforms to stereotypic public expectations.

Given that lives unfold into the future, the ongoing “balance” the individual strives for, is between the personally-felt patterns, or “*feeling-toned complexes*”, of immediate individual experience; and the received patterns of meaning from the community of fellows, the “*archetypes*” of the “*collective unconscious*” (Jung, 1934, pp. 358-9). Stories require engagement with others: there are more possibilities where there is openness, engagement, and collaboration, as opposed to isolated struggle. Collective influences will draw the individual in a multiplicity of directions. Paths of opportunity, transgression and adventure, tend to be more alive, for many, than paths of convention, and repetition. Life is carried on while the person is uncertain of destination, or the ultimate form that his, or her, story will take. Each self is **prospective**: an emerging, embodied text, with narrative form.

Openness is what characterizes the sense of flow, when present in relational settings. This requires a balance between conceptual, and affective, expression. A dry recitation of events, or facts, where intellectual or conceptual expression dominates, tends to be boring, cold, or lacking in vitality. On the other hand, communication dominated by emotion may be histrionic, also failing to engage. Extreme domination by intense emotion may be moving to others, in one way or another, but lacks coherence. The sharing of emotional life requires the revelation of selves as players in interaction. We don’t understand emotion by simply naming

it, although this is often the emphasis in academic writing, as has long been the case: “...unfortunately there is little psychological writing about the emotions that is not merely descriptive. As emotions are described in novels, they interest us, for we are made to share them..... the trouble with the emotions is that they are regarded too much as individual things”(James, 1890, p. 448-9).

A simple story may still have considerable personal value. In its essence, a story is conveyed by the clause that expresses action, with subject; transitive verb; and object: “*each sentence is a little story*” (Calvin, 1996, Loc. 1310). Minimalistic stories are not synonymous with trauma. They can be lively, with the virtue of accessibility. Bill Shankly, manager of the Liverpool football club in the 1960’s, is often cited by fans of football, and sports fans more generally, as saying, “*Football is not a matter of life and death... it's much more important than that*” (Shankly, c. 1961). While the reference is humorous, it arose from respect for the many individuals and families who were fans of the club, involved in their ‘eternal’ rivalry with neighbouring Everton fans. For many people, such engagement in the life of a team is understood as a simple story, about belonging and support: “I/We support Liverpool”. This has both efficacy and accessibility. It is associated with action in people’s lives in a form that can be shared. It provides grounds for *prospective* action, in contrast to the traumatic script where constricting self-definition limits possibilities for prospective action, effectively enslaving the person in a traumatic past. Modern sporting stadiums bring people together, in ways that can be compelling, and emotionally engaging. The Liverpool crowd, singing their team song, *You’ll Never Walk Alone*, at Anfield Stadium represents, for many, a real experience of community (Korner, 2002). The song conveys sentiment that resonates with Shankly’s words, speaking of the courage it takes to keep going, despite adversity, “*though your dreams be tossed and blown*”. The ultimate reward, or belief, is that, “*You’ll never walk alone*” (Rogers and Hammerstein, 1945). It is about the relationship of the individual to his, or her, community.

### **6.5.1 Mood, temperature and voice in therapeutic contexts.**

Emotional qualities of stories are often described in terms of *temperature*. Hence a sentimental tale has *warmth*. Tales of action and conflict may generate such excitement as to be *hot*. Where individual reflection, or introspection, is the basis of a story, the temperature may be *cool*, consistent with the colloquial use of *cool*, where coolness implies doing things at one’s own pace, and not getting flustered. Stories involving horror, or asymmetric violence, are seen as *cold*, as in “cold-blooded murder”. *Warmth* is, arguably, associated with social engagement; *heat*, with mobilization; *coolness*, with personal space; and *coldness*, with alienation. Whilst these associations are used metaphorically, they may also mirror states of the body, involving fluctuation of body temperature and shifts in autonomic function. These could be reflected in varying autonomic states, underpinning the “self-in-action”. In study data we have seen conversations, with movement towards warmth when vulnerability is recognized, and responded to, (see Pilot 1: 3.11.1; Pilot 4: 3.11.2; Pilot 3: 3.11.3); heat when there has been argument (Pilot 4: 3.11.3); coolness where there has been space for reflection and quiet moments (Pilot 1.2: 5.2); and coldness when subjects have spoken of isolation and alienation, although interspersed with self-generated efforts at ‘warming up’, through mobilization of anger (Pilot 3: 3.11.2), where the CSERS rating of “f-upset”, is followed by “f-angry”, on several occasions.

In clinical practice, mood refers to relatively sustained shifts in emotional state. It is also associated with metaphors of temperature. These may also have a relationship to bodily changes in differing moods. Depression, associated with slowing, withdrawal, and inactivity is a “cold” state; whereas Mania, with overactivity, speeding up, and excitement, is “hot”. Middle states (euthymic states), consistent with more healthy functioning, vary in terms of

warmth and coolness, although they may encompass excited, “hot” states and chilling “cold” ones, provided these are temporary rather than prolonged: in health there is considerable flexibility in the flux of feeling. Moods fluctuate prospectively in interpersonal relations with significant others. Feeling and emotion normally fluctuate, being complex constructs requiring analogical expression to approximate experience. An effective “voice” is modulated with integrated affect, expressed prospectively: feeling emerges as we speak. Hence healthy conversations vary in levels of heat and emotion. In dealing with trauma and loss, the therapist needs the flexibility to allow gradual emergence of themes and stories. Trauma is not confronted relentlessly, because “*memory does not usually come all at once, but in bits and pieces, haltingly.*” (Meares, 2006, p. 67). The therapist needs to be unhurried, allowing stories to develop. It is unhelpful to ‘push’ patients to talk, when this may re-engender traumatic experience. “Temperature” and “mood” in the conversation need attention, as markers of the sense of safety.

“Mood” is used differently in linguistics (SFL), being defined in terms of the properties of subject and verb essential to *clause as exchange*: the giving and demanding of either goods and services, or information (Butt et al, 2000, pp. 97-9; see also Part 3). Mood, whose basic forms are indicative and imperative, with indicative further divided into declarative (giving information) and interrogative (demanding), has a specific function in language: “*it carries the burden of the clause as an interactive event*” (Halliday, 2004, p. 120). In study data, using the CSERS instrument, examples have been provided of feeling (self-experience) shifts, in relation to particular exchanges in conversation. Mood, in a linguistic sense, may relate to variations in feeling state, as the demand characteristics of conversation play out.

In Pilot 1.2 the patient was going about purposeful preparation in an active way, with a sense of agency. In parts of the session there was evidence of reflective, metaphoric language, with comfort in quiet conversational pauses and spaces. Transitive language was evident, in relation to preparations; while a sense of connection and humanity was evidenced by poetic language, later in the session. In contrast the interviewee in the Control 5 session, while having a confident voice, used less transitive language, suggesting someone content with the status quo.

In general language may be more transitive, conveying the dynamic sense of situations, or it may be, intransitive, with experience rendered as “states of affairs”. In clinical situations, formulating the patient’s situation in transitive terms, conveying the sense of the patient’s involvement in the action of his, or her, life, is likely to be associated with greater connection, than communications that reduce experience to “matters of fact” (Korner et al, 2010). “Voice” in SFL describes variation in the way language specifies activity: an *effective voice* specifies actor and action; whereas *middle voice* leaves the actor unspecified (Halliday, 2004, p. 297). Using middle voice, for the therapist, may allow subjects to be talked about without declaring, or attributing, responsibility. This may help prevent the “temperature” of the conversation from over-heating. The *passive voice*, often understood psychotherapeutically as the voice of suffering and trauma, can also be simply the voice of “received experience”. Where there is *no* effective voice, language may also exert effects on mood, used in the everyday sense of feeling state, through what is left out (ellipsis). What is *not* said, or *cannot be formulated*, may be powerfully felt.

### **6.5.2 The realm of the dis-social, trauma, and horror; the need for imaginative re-association in relational space**

In the pre-verbal period a huge number of “events” take place in interactions between infant and carers. The communicative mode of exchange is feeling-based: carried in facial expression; the rhythms of movement; and gesture. In developmental studies, such as the

“still-face” situation, it has been shown how sensitive infants are to changes in this indexical, bodily “syntax” (Tronick, 1978). When variations in parental mood, or styles of communication, fail to provide recognition, and valuing, the infant is left in the position of having to adapt, and does so at a cost, in terms of optimal function. Infant feeling and expression that meets with hostility, indifference, or rejection from carers, becomes separated from the relational sphere. Re-organization occurs with its division, or ‘dis-sociation’, into what can be identified socially with self; and what has to be held outside this space. This involves a loss to self, sometimes, perhaps, of the “aggressive component” of love, mentioned earlier (Winnicott, 1950-5). Affectively toned complexes, held in implicit memory, may be felt as “not-me”, leading the person to have the experience of traumatic things that simply “happen to” a relatively “helpless” self. Some states may be associated with shame, and therefore, hidden. This leaves the person in a state divided, where, while adaptation may be sufficient for existence, development is sub-optimal. The individual will suffer here, from “dark” states that cannot be shared socially, and, indeed, tend to go unnoticed. They remain “without speech” in implicit memory. There is a significant element to such a life that is “unexamined”, in the sense of enlightenment by the “common sense” of language.

From the infant’s viewpoint, the effort, presumably, is to keep certain (“unacceptable to other”) feeling states, *separate* from the dyadic, communicative space (the intersubjective field). Significance, rather than agreed-upon conceptual meaning, is already being generated by proto-conversation. The movement, under conditions of mismatch, is towards “hiddenness”. This leaves the infant frustrated in relation to the 3rd “General Image” of affect: *affect inhibition* (Tomkins, 1995). From a first person perspective, however, it is likely to be the lack of expressive space for feeling that is most significant. The current knowledge of early affect regulation, suggests that mismatches and trauma lead to *failures* of right-sided inhibition of affect (Schore, 2012, pp. 329-33; Meares et al, 2011, pp. 288-92). This probably relates to inadequacies in, and impingements on, the early field of play, necessary to development of unconscious affect regulatory mechanisms. These early experiences may be significant contributors to later episodes of mood disturbance (Winnicott, 1950-5; Meares, 2006). In some people processes of dissociation may lead to phenomena such as the “double life”. The therapist is faced with the challenge of finding ways of recognizing, responding to, and developing the story of self, sometimes in the face of “dark” emotions.

The genre of horror, at its best, may serve a function of providing sufficient syntax, or story, for situations that would, in life, provoke “mental shutdown” (“no story”), allowing humanization, and hence transformation, of traumatic realms of human experience. This type of fiction emerged in the 19<sup>th</sup> Century, perhaps influenced by conditions of industrialization with dislocation, where many infants were abandoned, giving rise to the orphanages and workhouses of Dickensian times. In both *Frankenstein*, and *The Strange Case of Dr Jekyll and Mr Hyde*, new technologies of “medical science” play a role, although one cloaked in secrecy, danger, and shame. In both stories there is a character that evokes horror in those around them (the “creature”; Mr Hyde) (Shelley, 1817; Stevenson, 1886). People are terrified, shying away in horror. The story of *Frankenstein* allows us overcome this alienation, feeling empathy for the creature, abandoned by his creator and shunned, or hunted by others, even though shown as capable of responding to care.

The situation with Jekyll and Hyde is more complex: it is made clear to the reader that the character is divided, against him-self. The situation is analogous to that described previously, for the infant who learns to separate some affects from the dyadic space: Jekyll has, as long as he can remember, concealed that which he senses to be unacceptable to others. He contemplates the question of how this part of him might be *dissociated*, from the acceptable part, so that the “good” part would no longer be undermined (“dissociated” is the term used in the last section, *Henry Jekyll’s Full Statement of the Case*). What is found, prospectively, is,

when this ‘dissociation’ occurs, through the device of a chemical potion, the hitherto “hidden” side is given a life, although one cloaked in secrecy and deception: a version of the “double life”. The hoped for strengthening of the “acceptable” side of the personality, does not occur: Jekyll remains the same flawed character, although now fatally flawed. The ascendancy of elements of hostility, envy, aggression and hatred that make up Hyde’s character can only lead to the destruction of his life. The story illustrates that the lifting of inhibition, as evident in the character of Hyde, does not lead to a therapeutic outcome. What is required, from a therapeutic viewpoint, is the development of character, through expression and understanding. This involves “re-association” (bringing experience into the social space of dyadic and triadic relatedness), in response to the “dis-sociation” (taking out of the social space), that has been the basis of suffering.

In mental health settings patients naturally present wanting distressing symptoms relieved. In the case of distress that has a long history, as in trauma with a developmental basis, this will sometimes equate to the wish to have “unacceptable parts” somehow removed (dis-sociated). It is hard for people to see that what they wish discarded may have value to them. Yet all affects are part of the human range of adaptation to the relational environment. When they have been experienced in traumatic situations, they represent the best effort possible at adaptation made by the person at that time. The problem originally lies in the mismatches, and impinging, or neglectful, relational environments that failed in recognizing value in the infant’s affective, communicative, and exploratory capacities. Mismatches may occur as a result of incompatible temperaments, not necessarily implying abuse. The process of re-associating and allowing emergence of stories that not only integrate trauma but build upon the basic value of the person is the strategy in the direction of life, rather than the compounding of dissociation, by efforts at “excision” of the trauma. When people *write* about trauma, it has been demonstrated that the stories so created will be most therapeutic, when there is a balance of words for positive and negative emotions (Pennebaker, 2011, pp. 10-11). Some “negative” words seem to be required; presumably relating to the need for recognition of trauma. However, “positive” language is also required, if the effort of writing is to be associated with a sense of resolution (ibid.). These findings suggest simply “*having a coherent story to explain a painful experience was not necessarily as useful as constructing a coherent story*” (ibid., p. 11).

The prospective relationship of therapy needs to be towards development of the “good”, not elimination of “bad”. This was evident to Dante in the 14<sup>th</sup> Century. In “*The Divine Comedy*”, “*he would not have written the Inferno and Purgatorio if he had not known from the first the extent to which intelligence is fulfilled in the perception and propagation of the good*” (Kirkpatrick, 2006, p. lxxiii). Here “good” is to be understood, in the human world, as “the common good”, and “bad” not so much as that which is “selfish”, but rather that which is *socially* destructive, leading, in *Inferno*, to the isolated, tortured souls of *Dis*. Therapeutically it is development of *self*, associated with differentiation and flourishing. This occurs in a system of *self* and *other*, not as an isolate. Stories of “the Fall”, on the other hand, like *Dr Jekyll and Mr Hyde*, are stories with tragic trajectories where, if survival occurs at all, it is of a limited kind.

Therapy that is exclusively based upon analysis, and interpretation, is likely to lack a necessary element of prospective relatedness, and narrative development. Analysis, by its nature, takes what already is, or has been, and is, therefore, intrinsically backward-looking. Ricoeur writes that, “*Freud can encounter morality only as a wounding of desire, as interdiction and not as aspiration.*” (Ricoeur, 1970, p. 186). Moreover the acceptance by the patient of the analyst’s position inevitably involves a degree of wounding: “*.... insight, must involve a “humiliation”, since it has encountered a hitherto masked enemy, which Freud calls the “resistance of narcissism”*” (ibid., p. 427). When therapy is viewed in terms of resolution



of established emotional complexes in the individual, the process is likely to be seen as the development of referential (verbal) capacities, similar to the Freudian aim “*where id was, there ego shall be*” (Freud, 1933, p. 4687). There may be recognition that the “*subsymbolic processing system, involving bodily and sensory experience, is dominant*”, reflected in arousal and lack of coherent verbal representation (Mariani et al, 2013, p. 431), but there is lack of emphasis on imaginative, as opposed to strictly objective, interplay in therapy. The process of referential reorganization can be seen in three phases, that of “arousal”, where feeling predominates; then “narrative / symbolizing” activity, where there are “*low levels of reflective language and fluent speech*” (ibid.); and that of “reorganizing” characterized by reflection and stepping back to “*stand outside the experience*” (ibid.). The role of others, and of imagination, in the realization of this process, needs recognition.

People vary in their capacity to use imagination. Occupations, and life experience, don’t always foster such abilities. Individual language use, in many fields, and often in the public domain, can often be characterized as “formal”, or “analytic”. Some people have strengths in these areas, without having developed a “narrative” style of language use. Formal thinking (reflected in formal language) may relate to concerns with status and power; while the analytic style is associated with cognitive complexity, somewhat distanced from emotion (Pennebaker, 2011, p. 80). Analytic thinkers “*work to understand their world*” (ibid., p. 80). On the other hand, people with a narrative style of thinking are good storytellers, able to relate to others in ways conveying immediacy, and evocative of emotion (ibid., p. 81). The development of narrative is necessary to growth of self, although there is a need to engage, at the level of the individual’s linguistic style, for this to occur. Therapy which succeeds in fostering the broadening and growth of self enhances the sense of possibility, and aspiration towards a future. What hasn’t been part of past experience can’t be subject to analysis. Rather *new* stories need to evolve, and be elaborated, in relational space. The “resistance of narcissism” may reflect the need to resist domination by the other, and be one’s self.

To hark back to Part 1: “*...to miss the joy is to miss all. In the joy of the actors lies the sense of any action.*” (James, 1899, p. 272; Stevenson, 1888). It is in the heart of affective experience that we find the core sense of self, waiting for development through language that facilitates exchange and growth: that allows the person to know, and be known. The form of communication effective in this regard is *analogical relatedness*, based upon the kind of healthy interaction that constitutes *normal* relational conditions for psychological growth (Meares, 2009; Meares et al, 2012b; Tolpin, 2002).

## 6.6 Roles in life’s journey; the therapeutic role; non-specific factors in psychotherapy.

“(he) had initially expected me to tell him how to ‘get better’, just like his previous therapists....when this did not happen.... he realised that he could ‘take part’ in his own therapy”  
Richard Benjamin

Some patients choose to take a relatively passive part in their own care even though this is not likely to yield optimal results when it comes to disorders with a developmental basis. There is a certain comfort, however, in submitting to expert advice, and simply accepting what is prescribed. This may work for many. However others prefer to play an active role in their own recovery. This is the path required for the effective development of self. As the quote, above, suggests, patients may be surprised when they find that someone facilitating such involvement, as past experience has led to different expectations (Benjamin, 2013, p. 324). The becoming of self and realization of personality happens in fits and starts, with the odd quantum leap occurring on occasions, through the medium of interpersonal interaction.

In most psychodynamic literature, development has been understood as “individual” development. However, as has been argued here, development can be seen in terms of roles, and reciprocal interactions. In Part 4 the developmental and neurological grounds for such growth in mutuality, were described in terms of the pattern of “cry and response”; and the traditional role progression from infant to child to adult to parent to elder. This was contrasted with the emphasis in many modern societies where the “adult” role is often equated with maturity, and there is emphasis on the “in-between” stage of adolescence.

Life paths have narrative form with a beginning, middle, and an end. In human terms, this narrative is generally in the sequence: life at home; journey away; establishment of new home; engendering of new life; and return, in the sense of the transmission of knowledge and estate, to the new generation. The five role stages referred to above (infant; child; adult; parent; elder), expressed in terms of “call and response” can be considered in broad interactive terms of dyadic (self-other) relatedness; and triadic (self-world) relatedness.

Initially the infant *cries*; the parent/mother/other *responds*; throughout infancy the infant can be seen to make calls relating to need; while parents / carers make calls to the infant, towards play. The parental *call*, over the period of infancy, is important in bringing *self* into being. In childhood, the child broadens the scope of their calls: whilst still relying on parents, who remain first responders to the child’s calls of need, the child now engages in calls to play, in relation to an increasing range of others. As the self’s knowledge of the world broadens, there is increasing responsiveness to the *call* of the *world*. The “world” includes, significantly, the community of others. This “triadic” call effectively becomes louder, drawing the person into activities that sustain his, or her, life until *self leaves home*, marking emergence into adulthood. To establish a place in the world, the adult has to respond, by making an independent living, and emotionally investing in intimate relatedness, the bases for the foundation of a *new home*. With the achievement of the *new home*, the self prepares the necessary resources, to become a *generator* of time and space, for developing others. This signifies readiness for the *parent* role, although it should be noted that *parent* role does not necessarily imply actually having children. Rather it suggests having time for others, and/or, for generative activity. As *parents*, with the birth of children, a new family emerges, along with a new generation of developing selves. Having made the transition from child to carer, the parent gains an empathic appreciation of the human life cycle, and takes the roles of *responder* to need; and *caller* to inexperienced others, in relation to play and knowledge of the world. When the new generation grows up and leaves home, the *self*, now an *elder*, is in a position to share experience with others. Arguably, and ideally, the elder becomes a *representative* of the *world*, for others. Finally, as the body tires, its work done, there is the process of *letting go of life*.

The psychotherapeutic role is of *participant observer*, incorporating immersion in the world of the other; emotional responsiveness, involving the therapist’s *self*; and the capacity to reflect, and observe the flow of the relationship, as expressed in the conversation. This also involves the need for the therapist to observe his, or her, own flow of experience. The position is not one of detached observer, or indifferent objective scientist. Just as disorders of self require participation from the patient if change is to occur, participation by the therapist is required, if processes of exchange are to be transformative. The medium of exchange is communicative, taking place in the intermediate zone of experience (Winnicott, 1971), neither completely objective, nor completely subjective. Rather it occurs in the personal, intersubjective space, required for communicational play and intimacy.

The dominant research paradigm in clinical science, including psychiatry and psychotherapy, that of “Evidence-Based Medicine” (EBM), seeks to establish the efficacy of specific interventions. While there has been some success in this regard, many treatments show only

relatively small advantages over placebo, to the extent that the efficacy of some specific treatments is questioned (Thomas et al, 2013, p. 295). For psychotherapy, reviews of evidence-based interventions have demonstrated that, for depression, most studies fail to demonstrate specific differences in particular therapeutic approaches, although the majority do demonstrate therapeutic benefit, compared to placebo (ibid., pp. 298-9). When it comes to factors identifiable as associated with good psychotherapeutic outcome, those that account for the majority of variance are *non-specific* factors; and therapeutic alliance (Norcross, 2011; Norcross & Lambert, 2013, pp. 22-3). One possible interpretation is that, in the case of depression, and probably other psychiatric disorders, non-specific, non-technical factors may be of primary importance in treatment (Thomas et al, 2013, pp. 295-6).

The evidence for the role of specific precipitants in the onset of depression suggests a prominent role for interactive events, involving trauma and loss: background events involving loss *and* humiliation, combined, have been shown to be the most pathogenic in terms of predicting Major Depression and Mixed Anxiety/Depression (Kendler et al, 2003). Self-initiated separation or loss is associated with Major Depression, but not with anxiety. Other-initiated separation, associated with a sense of humiliation, adds to the depressogenic effect, being additionally associated with anxiety. This is accounted for, by the experience of “*humiliating events that directly devalue an individual in a core role*” (ibid., p. 789). While it is beyond the scope of this thesis to attempt a full review of specific interpersonal experiences, and their impact on mental disorders, it is evident that interactive experiences of *significance* (experience in relation to significant others), involving painful affect, have a role in the development of common psychiatric disorders.

There are potential dangers in the current paradigm of EBM, based upon “objective evidence” and justified as the “*conscientious, explicit and judicious use of the current best evidence in making clinical decisions about the care of individual patients*” (Sackett et al, 1996, p.71). In the same paper, the danger was recognized that clinicians could be “*tyrannized*” if EBM was approached without the balance of significant clinical experience (ibid.). Indeed, for people without substantial clinical experience, like new trainees, the sense of having to slavishly follow the dictates of external sources of objective knowledge runs the risk of de-humanizing treatment. As pointed out above, the rationale for EBM is the optimal *care of individual patients*. All clinicians need to regard the patient as the *primary* source of information, relevant to his or her care. This needs to be understood as a human, “self-based”, source that expresses concerns in *communicative* forms irreducible to purely objective data. Care requires a human response. If this does not occur, the danger is people become reified as medical “diseases” or “disorders”, rather than, first and foremost, being people. This may be particularly the case for psychiatry, where the proliferation of diagnoses and conditions, over the last few decades, has led one of the architects of the DSM IV classification system to question its clinical utility (Frances, 2013). The DSM series, seen by many as an objective tool essential to EBM, is often revered, inappropriately, as a kind of “bible” in the profession (Benjamin, 2013, p. 321).

A model recognizing traumatic and developmental influences represents a move away from the DSM-influenced paradigm, dominant since the 1970’s, which heralded an era sometimes referred to as the “*second biological psychiatry*” (ibid.). The Conversational Model, in focusing on the naturally occurring form of communicative exchange, the conversation, seeks to understand, and therapeutically build upon, non-specific communicative factors (Meares et al, 2012b). While the model can be systematized and taught, it is based upon communicative responses analogous to the developmental processes of proto-conversation, translated into adult conversational situations. It is not the application of a technical procedure. It may be that the capacity to provide a human connection, and environment, encouraging the innate curiosity, and creativity, of self, is crucial to forms of suffering that have a basis in the

psyche. The role of psychotherapist is a quasi-parental role, in the sense that the therapist is required to be able to provide time and space, for attentive listening and responsiveness to others.

## 6.7 Objective correlates of self: summary of project findings.

The psychotherapeutic setting has been understood as the site of conversation between two selves, with focus on the self of the patient. The milieu consists of communicative exchange involving transformations of meaning, following the natural evolution of conversations, in terms of “given”, and “new”, information. Expressed language, following Saussure, involves the effort of an individual to represent a state: as such the language of conversations is seen as an index of self-states. Such states may be evident and explicit, or may be hidden, or non-obvious, given that self is essentially a private experience. Self has been understood as a process intimately related to feeling; and to language. Growth of self occurs in the synchronic dimension of language, through exchanges occurring in the diachronic dimension. Given that self can’t be reduced to object, the intersubjective (psychotherapeutic) field cannot be reduced to objective description. However, it is possible to find objective correlates of self, and methods of externalizing, or giving “voice”, to self-evaluation of the psychotherapeutic conversation. The findings of this project are considered in this light.

### 6.7.1 Bodily correlates of self.

In order to make correlations between *self*, and objective measures, some consideration of the relationship between brain and mind is required. In Part 1 it was observed, that whereas *mind*, *body* and *self* are whole-person concepts, *brain* is a part-concept. *Mind* is what *self* has. This encompasses a self-environment relationship, and a self-body relationship, these being the two interfaces of self, culminating in the textual dimension of language. Development occurs at the focal level of the individual’s engagement with the environment, communicative exchange being the vehicle for change in terms of felt significance. Given that the feeling component of conscious states is crucial to self, these exchanges necessarily rely upon analogical communication, since precise correspondence to, or definition of, feeling states isn’t possible. Bodily systems mediating this moment-to-moment felt engagement with environment are good candidates to serve as objective correlates of self-process.

Heart rate variability (HRV), and breathing, were chosen as objective, continuous markers of autonomic activity, closely related to emotional experience, and intimately related to bodily metabolism. In response to the research question, “*What is the relation between linguistic interpersonal interaction and bodily (autonomic) response?*” there has been demonstration, in Parts 2 and 5, of slowing in breathing rate during speech. This has been shown under controlled conditions; and in the condition of spontaneous conversation during psychotherapy. These findings need replication, and may not be representative of all speaking conditions. Findings from this, and other, studies show slowing of breathing is associated with increased HRV, and RSA, probably reflecting increased vagal tone. In addition there is evidence of slowing of breathing in relation to periods of increased significance (as evidenced during “narrative climax” of sessions with CSERS correlates, in Pilot 1.2 and Control 5) consistent with perceived significance being linked to metabolic regulation via a vagal / autonomic mechanism (see Figs 5.6; 5.7; 5.8; 5.13; discussion Part 5 – 5.6).

In relation to the question, “*Is there any objective distinction in linguistic or bodily responses between a psychotherapeutic and a non-psychotherapeutic conversation?*” some differences between Pilot 1.2 and Control 5 have been reported in Part 5. The occurrence of a greater number of pauses, in the psychotherapy session, meant more opportunities for synchrony in

breathing patterns. Patterns of breathing resonance have been demonstrated in these pauses, although not to an extent that conclusively demonstrates differential degrees of synchrony. This could reflect a form of unconscious resonance between people occurring in the psychotherapeutic, and other relational, settings. Further work is required, and such findings are very preliminary. There is also a distinction between Pilot 1 and Pilot 1.2 in the number of pauses in two sessions 20 months apart. The greater number of pauses in the later session may be indicative of a more substantial space for reflection or quasi-meditative states as therapy progresses. This is also reflected in a greater number of speaking turns taken in Pilot 1 compared to Pilot 1.2.

Previous methodologies measuring HRV have required the averaging of heart rate intervals over significant periods. This involves significant loss of information when it comes to observation of moment-to-moment variations in heart rate, thought to reflect significant autonomic processes in cardio-respiratory regulation, and social engagement. Under controlled conditions we have, in Part 2, demonstrated the accuracy of a new measurement, ‘the method of non-stationary RR time-frequency analysis’, based upon the SBF algorithm previously applied successfully to other physiological parameters. This allows estimations of HRV, and RSA, over much shorter periods than has been possible to-date. It is hoped this will contribute to improved measurement, in this emerging field. Lack of normative data, however, still makes it difficult to interpret results, contributing to difficulty in applying the new measure to the naturalistic setting of psychotherapy.

### **6.7.2 Self-state, CSERS, and time units relevant to shifts in significance for self.**

The third research question, “*Does measurement of self-state add additional information about interpersonal interaction in psychotherapeutic settings beyond the information provided by the actual language (transcript) of the conversation?*” was explored through the use of the Change in Self-Experience Rating Scale (CSERS). This instrument was found to have good acceptability to study participants. As shown in Parts 3 and 5, it provides additional information, beyond that found in the transcript of recorded conversations. It gives a window onto the affective experience of conversation, with examples of paradoxical, multiple, and idiosyncratic ratings, reflecting affective complexity, in the various selves involved. The intervals between successive ratings, not less than approximately 3 seconds, are an objective demonstration that states perceived as significant shifts, by self, are **not** equivalent to minimal demonstrable shifts in conscious state. This finding is consistent with the notion of the *present moment*, of meaningful self-experience, as relating to the timings of breathing, and language. The fact that many of the intervals between ratings were much longer than periods corresponding to the *present moment*, demonstrates selves are not necessarily affected by each conversational exchange, and that there is a tendency towards maintenance of self-states (over periods of up to 12 minutes, in this study).

Since the CSERS rating involves retrospective self-report of material, it cannot be considered an objective measure. It does, however, generate objective data, as exemplified by the time intervals between ratings. There were also high rates of synchronous reporting of data, between members of dyads, in the range 25-78%, in this study. Potentially this provides a window, to examine related synchronies in measures of physiological regulation, such as breathing, and HRV. CSERS ratings also contributed to recognition of narrative highpoints in sessions. Identification of synchronies, narrative climaxes, and variable intervals between changes in self-rating, all lend support to the notion of *narrative units*, made up of several *present moments*, involving successive exchange that contribute to development of meaning, and narrative, in psychotherapy. Selection of narrative units, based upon motivated selection (perceived significance) within conversational exchanges, was explored in Part 6, in relation to Pilot 1.2.

### 6.7.3 Linguistic correlates of psychotherapeutic process.

In part 5 there is demonstration of longitudinal changes occurring within the therapeutic conversation over time with demonstration of an increased sense of agency, reflected in changing use of pronouns and transitivity. Specifically, the pattern of equivocation in recursive tropes demonstrated in Pilot 1 (5.3.3) that have been objectively defined (A4.2), has moved in Pilot 1.2 (5.3.2; 5.3.3) towards a pattern of collaboration and resolution in relation to the patient's interpersonal world.

The way brains and bodies have evolved for reciprocal interaction, and influence, was explored in Part 4. This involved making the distinction between *significance*, an affectively based dimension of experience; and *meaning*, seen to have a conceptual basis. Psychotherapeutic interaction needs to be understood at both of these levels. Sessions, as illustrated in Part 4 (also A3), can be seen in terms of emotive “cries” and “responses”, giving value to the affective level of interaction. A narrative that develops on the basis of this kind of valuing response engenders growth of self, where self is to be understood as an embodied, and partially expressed, *text*. The need for sensitivity to personal significance, and tracking of sessions, in terms of mood and voice, in both common, and linguistic, senses, reflects processes of the *interpersonal metafunction*, in linguistic terms, where the *clause as exchange* is the vehicle of personal growth and change.

Other objective correlates of self, such as the default network (4.5.2), are consistent with self-process, involving differentiation and increased complexity over time. These are paralleled by communicative processes involving amplification of positive affect (through variant response); and modulation of negative affect (through analogic response). Properties of flexibility, resonance, redundancy, and differentiation, within a network of significance, are found both in language, and neural systems. For psychotherapy, language is the experience-near vehicle for psychological work. The understanding of neural functioning, while crucial to development of prescriptive intervention, is relatively distant from personal experience. The recognition of communicative exchange through conversation, involving “given” and “new” components that support increasing complexity of self over time, is a more “experience near” formulation of a significant component of therapeutic process. The development of a scientific approach to psychotherapy, therefore, requires understanding of linguistic interaction, underpinned by knowledge of neural functioning.

### 6.7.4 Limitations of the project.

There are many limitations to the study. Small numbers preclude detailed quantitative evaluation, or calculations of statistical power. Moreover, technical difficulties meant that it was not always possible to make full use of data collected. There were problems with recording devices, one of which had to be replaced. While reasonable coordination between members of the dyad, along with adequate recording traces, were achieved for Pilot 1.2 and Control 5, in practice it proved difficult to achieve precise coordination of physiological recordings, with sound recordings. This limited the degree to which moment-to-moment physiological shifts could be correlated with the transcript. For Pilot 1.2 breathing measures were adequate, but HRV measures were considered technically deficient. Hence we have been severely limited in reporting HRV data in study cases, although we have reported on measures taken under controlled conditions. Similarly, where breathing data are reported, they have only be considered as suggestive or illustrative, requiring further replication and investigation, before firm conclusions could be drawn.

One limitation of the CSERS instrument is that, by externalizing private experience in the conversation, there could be a potential for dissonance, or distress, to occur, in the event of this becoming known to both parties. The idiosyncratic nature of ratings when therapist and

patient rate their own experience precludes standardization of the rating and therefore limits the comparison of these ratings between different patients, or dyads. Realistically the data collected are more useful in looking at repeated patterns of interaction in a particular dyad; affective sequences within individuals; and changes that occur over time.

As a pilot study, the identification of such problems is considered part of the process. It is hoped that the experience here will make possible the further development of study in the field of psychotherapy employing a two-person (intersubjective) methodology.

### **6.7.5 Suggested modifications.**

The technical failings in this study could be addressed by using equipment designed to record data from two people simultaneously, including both selected physiological parameters, and voice recording. This would overcome difficulties relating to coordination of recordings from different sources.

Measuring HRV/RSA and respiratory rate, over periods of time corresponding to the timings of language, identified in this study as the *present moment* (self-state), and *narrative unit*, would be likely to capture physiological shifts, that could potentially be correlated to shifts in the experience of personal significance. Sudden increases of heart rate are often associated with decreased HRV, and could be a physiological marker of shifts in significance. Experience in this study leads to the suggestion of preliminary examination of heart rate changes at approximately 30 second intervals, looking for statistically significant variations. Where these are identified, a more fine-grained examination of HRV, within these 30 second intervals, may be possible, using the Similar Basis Function algorithm. While somewhat arbitrary, the 30 second timescale encompasses “present moments”, and simple “narrative units”, while being of sufficient duration to provide meaningful physiological comparisons between different periods of conversation. Physiologic shifts involving, firstly, release of the vagal brake, as part of the orientation response, resulting in transient, and relative, sympathetic enhancement; or, secondly, the full mobilization of the sympathetic system, would be detectable in this timeframe.

Coordination of HRV and respiratory data, while not adequately achieved in this study, has demonstrated potential for identifying resonant patterns, with a possible relationship to vagal function. The finding that speech slows breathing, thereby exerting a metabolic effect, probably mediated via enhanced vagal tone, could be further explored through coordination of HRV and respiratory data. This study used non-invasive techniques that demonstrated acceptability. Further work needs to utilize techniques demonstrating acceptability and greater reliability. The findings in this, and other, studies suggest that slowing of breathing is associated with increased vagal tone and, on the other hand, that sustained increases in heart rate are associated with decreased HRV and vagal tone, as measured by RSA. Future work in the area could use such shifts, measured over brief periods of 30 seconds, using our ‘brief window’ technique applied to HRV/RSA, as a continuous autonomic marker. The relationship observed where breathing slows in relation to significance (narrative climax) could also be examined as a potential autonomic correlate of personally meaningful communication in psychotherapy.

The CSERS instrument shows strengths and weaknesses: it is an instrument with probable validity, within the dyad in which it is used. Some aspects of it, like intervals between ratings, episodes of synchrony, and possibly hedonic tone, show promise as objective markers, potentially relatable to physiological parameters. However individual ratings are idiosyncratic and not generalizable, or comparable, across populations. Feedback in this study suggested acceptability to participants, and that it could be applied without a marked subjective sense of alteration in the therapy process. Given that it provides a window onto self-experience, it may

provide information the individual had, through natural self-monitoring in the clinical situation, not chosen to reveal in the original conversation. For this reason (maintenance of privacy) it is considered preferable for the methodology, that detailed information about precise location, and type, of CSERS rating, is not shared between the two members of individual conversational dyads, particularly in clinical contexts.

In exploring possibilities for research in psychotherapy, it should be remembered it is firstly a human, rather than a technical, discipline. In this thesis it is conceived as a process of conversation between self and other. The first consideration is achievement of a therapeutic relationship contributing to relief of suffering, and growth of self. Beyond technical, and objective, considerations, the aim of the thesis is to foster understanding of psychotherapeutic cultures, where selves are given opportunities to thrive.

#### **6.7.6 Implications for the broader community; Implications for trauma-informed care**

Human societies have become enormously complex and, despite technological innovations that provide the illusion of ‘making things easier’, remain difficult to negotiate for most people. At the highest level human consciousness involves language and hence a coordination between people, involving discriminations of value within a relational network. Each person has, to some degree, achieved a remarkable integration and coordination of symbolic worlds and physical connections with the peopled environment. Recognition of this personal achievement forms a basis for respect and ethical practice in clinical domains. For therapists, there needs to be a commitment (a ‘motivated selection’) to assist patients in moving towards states of greater engagement with others and with life (association rather than dissociation).

Psychological growth is based upon sharing of personal experience. Such sharing needs encouragement, and places where inner experience can be shared in an emotionally safe way. The 21<sup>st</sup> century scientific worldview, in contrast to the situation as recently as mid-20<sup>th</sup> century, now holds that all human groups are strongly linked by a common biological heritage without evidence for superiority of one group over another. Therefore we can speak of a truly common humanity, with a myriad of cultural variations elaborated in the various symbolically based traditions that have grown over millennia. Modern societies are often extremely heterogeneous and change very rapidly. In such circumstances it may be hard to slow down and find time for shared personal experience (in contrast to traditional societies such as exemplified by the Australian ‘Dreaming’ cultures). “Slowing down”, at an individual level is likely to encourage processes of reflection and imagination essential to personal development, and to psychotherapy process. Fostering this through traditional (e.g. meditation), or modern (e.g. biofeedback), practices may be particularly important with traumatized populations. Markers that relate to self-experience and give an objective correlate of continuous personal experience, as piloted in the current study, perhaps point to a direction for future research that will be individually relevant to the patient in psychotherapy in a way that integrates psyche and soma.

Trauma-related conditions are difficult to treat, and to this end, from a public health point of view, it is important to state that ‘prevention is better than cure’. However trauma and loss are inevitable accompaniments of living and, as such, will always require sensitive psychotherapeutic intervention across a large range of clinical settings. Prevention of trauma relates closely to measures that reduce violence in a community. Violence (or violation more



generally) always involves threat to, or loss of, the sense of self. To put it in somewhat neutral grammatical terms, acts of violation demean both actor and patient, involving a break in the sense of humanity that reflects coordinated understanding rather than domination. This is particularly true of sexual violence which represents a disruption of what is often most private and personal for individuals.

Many traumatized patients will suffer a relative deficit in the capacity to express themselves verbally. This will influence both the pace and the nature of the work with this group. This group will also have a strong, often dominant, affective experience which is in the forefront of consciousness, often in a toxic way. They require a therapist who is prepared to be a “responsive other”, not a neutral or affect-less blank screen. The normative role of feeling in social engagement, as outlined in relation to the polyvagal theory; and the differential response to positive and negative affect both highlight the importance of the therapist responding affectively and analogically, to the patient. Without a sense of the therapist’s affective genuineness, the traumatized patient is likely to experience the therapy as “not real”. The “given” and “new” structure of conversation, imply that the therapist needs to be willing to enter into the associational flow of engagement with the patient. This means, at times, judicious sharing of spontaneous affective expression, and associations that arise for the therapist. Priority needs to be given to emotional safety in all aspects of engagement.

Governments have a political imperative to exercise some control over human behaviour. Too often such control is exercised in ways that are repressive or manipulative, rather than promoting individual well-being. The biggest single preventative advance that could occur in relation to health and well-being relates to changes in lifestyle. When psychoanalysis became prominent in the 20<sup>th</sup> Century, it has been argued that a classical analytic understanding of “drive theory” was used, by politicians and propagandists / advertisers, to influence people in ways where at least some desires would be satisfied, thereby keeping them “politically quiet” (Curtis, 2002). A consumer society is one where people are encouraged to consume rather than to think, or cooperate. The older notion of *eudaimonia* (Kagan, 2007, p. 11), reflecting integrity in relational life and following a path that is morally motivated towards the common good, would reflect a more lasting and achievable kind of contentment for individuals, that would also benefit society as a whole. In this study the role of feeling in personal evaluation and the capacity of individuals to develop as self-organizing systems through the common sense of language have been highlighted. If these kinds of personal values were widely recognized within the relational network of communities, perhaps more people would go further in realizing individual and communal potentials. It currently seems likely that language evolved in response to new biological human capacities: for shared attention; communicative expression of inner life; and collaborative engagement with others towards shared purposes (Tomasello, 2010). Cooperative social engagement is how we have evolved to live.

## **6.8 Conclusions: finding order in the maelstrom.**

*“This is good country, we are good dreamers”*

*Napangarti, Kukatja People, Munggayi Country, Western Australia*

*"This was his gift to me"*

*Guido's son, in "Life is Beautiful", 1997*

*Screenplay, Roberto Benigni & Vincenzo Cerami*

*"....we learn kindness from our very weakness..."*

*St Augustine, Confessions*

Self, while having objective correlates, is realized through the *symbolic* medium, of language. The personal reality of feeling needs to find form in language, for realization of self to occur. The sharing of personal realities with our fellows is the basis of community, reflected in the comment above, from the *Kukatja* woman, *Napangarti*, who expresses pride in her community's capacity to dream together (Poirier, 2003). Realization requires the maintenance of illusions of safety, even when external conditions may not, in fact, be safe. The film, *Life is Beautiful*, is based upon the true story of a child who survives a concentration camp in World War II, through his father's sustained effort at creating a fiction, or illusion, that what was occurring in the concentration camp was a game (i.e. a form of play), even though the actual reality was brutal. The drama culminates in the killing of the father, while the son reflects that the world of the father's creation was *"his gift to me"*, as he looks back on the events from an adult perspective. The gift was protection of the child-self from trauma, in circumstances of extreme adversity. The gift is also a story, created prospectively, and spontaneously, in response to a situation from the realm of horror. Psychotherapists need, not only to recognize patterns of trauma, but also to work towards the creation of illusions that foster growth. The task is essentially symbolic, in that it involves the creative use of language, rather than simply literal replication, or objective analysis, of facts and events.

Individuals find themselves in the space between the affordances of the environment; and the capacities, signs and feeling, that are bodily contributions to the stream of consciousness and development of self. When there is a strong prevailing worldview espoused by the society into which one is born, this will be a substantial, although essentially symbolic, affordance with which the individual will have to reconcile. Hence, at the time St Augustine wrote the *Confessions*, his writing takes the form of a dialogue with God, representing his effort to reconcile himself, with the received wisdom of the Bible (St Augustine; Wills trans., 2006). Even here, the dialogue includes recognition of other worldviews, and the need for the individual to select from competing messages, received during the journey through life. A still more homogeneous worldview has been discussed, with reference to the Indigenous communities of Australia, and the *Dreaming*. With the arrival of outside influence, the dreaming worldview still existed but could no longer exist as 'total' worldview. Societies have become more heterogeneous, and the many worldviews, religious, and secular, with influence in human affairs, are confronted as external actualities by individuals, even though they are not to be understood as objective facts. In the face of this confusion, in the homes into which we are born, we are susceptible to loss of balance, and the sense of being "lost".

Finding one-self, in this circumstance, relies upon creative, prospective efforts, allowing a sense of matching, between feeling and verbal expression: realization of the voice of feeling. Change requires *exchange* with the peopled environment, effectively the contributions of other selves, who become part of the process of transformation. Without these exchanges, the individual is left in a solipsistic position, dominated by repetitive thought and behaviour. Where, in traditional societies, this process may have been, in part, facilitated by rituals, supporting relevant stage of life transitions (i.e. 'rites of passage'), it has become increasingly left to individuals, to explore ways of developing an effective personal order, that sustains balance in the relationship between self and world. Scientific views, extremely influential in modern societies, can have the effect of reducing experience to "objective reality". Nonetheless, scientific views still are, and need to be, interpreted by individuals, for them to be useful. Prevailing scientific paradigms may have the effect of being a lens, through which

reality is interpreted. However, it is suggested, that the need for patients to digest what is actual and factual in their lives, and to personalize it at the level of affective-conceptual integration, can be understood as a shift from the lifelessness of pure fact, to the ownership of personal value: ascending to what is personally “concrete”, in the sense of being felt and recognized, as “me”. This is a process of symbolic transformation.

A re-evaluation of prevailing scientific views about emotional life is identified in the polyvagal theory (Part 2; Porges 2011). This is seen as having significant implications for the practice of psychotherapy. The link made between autonomic function and social engagement recognizes the value of shifts in felt experience during social engagement, restoring feeling to the central role of providing an internal value system for the individual, in engagement with others, and the environment. On the other hand, it illustrates a nexus between social behaviour and metabolic function, such that physiological correlates of a self-other system may prove definable, although there remains much work to do in this regard. The fourth level of homeostatic functioning, described by Porges (see Parts 2 & 4, 2.6.1; 4.5.1), requires *shared understanding* with others, allowing for collaborative, as well as competitive, engagement. This suggests optimal functioning in humans needs to take account of shared understanding of affective expression and verbal-conceptual language characteristic of the speech fellowship in which one develops. This level of functioning requires linguistic description, and is not reducible to purely objective, numerically-defined, analysis. The integration of affect, language, and culture, becomes the “second nature” of *self*.

The polyvagal theory informs the relationship of body and mind, and perhaps also our understanding of language development, and symbol formation, given symbolic forms ultimately represent, or relate to, forms of the body, and its immediate environment. Four autonomic states (modes) are identified, reflecting powerful experiences, ranging from close social engagement, through to states of personal paralysis, in the face of stress and trauma. These bodily responses may be elicited by both symbolic and actual stimuli, making it confusing for individuals to work out what represents real danger. This doesn’t mean, when people respond to symbolic threats, that they are “neurotic”: the response involves threats to *self*, a symbolically-mediated process, rather than simply to externally definable threats. What is threatening to one is not necessarily perceived generally, by all, as threat. When these modes are engaged, they become part of the personal pattern of reality for that individual. The four modes identified are: 1) social engagement (dominant vagal influence); 2) mobilization (release of the vagal brake; relative sympathetic enhancement); 3) defensive mobilization (‘fight or flight’: sympathetic mobilization); and 4) defensive / metabolic shutdown (dominant unmyelinated vagal influence). The ways in which these forms of consciousness, and functioning, are reflected in patterns we recognize as symbolic, leads to the idea of “*embodied symbolic order*”. This is the notion that in everyday life people are living symbols (simultaneously actual, and symbolic), particularly to significant others, even when such representation is without intention (see Part 3, 3.9). Usually this level of communication is not deliberate, or intentional. If it is, we see it as a “pose”. Rather, it reflects images given and received, in a symbolic milieu characterized by cultural / archetypal, as well as personal, influences.

The duality of self reflects the integration of language and affect. Indeed, the systems of affect and language can be considered the two great semiotic systems of humanity: the system of affective expression being, to a considerable extent, universal; whereas verbal language reflects the tradition of particular speech communities, although there are also commonalities, and evolutionary links, between different languages. Trauma collapses this duality through failure of integration. The right cerebral hemisphere plays an important role in affect regulation and expression, whereas the left plays a major role in conceptual development, and verbal language. The affective elements of language, and the motivation for communication,

are strongly influenced, not only by the right cerebral hemisphere, but also by limbic and mid-brain structures (see Part 4). Early vocalizations and gestures, such as the cry and the smile, exert powerful symbolic and communicative effects, and have great value to self in the development of relatedness. Through these, and other non-verbal communications, the domain of significance is established before that of words and concepts.

The organization of affect relates to patterns of interaction, and relationships that foster expression. Once language is established, these can be understood in relation to narrative, and action patterns (Part 6). The naming of affect is a secondary consideration, although processes of recognition and response are crucial to the developing self. Whereas negative affects require modulation and remedial action in relation to the infant / child; positive affective expression is appropriately amplified in play. The cry of the infant, its first vocalization, has great value in terms of influencing the environment. It demands response; or equally, could be considered to give others the opportunity to respond (Part 4). It can also be seen as symbolic of the “vulnerable self”. When St Augustine says, “*we learn kindness from our very weakness*” (St Augustine, Wills trans., 2006), he refers to a universal truth, emphasizing the vulnerable state in which all human life starts, and to which we always remain subject. He is not, as many do, using the term “weakness” in a pejorative sense. Rather he sees it as having a central value, fostering kindness and care in human societies.

In this study, vulnerability is evident in all transcripts, both in patient-therapist dyads, and “interviewer-interviewee” dyads (Parts 3 & 5). For example, in one of the control dyads (Control 3), the interviewer has a brief “alarm” rating of “g” using CSERS, when the interviewee refers to a significant loss. After this brief shift, probably reflecting an orienting response, the interviewer again relaxes. There follows a greater sense of closeness, and personal intimacy, as the session progresses. In Pilot 3 the therapist is moved both by the patient’s vulnerability, and efforts towards mobilization. In Pilot 1 the recognition of vulnerability in the patient is the narrative highpoint of the session; while in Pilot 4, the brief expression of vulnerability by the therapist appears to bring patient and therapist into closer relationship, contributing to the resolution of an interaction that had an argumentative form (for these and other cases, see discussions in Parts 3, 4, 5 & 6). Hence the sessions provide evidence of the significance of the vulnerable self, in the development of relationship. In some ways psychotherapy can be understood as mobilization of the vulnerable self.

In Part 3 the process of exchange through language is seen as allowing self to develop synchronic substance, with affective interaction, and culminative appropriation of personal messages, ultimately fostering a fuller participation in the speech community, using the language of representation. The process of therapy involves sensitivity to the emotional “temperature” of the conversation (Part 6). The establishment of an effective voice in the patient may sometimes be enhanced by use of the “middle voice” by the therapist, which avoids “pointing”, that may be experienced as critical or traumatic. The emergence of poetic language, with the quality of universality, may be a marker of growth of self (Part 5). Progress will also be marked by a shift from the passive voice, to more transitive, agentive language: the effective voice (Parts 5 & 6).

Processes of conversation are understood as exchanges, involving “given” and “new” information (Parts 1, 3 & 6), although “information” here is not confined to the “facts”: a new facial expression, or analogical perspective, for example, could constitute the “new”. This has the effect of transforming personal experience gradually, through communicative play that is the self’s “re-creation”. The process of therapy, occurring prospectively, needs to be conducted with creativity: the spontaneity of the situation calls for an educated improvisation, informed by knowledge of analogical developmental processes (the proto-conversation). Hence the psychotherapeutic role is that of facilitating participant-observer; not expert-

making-prescriptions. The psychotherapist aims to enhance natural communicative, relational factors promoting personal growth and responsibility. As such the role is human rather than technical, and treatment is to be considered as relying upon non-specific factors rather than technical intervention. It may be that growth of a sense of self can only come from an “organic” growth of meaning, and purpose, as opposed to manipulation of conscious states, through prescribed intervention. However, there are many situations where prescribed intervention is also required to treat the patient’s overall condition.

The role of the psychotherapist as participant-observer can be understood as an amalgam of two roles. On the one hand the psychotherapist, as scientist, seeks to define the facts of objective reality, endeavouring to put to one side his or her subjectivity, using the modalities of measurement, hypothesis-formation, experimentation, and analysis. On the other hand, the psychotherapist, as artist, attempts to gain an empathic apprehension of the personal sense of reality of the patient, using the modalities of self: expression, imagination, and communication. The methods of both scientist and artist are brought together, through observing the patient; actively engaging with the patient; and using the therapist’s self, in the service of the other.

The vulnerable self begins life with the expressive capacity of the cry. The capacity to express affect is shaped, unconsciously from the infant’s point of view, by the environment. Some affective experience is kept separate; out of view of significant others. Shaping will vary, depending upon the sense of similarity, and safety, attained in the environment of early relatedness. It will be optimal when others in the environment are sensed as having common, feeling-based, expressive capacities, “like me”. This is to say that affect patterns, and contours, that make for communicative exchange are established early on, structured by turn-taking, resonance, play, and analogical responsiveness. This gives back, to the infant, forms with both similarity and difference; something given and something new. In traumatic circumstances, the early environment doesn’t offer many such affordances. The form of relatedness is discouraging to free affective expression, tending to result in dissociative experience, outside relational space. Once verbal language is established, the question remains about whether to express experience, or not. Some areas of feeling remain separate from the social domain of dyadic verbal exchange. The person is less open as a result.

There are consequences of dissociation, leading to an impoverishment of self: *“a man is always a teller of tales, he lives surrounded by his stories and the stories of others..... you have to choose....live or tell..... Nothing happens while you live. The scenery changes, people come in and go out, that’s all. There are no beginnings. .... everything changes when you tell about your life: it’s a change no one notices: the proof is people talk about true stories.”* (Sartre, 1964, p. 39). The difference between “living” and “telling” is between living blindly, and living knowingly. People live in the world *as* sociates, in a social, collaborative world; or as *dis*-sociates, living an isolated, alienated existence. Early trauma pushes people towards dissociated experience, without having experience of any choice in the matter, since implicit memory systems are involved: systems inaccessible to declarative consciousness. Nevertheless, the movement towards expressing the personal truth of lives, in conversation, is the path towards re-association, and beyond a life constricted by trauma. When we choose to tell our stories, we discover the vulnerable self within us; we see it in our fellows; and in those who relate their stories to us. We discover our common humanity.

The growth of self towards mature personhood has been emphasized throughout, along with the crucial role of relatedness, and the language of relatedness, in this process. However, therapy is a “temporary” relationship (Bowden, 2001). Indeed, given our mortal nature, all human relationships end at some point. For the self to be able to thrive, it needs to be able to bear loss and to grieve. For the patient to assume a position as full autonomous participant in

the community, therapy needs to come to an end. As one conversation comes to a close, it is hoped that others will blossom.

In language we find the syntax that allows higher consciousness, and the “storied self”. The Indigenous Australian *Dreaming* understands the importance of stories of belonging, not only to the “mob”, but also to the land. Traditional song-lines reflect paths individuals can follow in a living, creative relationship with the land. Cultural stability, and the sense of the world as a “*vast ocean (with) room for everyone*”, contrasts with modern cultures, bent on competition and “progress”, where, often, objectivity trumps subjectivity in society’s processes of evaluation, missing the affective heart of significance, and what really matters to people. A culture which supports self would be a culture that supports personal dreaming, allowing creative engagement with the world around us. Finally, when that dreaming comes to an end in death, the personal conversation of one’s “little life” ends, in silence. Perhaps a silence leavened by the knowledge that the human conversation continues.

**Analogical Fit: Dynamic relatedness in the psychotherapeutic setting**

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**Analogical Fit: dynamic relatedness in the psychotherapeutic setting (with reference to language, autonomic response, and change in self-state)**

## **APPENDICES**

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## Appendix 1

COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE 103 (2012) 59–67

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## Increasing sensitivity in the measurement of heart rate variability: The method of non-stationary RR time-frequency analysis

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**ABSTRACT**

A novel method of the time–frequency analysis of non-stationary heart rate variability (HRV) is developed which introduces the fragmentary spectrum as a measure that brings together the frequency content, timing and duration of HRV segments. The fragmentary spectrum is calculated by the similar basis function algorithm. This numerical tool of the time to frequency and frequency to time Fourier transformations accepts both uniform and non-uniform sampling intervals, and is applicable to signal segments of arbitrary length. Once the fragmentary spectrum is calculated, the inverse transform recovers the original signal and reveals accuracy of spectral estimates. Numerical experiments show that discontinuities at the boundaries of the succession of inter-beat intervals can cause unacceptable distortions of the spectral estimates. We have developed a measure that we call the "RR deltaogram" as a form of the HRV data that minimises spectral errors. The analysis of the experimental HRV data from real-life and controlled breathing conditions suggests transient oscillatory components as functionally meaningful elements of highly complex and irregular patterns of HRV.

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### 1. Introduction

The variation in the timing between beats of the cardiac cycle, known as heart rate variability (HRV), has been shown to provide important insights into the balance between the two limbs of the autonomic nervous system, the sympathetic and parasympathetic branches [1]. This information has been widely used to assess the influence of the autonomic nervous system on cardiovascular control [2]. This has potential clinical significance for a variety of medical conditions, both of cardiac (myocardial infarction, congestive heart failure, life threatening arrhythmias, etc.) and non-cardiac origin (diabetes, neuropathies, obesity, etc.) [3]. Non-clinical applications

include tests and monitoring of human performance under different physical and psychophysiological conditions [4]. A relatively novel field of HRV applications is the analysis of emotion regulation and psychological wellbeing, as outlined in the polyvagal theory [5].

Standard methods of HRV estimation are based on the measurement of intervals between heart beats using peaks of R waves in the electrocardiogram (ECG) as markers. One advantage of HRV based methodologies is that many of the commercial devices that are available perform automated measurement of inter-beat intervals. This means that they allow a relatively simple, non-invasive technique to be applied, thus broadening the potential range of applications for this form of measurement.

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The extraction and evaluation of physiologically relevant information from HRV data is supported by both the time and frequency domain methods [6]. The conventional frequency domain measure is the power spectrum of HRV [3]. Consistently identified features of this spectrum are a low-frequency (LF) component centered around 0.1 Hz (frequency band between 0.04 and 0.15 Hz) and a high-frequency (HF) component which usually appears in the frequency band between 0.15 Hz and 0.5 Hz [3,7]. A large body of literature suggests that HF spectrum may be a reliable marker of the vagal control of heart rate in unstressed conditions and that LF may be a marker of sympathetic activity, or combined vagal and sympathetic activity, often encountered in relatively stressful circumstances [8]. For this type of application, frequency domain measures are thought to be more selective for evaluation of the relative contributions of sympathetic and parasympathetic function in cardiac regulation than time domain parameters.

The power spectrum assumes the stationarity of data and delivers frequency domain parameters averaged over relatively long recordings of HRV. Thus, the Task Force of the European Society of Cardiology and the North American Society of Pacing Electrophysiology recommend applying spectral analysis to segments of 5-min [3]. In this context, the frequency domain parameters are regarded as measures of steady-state physiological conditions [9].

However, the steady-state measures are not suited to capture the heterogeneous properties of heart-beats. Typical aspects of non-stationarity are the presence of "patchy" patterns that change over time. The evidence of multiple pseudo-periodic and aperiodic components in such spreads of activity [10] has intensified the interest in the identification of specific patterns of HRV that may indicate dynamic aspects of the control functions of the autonomic nervous system.

The most common approach to this problem consists in the estimation of a time-dependent spectrum of HRV [11,12]. However, the time-frequency analysis of HRV signals represents a major methodological challenge, because conventional techniques of digital spectral analysis, such as the fast Fourier transform (FFT) [13], are not suited to short-term spectral decompositions. Among novel computational tools that extend the application of classical Fourier integrals to time-frequency analysis is the similar basis function (SBF) algorithm [14]. This has the following advantages over conventional FFT:

1. The transcription of the signal under analysis into a digital form accepts both uniform and non-uniform sampling intervals.
2. The algorithm is applicable to signal segments of arbitrary length due to an explicit treatment of discontinuities at the boundaries of the integration intervals. This eliminates the need for windows of spectral analysis, along with their distorting impact.

In this paper we use these properties of the SBF algorithm to address the HRV time series as a non-stationary process. Our aim was to develop algorithms of HRV time-frequency analysis that provide a means to detect the major frequency components and measure their frequency, timing and

magnitude. A simultaneous consideration of characteristic HRV patterns in both frequency and time domains is expected to provide additional insights into the mechanisms of autonomic control of heart function and may subsequently be used to discriminate between different physiological conditions in both research and clinical settings.

## 2. Background

### 2.1. The power spectrum of HRV

The conventional frequency domain characteristic of HRV is the power spectrum (or spectral density) [3,7]. This and similar frequency domain measures of HRV have found various applications in a number of research and clinical studies [6]. Specific methodological problems with the estimation and interpretation of the HRV power spectrum arise from the fact that HRV data are not a traditional object of spectral analysis. The tools of digital spectral analysis are usually applied to the time series of different types of deterministic or stochastic processes. By contrast, the HRV power spectrum is associated not with the signal itself (the ECG) but the point process that indicates the timing of the maximums of the R wave in ECG records, i.e. the occurrence times of the heart beats. Such a process can be described by a train of Dirac delta functions and transformed to the frequency domain in the form of the "spectrum of counts" [15]. However, the major methods of HRV spectral analysis deal not with the times of the heartbeats, but rather with the inter-beat intervals that are derived from the ECG and termed RR intervals.

Conceptually, the spectral analysis should be addressed to some time function that describes how the length of the RR interval evolves over time. Such a function cannot be supported by an exact analytical description, and its choice is one of the central methodological challenges for unambiguous frequency domain representation of HRV data. In general terms, the sequence of RR intervals may be regarded as the sequence of real numbers  $(f_1, \dots, f_n, \dots, f_N)$ , where  $f_n$  is the length of the RR interval associated with the heartbeat indexed by "n", and  $N$  is the number of intervals. The simplest approach to spectral analysis regards  $(f_1, \dots, f_n, \dots, f_N)$  as a time series, i.e. the signal samples taken at regular sampling intervals. On this basis, the spectrum of intervals is defined by the discrete Fourier transform (DFT), and computed numerically using the FFT [15]. However, the assumption of regularly spaced heartbeats when an actual timing is irregular, means that dual character of the relationships between the time and the frequency domains established by the forward and inverse Fourier transforms is lost in this approach [16–18].

Intrinsically irregular intervals between heartbeats are taken into account by the RR tachogram that represents the succession of values of varying intervals occurring at non-equidistant sampling times [17]. The problem with conventional spectral analysis in this context is that the FFT is applicable to  $2^n$  samples of a time series with regular sampling intervals. Therefore, the RR tachogram must be re-sampled using interpolating methods in order to estimate the evenly spaced samples from the irregularly spaced samples. A number of investigations indicate that interpolation errors



produced by re-sampling may cause specific distortions of the spectral estimates [17,18]. These errors, together with the errors induced by windowing and zero padding, introduce significant uncertainty into the accuracy of the frequency domain measures of HRV.

Apart from the FFT, autoregressive (AR) models and the Lomb-Scargle periodogram method have been applied to HRV spectral analysis [19,20].

The main advantage supporting the AR approach to HRV spectral analysis is improved flexibility in relation to the length of analysis epoch and selection of sampling points. A major drawback is a strong dependency of the accuracy of spectral estimates on the order of the AR model. An adequate selection of this parameter is ambiguous because the validity of the underlying assumptions has not as yet been proved [21].

The benefit of the Lomb-Scargle periodogram is that this method directly calculates the power spectrum from an unevenly sampled RR tachogram [20]. However, reliable performance of the method depends on a number of conditions that include specific relationships between the signal and noise. A comparison of different methods of HRV spectral analysis suggests that interpolation methods are better solutions than the direct Lomb method [18].

## 2.2. SBF algorithm

Numerical algorithms developed in this study are supported by a series of preceding investigations that addressed the problem of time-frequency analysis of non-stationary biomedical signals [22–24]. Given the Fourier integrals as basic computational tools, the major problem is that these transforms belong to a category of oscillatory integrals, and demand special algorithms for numerical integration. The estimation of trigonometric integrals with maximum degree of precision is provided by Filon-type methods, based on the polynomial expansion of the signal to be transformed [25]. However, the corresponding computational methods are not supported by effective algorithms and require tedious calculations. The objective guiding the development of the SBF algorithm was to support the Filon-type method of integration by an effective computational solution [14]. The algorithm decomposes the signal into the sum of self-similar finite elements with the simple analytical form of the frequency spectrum. Simultaneous consideration of both the time and frequency domains reduces the entire issue of the Fourier transform calculations to standard frequency domain manipulations with relatively simple analytical functions.

## 3. Design considerations

The algorithmic design in this paper is focused on the development of computational tools that support HRV time-frequency analysis through a simultaneous consideration of both the time and frequency domains. There are two related goals. The first is to transform selected segment of HRV data to the frequency domain. This provides means for the time-frequency analysis, i.e. the analysis of the time dependent frequency content of non-stationary HRV. However, short term spectral analysis is highly sensitive to spectral leakage which

can distort spectral estimates. In this context, the result of the time-frequency analysis is useless unless the accuracy of spectral estimates can be judged. Thus, the second goal is to verify the success of the first goal. For this purpose we use inverse cosine or sine Fourier transform to restore the time domain counterpart of the frequency domain solution, and compare it with the initial time domain data.

We use the recipes of the SBF algorithm to support both goals by a universal computational technique. The data to which we apply the time to frequency transformation are derived from sequential instants  $(t_0, \dots, t_m, \dots, t_M)$  at which the R waves are peaking. Such point events occurring haphazardly along a one dimensional time continuum may be described as a univariate point process. To apply Fourier transforms, we need to assign numbers to the event's occurrence times, i.e. to characterize each heart beat by a data point  $(t_m, f_m)$ , where  $f_m$  is called a point event. Physically, we regard  $f_m$  as the value of some parameter  $f(t)$  used to characterize the heart beats. A formal assumption is that  $f_m = f(t_m)$ . Taken a series of data points on the interval of interest, the general form of the data for analysis is the finite sequence of the data points  $F_1 = \{(t_0, f_0), \dots, (t_m, f_m), \dots, (t_M, f_M)\}$ . Irrespective of the choice of the point events, we may regard  $F_1$  as a discrete form of a certain continuous time function  $f(t)$  called the point event function (PEF), and defined on the interval of finite length  $L = t_M - t_0$ .

Let  $t_1$  and  $t_k > t_1$  be the boundary time points that define a particular segment of the PEF. The complex spectrum of the corresponding fragment of the PEF is defined by the following continuous finite Fourier integral

$$F(\omega) = \int_{t_1}^{t_k} f(t) \exp(-i\omega t) dt, \quad (1)$$

where  $i = \sqrt{-1}$ ,  $\omega = 2\pi f$ , and  $f$  is the frequency.

Alternatively, we may describe the same fragment by the function  $g(\tau) = f(t - t_1)$ , associated with the data points  $G_1 = \{(t_1, g_0), \dots, (t_1, g_1), \dots, (t_1, g_N)\}$ , where  $t_1 = t_{1,j}$ ,  $g_1 = f_{1,j}$  and  $N = k - j + 1$ . The complex spectrum is given by

$$G(\omega) = \int_0^{\lambda} g(\tau) \exp(-i\omega \tau) d\tau, \quad (2)$$

where  $\lambda = t_k - t_1$ .

In terms of real functions:

$$G(\omega) = G_C(\omega) - iG_S(\omega),$$

where

$$G_C(\omega) = \int_0^{\lambda} g(t) \cos \omega t dt, \quad G_S(\omega) = \int_0^{\lambda} g(t) \sin \omega t dt. \quad (3)$$

The amplitude spectrum of  $g(t)$ , i.e. the module of the complex spectrum, is

$$|G(\omega)| = \sqrt{G_C^2(\omega) + G_S^2(\omega)}. \quad (4)$$

The time shift between  $f(t)$  and  $g(t)$  has no effect on the amplitude spectrum, i.e.  $|F(\omega)| = |G(\omega)|$ . This shows that although the spectral analysis is applied to segments of

different length and timing, the computational framework is essentially the same.

Both  $G_C(\omega)$  and  $G_S(\omega)$  contain information that allows restoration of  $y(t)$  using the following inverse Fourier cosine and sine transforms:

$$g(t) = \frac{2}{\pi} \int_0^{\infty} G_C(\omega) \cos \omega t d\omega, \quad (5)$$

$$g(t) = \frac{2}{\pi} \int_0^{\infty} G_S(\omega) \sin \omega t d\omega. \quad (6)$$

Theoretically, the Fourier integrals of finite extent function  $g(t)$  must be infinite in the frequency domain. This explains semi-infinite integration intervals in Eqs. (5) and (6). However, because we may associate  $g(t)$  with a physically realizable stable system, the asymptotic behavior of the frequency characteristics in the high frequency ranges is such that both  $G_C(\omega)$  and  $G_S(\omega)$  decrease with increasing frequency. Therefore, it is always possible to find an angular frequency  $\Omega$  above which  $G_C(\omega)$  and  $G_S(\omega)$  are negligibly small. On these grounds, the approximants to  $g(t)$  may be estimated from the following finite cosine and sine Fourier transforms:

$$g(t) \approx g_C(t) = \frac{2}{\pi} \int_0^{\Omega} G_C(\omega) \cos \omega t d\omega, \quad (7)$$

$$g(t) \approx g_S(t) = \frac{2}{\pi} \int_0^{\Omega} G_S(\omega) \sin \omega t d\omega. \quad (8)$$

Let (3) and (4) be the spectral characteristics computed from the set of data points. We use (7) and/or (8) in order to ascertain the accuracy and reliability of the spectral estimates.

Comparison of these integrals with (3) shows that essentially the same methods may be used to perform the transformations from the time to frequency domain and vice versa. Computationally, we must be able to estimate trigonometric integrals the general form of which is:

$$Y_C(u) = \int_0^{\lambda} y(x) \cos ux dx, \quad (9)$$

$$Y_S(u) = \int_0^{\lambda} y(x) \sin ux dx. \quad (10)$$

These integrals are the point of departure for design of the HRV time-frequency analysis algorithms.

## 4. Method

### 4.1. Numerical Fourier transforms

We address numerical estimation of (9) and (10) to the set of data points  $Y_X = \{(x_0, y_0), \dots, (x_i, y_i), \dots, (x_N, y_N)\}$  with  $x_0 = 0$  and  $x_N = \lambda$ . Using the basis functions of previously developed SBF algorithm [14], we establish the fundamental relationship

between the data points and continuous  $y(x)$  using the sum of finite elements

$$y(x) = \sum_{i=0}^{N-1} a_i \phi_i(x), \quad (11)$$

where  $a_i$  are the weighting coefficients, and  $\phi_i(x)$  is a similar basis function (SBF). The SBF is defined by the similarity relationship

$$\phi_i(x) = r \left( \frac{x}{x_{i+1}} \right). \quad (12)$$

This simple parameterised time scaling produces the family of SBFs from a basic finite element

$$r(x) = \begin{cases} 1-x & \text{if } 0 \leq x \leq 1 \\ 0 & \text{otherwise} \end{cases}$$

termed "triangular basis function" (TBF). The TBF is a unit right-angled triangle depicted in Fig. 1A.

With regard to the data points,  $y(x)$  is a piecewise linear approximating function, defined by the following condition:

$$y(x_i) = y_i \text{ for } i = 0, 1, \dots, N-1.$$

A similar transition from the data points to a continuous time function is used by resampling procedures of a number of the HRV spectral analysis methods [15,17,18]. In this context the  $y(x)$  serves as an interpolation function the goal of which is to fill the intervals between the original data points by equidistant samples. This remedy of matching the HRV data to the demands of conventional FFT also includes the addition of zeros (zero padding) to achieve  $2^n$  data points [15].

The advantage of the SBF algorithm is that the procedures of the spectral analysis are directly applied to the original data points, and are free of resampling.

In terms of finite elements, the approximant (11) may be presented in the form

$$y(x) = y_0 \phi_0(x) + \sum_{i=1}^{N-1} y_i \phi_i(x), \quad (13)$$

where  $\phi_i(x)$  is a hat function.

Being a tool of the finite-element method [26], the hat function is defined as

$$\phi_i(x) = \begin{cases} \frac{x-x_{i-1}}{x_i-x_{i-1}}, & \text{if } x_{i-1} \leq x < x_i \\ \frac{x_{i+1}-x}{x_{i+1}-x_i}, & \text{if } x_i \leq x < x_{i+1} \\ 0, & \text{otherwise} \end{cases}$$

on the mesh  $x_0 < x_1 < \dots < x_i < \dots < x_N$ .

Fig. 2 exemplifies decomposition (13). The dotted lines connecting data points from 0 to 4 represent on the segment 'ad' the sum of the TBF (triangle aOb) and the hat functions (triangles a1c, b2d and c3e) with vertexes at the data points from 1 to 3.

The comparison of (11) and (13) shows that hat functions in (13) are replaced in (11) by TBFs. The geometrical principle

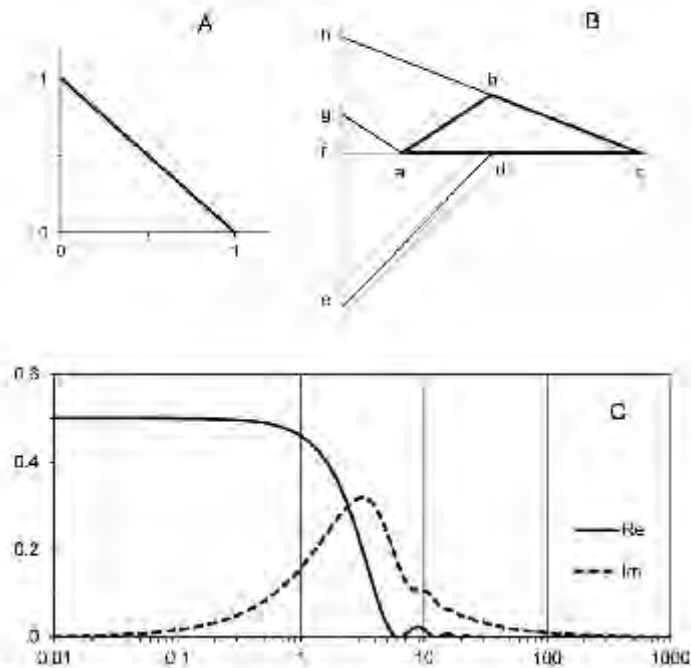


Fig. 1 – (A) Unit right-angled triangle. This finite element is the TBF from which an ensemble of similar basis functions is deduced. (B) Shows decomposition of the hat function (triangle abc) into the sum of SBFs (triangles fbc, fed and fga). (C) The curves Re and Im show the real and imaginary parts of the complex spectrum of the TBF, i.e. the functions (15) and (16), respectively.

found useful in this connection is illustrated by Fig. 1B. The graph shows the decomposition of the hat function (triangle abc) into the sum of three TBFs (triangles fbc, fed and fga). Application of this decomposition to all hat functions in

(13) results in the following formula for the estimation of interpolation coefficients

$$\begin{aligned} \alpha_i &= \alpha_{i-1} - \beta_{i-1} \gamma_{i-1} + \gamma_{i-1} \beta_{i-2}, \quad 0 \leq i \leq N-3 \\ \alpha_{N-2} &= \alpha_{N-2} - \beta_{N-2} \gamma_{N-2} + \gamma_{N-2} \beta_{N-3} \\ \alpha_{N-1} &= \alpha_{N-1} - \beta_{N-1} \gamma_{N-1} \end{aligned} \quad (14)$$

where:

$$\begin{aligned} \alpha_i &= \frac{x_{i+1}}{\Delta x_{i+1}} \quad (0 \leq i \leq N-1) \\ \beta_i &= \alpha_i \frac{\Delta x_{i+1} + \Delta x_i}{\Delta x_{i+1} \Delta x_i} \quad (1 \leq i \leq N-1) \\ \gamma_i &= \frac{x_i - 1}{\Delta x_i} \quad (2 \leq i \leq N-1) \\ \Delta x_i &= x_i - x_{i-1} \end{aligned}$$

In the context of numerical solutions, the chief advantage of the construction (11) is that cosine and sine Fourier integrals from the TBF are expressed in an analytical form as

$$R_C(u) = \int_0^\infty r(x) \cos(ux) dx = \frac{1 - \cos u}{u^2} \quad (15)$$

$$R_S(u) = \int_0^\infty r(x) \sin(ux) dx = \frac{u - \sin u}{u^2} \quad (16)$$

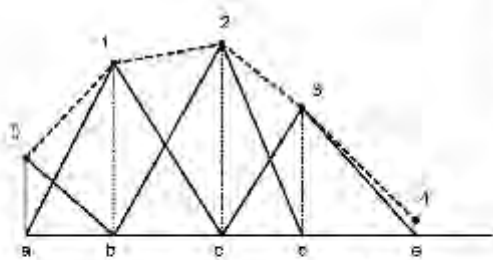


Fig. 2 – Exemplifies the transition from the data points (filled circles 0–4) to finite elements: SBF (vertex at the data point 0) and the hat functions with vertexes at the data points from 1 to 3. The dotted line shows the sum of finite elements.

Fig. 1C shows these functions.

According to the theory of Fourier transforms (similarity theorem), the compression of the abscissa in the time domain corresponds to the expansion of the abscissa plus the contraction of the ordinate in the frequency domain. Application of these operations to the functions (15) and (16) allows us to express Fourier transforms from (12) in the following form:

$$\int_0^{\infty} \theta_1(x) \cos ux \, dx = x_{i+1} R_C(x_{i+1}u),$$

$$\int_0^{\infty} \theta_1(x) \sin ux \, dx = x_{i+1} R_S(x_{i+1}u).$$

It follows rather straightforwardly from (11) that these formulas reduce calculations of (9) and (10) to the following standard operations with analytical functions (15) and (16)

$$Y_C(u) = \sum_{i=0}^{N-1} a_i x_{i+1} \frac{1 - \cos(x_{i+1}u)}{(x_{i+1}u)^2}, \quad (17)$$

$$Y_S(u) = \sum_{i=0}^{N-1} a_i x_{i+1} \frac{\omega_{i+1} - \sin(x_{i+1}u)}{(x_{i+1}u)^2}. \quad (18)$$

After estimation of the weighting coefficients from (14), these formulas are directly applied to the time points of the PEF in question.

#### 4.2. Fragmentary spectrum

The technique of numerical Fourier transform described above provides means to express the complex spectrum (2) in terms of its real and imaginary parts (3). Each of these frequency characteristics contains the full amplitude and phase information necessary to restore the initial time domain function. However, a complicated form of these functions is inconvenient for display and direct measurements of the amplitudes of spectral components.

An appealing feature of the power spectrum is its ability to provide direct measures of different spectral components of the signal. For that reason the power spectrum is one of the most frequently applied frequency domain descriptors of HRV [3]. A major problem that opposes the analysis and interpretation of the power spectrum estimates is that HRV exhibits irregular patterns of activity, i.e. belongs to the category of non-stationary processes [3,6]. The main point at issue is that the power spectrum is defined in the field of probability and statistics as the frequency domain measure of a stationary random process [27]. Non-stationary processes are not supported by a strict definition of the power spectrum. To accentuate ambiguity raised by this inconsistency, suppose that  $F_1(\omega)$ ,  $F_2(\omega)$ , ... are the power spectra computed over different segments of stochastic process  $f(t)$ . If  $f(t)$  is stationary, spectral functions  $F_1(\omega)$ ,  $F_2(\omega)$ , ... may be regarded as the samples of a single random function  $F(\omega)$ . In other words,  $F_1(\omega)$ ,  $F_2(\omega)$ , ... appear as ensemble functions allied by some probabilistic relationships. This concept is not applicable to non-stationary HRV.

To approach the problem of non-stationarity, we associate HRV with irregular stochastic process certain fragments of which may possess special properties of functional significance. To define this special class of PEF fragments in the frequency domain, we introduce a novel notion of the fragmentary spectrum that is a combination of the frequency and time domain descriptors of the PEF. Using the same notations as Eqs. (1)–(4), we regard  $[t_k, t_j]$  segment of the PEF  $G_\tau$ . The fragmentary spectrum is defined as

$$G(f, \xi, \lambda) = \lambda^{-1} |G(2\pi f)|, \quad (19)$$

where  $\xi = t_j$  and  $\lambda = t_k - t_j$ . These parameters define the position and length of the corresponding segment of the PEF.

Compared with the power spectrum, a major advantage of the fragmentary spectrum is its ability to measure how spectral estimates evolve over time. However, if the underlying system is stationary, the fragmentary spectrum may be independent of  $\xi$  and  $\lambda$ . In this case the power spectrum is simply  $P(f) = G^2(f, \xi, \lambda)$ .

The question we now consider is how to link the fragmentary spectrum with different patterns of HRV. With regard to the conventional power spectrum, measurements of spectral characteristics regard "peak" as a marker of a functional component. Physical and physiological interpretation of these components has been supported by the assumption of stationarity, i.e. the presence of continuous permanent rhythms of HRV [3,7,9].

By contrast, using notions of non-stationary processes, we can think of HRV as a reflection of discrete sources generating transient changes of inter-beat intervals. When we find a peak in the fragmentary spectrum  $G(f, \xi, \lambda)$  at certain frequency  $f = f_M$  we know that the underlying signal contains an oscillatory component with frequency  $f_M$  in the time interval from  $\xi$  to  $\xi + \lambda$ . Given importance of oscillatory processes for spectral analysis, we shall call the corresponding component transient oscillatory component (TOC).

The resonant frequency serves as a primary marker of TOC. However, the location and length of the TOC, i.e.  $\xi$  and  $\lambda$ , are not known in advance, and we need additional information for an exact identification of TOC. For this purpose we estimate fragmentary spectra over a succession of different segments collected from the time window running through the PEF. Given the data points  $G_\tau = \{(t_0, y_0), \dots, (t_n, y_n), \dots, (t_M, y_M)\}$ , we define the length of the moving window by the number of points  $p < M/2$ . The initial position of the window is defined by a sliding pointer, which is placed at  $i = p$ . From this position the pointer is moved within the data points until it takes the value  $M - p$ . For each position of the pointer fragmentary spectrum is estimated for preselected range of frequencies from  $F_{MIN}$  to  $F_{MAX}$ . The maximum resonant frequency  $f_M$  is regarded as the dominant frequency of TOC while  $\xi$  and  $\lambda$  parameters are defined by the window position and length.

Suppose we want to perform the moving window analysis over the time scale but are uncertain what the window size should be. We can start the procedure using a window of relatively short duration and then stretch the window out a small amount and compute another set of parameters, and so on, gradually increasing the window size and computing another set of frequency domain measures for each value of window



size. Inspecting many of these trials results in a comprehensive representation of the TOC in terms of its descriptive parameters.

#### 4.3. RR deltagram

In Section 3 we have defined a general form of the data for spectral analysis as a finite sequence of the data points in the form of the PEF  $F_t = \{(t_0, f_0), \dots, (t_m, f_m), \dots, (t_M, f_M)\}$ , where  $t_m$  ( $m = 0, \dots, M$ ) is the occurrence time of the heart beats. Given the inter-beat interval (RR interval) as a physical parameter of interest, the point event is expressed as  $f_m = t_{m+1} - t_m$ . Under this condition, the  $F_t$  represents the conventional RR tachogram [17] also known as a discrete event series [3].

An alternative approach to the spectral analysis design is supported by the view that the deviations of the RR intervals from the mean value rather than the length of the interval itself are basic to the characterization of HRV. The conclusion has been drawn that subtraction of the mean value of RR interval from the time series before applying the FFT increases the sensitivity of spectral estimates to the dynamics of HRV [18]. Previous studies applied this technique after replacement of irregularly spaced time points by regularly spaced time points. Here we approach digital spectral analysis in a way that avoids resampling. We introduce the RR deltagram as a PEF defined by the point event

$$f_m = \Delta t_m - e(t_m), \quad (20)$$

where  $\Delta t_m = t_m - t_{m-1}$  ( $m = 1, \dots, M$ ) and  $e(t)$  is the function that defines the expected value of RR interval.

We use the technique of moving window averaging to build the procedure for estimation of expected values of RR intervals. Compared with conventional applications of moving window averaging [28], a specific aspect of the problem is the non-even distribution of sampling intervals. This factor may induce a false high-frequency components in the spectrum of  $e(t)$ . To overcome this problem, we have designed a digital filtering algorithm which performs a multistep moving window averaging.

The algorithm deals with the sets of real numbers  $E^1 = (e_0^1, \dots, e_m^1, \dots, e_M^1), \dots, E^K = (e_0^K, \dots, e_m^K, \dots, e_M^K), \dots, E^K = (e_0^K, \dots, e_m^K, \dots, e_M^K)$ , where the subscript ( $m$  from 0 to  $M$ ) denotes the number of the beat, and the superscript ( $k$  from 1 to  $K$ ) indicates the number of step in the procedure of averaging.

The set  $E^k$  is the output of the  $k$ th step which further serves as an input of the  $(k+1)$ th step. To initiate this recursion we define the first set as the succession of  $\Delta t_m$  intervals from (20), i.e.  $e_m^1 = \Delta t_m$ . The transition from the set  $E^k$  to the set  $E^{k+1}$  ( $k = 1, \dots, K-1$ ) during recursion is defined by conventional procedure of the moving averaging with equal weights:

$$e_m^{k+1} = \frac{1}{n_L + n_R + 1} \sum_{j=-n_L}^{n_R} e_{m+j}^k, \quad (21)$$

where  $n_L$  and  $n_R$  are the numbers of the points to the left and right of the center of the window. The number of the data points captured by the window is  $N_W = n_L + n_R + 1$ .

The practical criterion that is the basis by which we accept a multistep average as a stable solution is the condition  $\Delta E_{k+1} < T_E$ , where

$$\Delta E_{k+1} = \frac{1}{n_L + n_R + 1} \sum_{m=0}^M \frac{|e_m^{k+1} - e_m^k|}{e_m^k},$$

is the mean of the absolute value of the normalised residual between the values of  $e$  at  $k$  and  $k+1$  steps of recursion, and  $T_E$  is a threshold value for residual (default option is 0.01).

#### 4.4. Inverse RR deltagram

The necessity of direct evaluation of the accuracy of the time to frequency transformations is critical to the time-frequency analysis because shortening of the epoch of analysis may drastically increase the role of factors, such as spectral leakage, that distort the form of the spectrum.

Using inverse Fourier transforms, our approach to the problem is straightforward. The question we pose is how accurate is the numerically computed fragmentary spectrum as a frequency domain counterpart of the corresponding deltagram? Let  $G_C(\omega)$  and  $G_S(\omega)$  in (7) and (8) represent the real and imaginary parts of the fragmentary spectrum in question. We may expect that numerical estimation of both (7) and (8) should reasonably restore the RR deltagram, although some error is involved.

This provides a universal method for evaluation of errors using the forward Fourier transform, followed by the inverse Fourier transform. The first step is the transition from the time to frequency domain using the forward FT. The second step is the restoration of the transient response from numerical frequency characteristics using the inverse FT. With regard to (7) and (8), we evaluate the accuracy of inverse transforms by residual functions  $r_C(t) = g(t) - g_C(t)$  and  $r_S(t) = g(t) - g_S(t)$ . The residuals accumulate the errors of the forward time to frequency transformation (2) and inverse the frequency to time transformation (5) or (6). We can write this as

$$r_C(t) = r_{FC}(t) + r_{IC}(t) \quad \text{and} \quad r_S(t) = r_{FS}(t) + r_{IS}(t), \quad (22)$$

where  $r_{FC}(t)$  and  $r_{IC}(t)$  are associated with the forward and inverse cosine Fourier transforms, and  $r_{FS}(t)$  and  $r_{IS}(t)$  are associated with the forward and inverse sine Fourier transforms.

On these grounds, we use numerical estimation of the inverse Fourier transforms as a tool to test consistency between the time domain PEF and its frequency domain counterparts.

## 5. Results

The aim of this section was to ensure that developed algorithms worked properly and provided time dependent spectral measures of non-stationary HRV capable to detect and identify specific patterns of HRV. For this purpose we set up a technique for non-invasive recordings of HRV data on healthy subjects using a "Zephyr Bioharness" device for simultaneous wireless monitoring of ECG, heart rate and breathing waveforms. The measuring part of this device is strapped on like a belt and is a non-invasive instrument suitable for use in a naturalistic

setting. From the data produced by the microprocessor of the device, we selected for further off-line processing the values of RR intervals, digitized ECG and breathing waveforms.

The computer implementation of the developed algorithms for HRV data processing has been supported by specially designed software "RR-SBF" using the object Pascal language of Embarcadero Delphi 2010. The program contains a number of routines that support major algorithms described in the paper. Launching the data transfers and various computational tasks is governed by graphical user interface with windows, menus, charts and dialogs.

In order to detect and investigate specific patterns of HRV, the data were monitored on 8 healthy subjects under different conditions that include the rest, spoken conversation and controlled breathing.

### 5.1. Computer experiments with RR deltaograms

The aim of this section is a simultaneous consideration of HRV measures in both the time and frequency domains and the analysis of errors in these two domains. Based on the analysis of different sequences of RR intervals monitored under different experimental conditions, our objective is to show the advantages of the introduced RR deltaogram over conventional RR tachogram. The point is that boundary discontinuities of conventional RR tachogram may have distorting impact on the transforms. The following analysis of this issue in computer experiments is general, and does not depend on the experimental conditions supporting the HRV monitoring. Our focus on the conditions of controlled breathing is explained by the fact that coupling of the heart beats with respiratory rhythms provides means to emphasize particular frequencies of the HRV spectra.

During the experiments with controlled breathing the subject used a metronome to count breaths while simultaneous recordings of breathing and RR intervals were done. Recordings were done at rest, during spoken conversation and during controlled respiration at breathing rates of approximately 5 per minute, 10 per minute, 15 per minute and 30 per minute. At each of these conditions recordings were done for silent breathing (1 min) and breathing with vocalization (counting out loud) for a further minute.

Given typical conditions of controlled breathing of a healthy male, the grey and black lines in Fig. 3A shows the RR tachogram and RR deltaogram based on succession of 425 RR intervals (331 s interval). The segments 1–4 of these recording indicate periods of controlled breathing at the rates of 5 (segments 1 and 2) and 10 (segments 3 and 4) breaths per minute (bpm). The length of each segment is approximately 1 min. The segments 1 and 3 correspond to silent breathing, and segments 2 and 4 to the breathing with vocalization.

To transfer these data to the frequency domain, we need to estimate fragmentary spectrum (19). Using developed algorithms, this is a standard task that is performed by the estimation of the weighting coefficients from (14) and calculation of the fragmentary spectra using (17)–(19). The corresponding fragmentary spectra are shown in Fig. 3B. The logarithmic scale of frequencies provides the means to display the spectrum for a wide range of frequencies from 0.001 to 1 Hz.

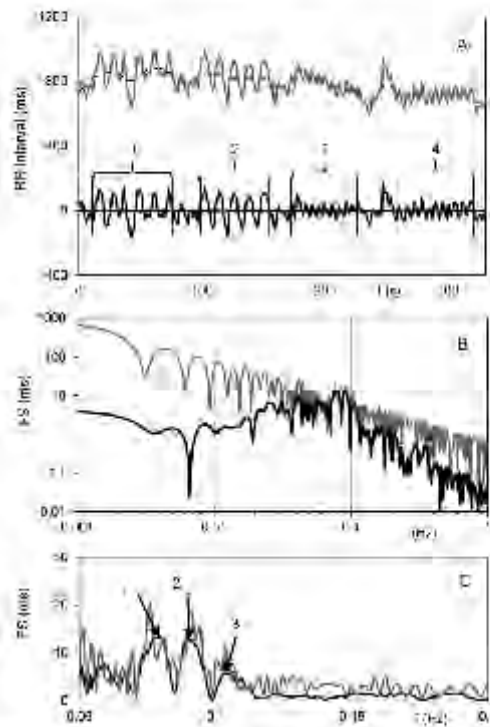


Fig. 3 – (A) Shows the deltaogram (black solid line) and tachogram (grey line) based on 331 s record of 425 successive RR intervals. Dotted line: trajectory of expected values of RR intervals computed by 5 step procedure of moving averaging (21) with  $n_1 = n_2 = 6$ . The segments from 1 to 4 indicate periods of controlled breathing. (B) The black and grey lines show the fragmentary spectra of the deltaogram and tachogram from (A). Here, and throughout the following illustrations, the RR measures for both tachograms and deltaograms are taken in milliseconds. Accordingly, the units of fragmentary spectrum (FS) are also milliseconds. (C) An extract from (B) which shows the spectra for a narrow frequency range from 0.05 to 0.2 Hz using natural ordinate scale.

To explain the forms of spectra, we note that in general terms the spectral analysis is associated with continuous time function  $f(t)$  that extends over an infinite time scale. Conceptually, we may regard the RR tachogram as the set of the samples of such process on a finite length interval. This finite length extract from  $f(t)$  may be described as  $w(t) = p(t) \cdot f(t)$ , where  $p(t)$  is a rectangular pulse with a unit amplitude over the finite length analysis interval  $[0, A]$ .

Fig. 4 exemplifies  $w(t)$  (grey line), and shows how the RR tachogram looks over an extended time scale. In the context of continuous Fourier integrals, we deal with function that deviates from zero only over the analysis interval. These

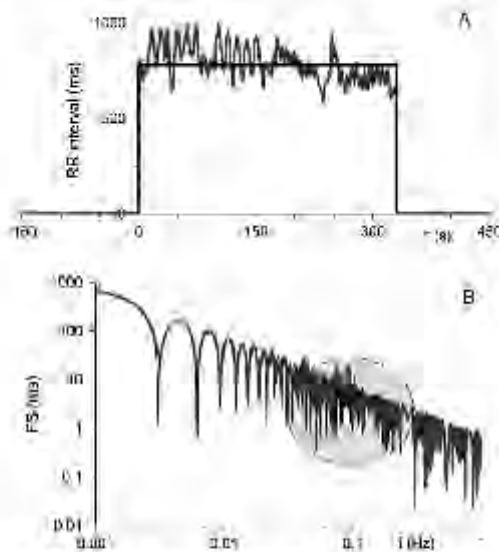


Fig. 4 – (A) Gives a visual impression of the tachogram as a finite extent function comparable with rectangle. In terms of the formula (23), the parameters of the rectangle are:  $A = 781$  ms (mean RR interval) and  $t = 331$  s (length of the tachogram). (B) Compares fragmentary spectra of the tachogram and rectangle. The shadowed ellipse shows the region which reflects oscillatory components of the tachogram.

transitions create discontinuities of the process at the ends of the analysis interval.

If the length of RR intervals in question is constant, the tachogram degenerates into the rectangular impulse (solid black line) the fragmentary spectrum of which is expressed analytically in the form

$$I(f) = A \operatorname{sinc}(\lambda \pi f), \quad (23)$$

where  $A$  and  $\lambda$  are the amplitude and duration of the impulse, respectively.

For typical RR tachogram, the relative deviations of RR intervals from the mean value usually do not exceed 20–30%. For example, the mean value of RR interval of the tachogram in Fig. 4A is 781 ms, and the absolute values of the deviations do not exceed 25% of the mean. Under these conditions the RR tachogram is close to the rectangle shown in Fig. 4A by the black line. Fig. 4B shows similarity of corresponding fragmentary spectra. Consequently, the results of the tachogram spectral analysis may be completely dominated by irrelevant component (23) rather than HRV during the analysis interval.

In the general context of spectral analysis, irrelevant components are usually associated with spectral leakage [13]. The spectral distortions are due to a Fourier series model of data, the theoretical basis of the DFT and FFT. The point is that

the analytical signals are defined over an infinite interval, while digitized signals are always finite in time. This distinction produces physically inconsistent components the most prominent of which is spectral leakage. Conventional reduction of spectral distortions using the windows for harmonic analysis is only effective for long-term signals. Consequently, the removal of irrelevant components in the context of the time-frequency analysis necessitates the change of the theoretical background from Fourier series to more adequate technique of integral transforms.

Previous studies employed a continuous wavelet transform as a toolkit to handle dynamical changes of HRV [16]. However, this approach comes with the significant cost of a loss of conventional frequency domain measures. Our method remains in the field of Fourier methods, and consists in the change of the theoretical background from Fourier series to Fourier integrals using a Filon-type quadrature as a computational basis [14,25]. The ability of the method to handle signal segments of arbitrary length is seen from the fact that analytical model (11) is composed from finite elements, and is in exact proximity with the finite length interval over which the PEF is defined. The SBF algorithm permits an explicit treatment of discontinuities at the boundary points. In this context, the fragmentary spectrum is equally applicable with testable accuracy to both the tachogram and deltagram.

Using the RR deltagram instead of RR tachogram, we eliminate the component (23) from the spectral analysis. Given the spectra of the deltagram and tachogram for wide range of frequencies in Fig. 3B, we note striking differences between the spectra in the ranges of low and high frequencies. Comparable parts of the spectra belong to a relatively narrow frequency range from 0.05 to 0.2 Hz. Fig. 3C shows these parts of the spectra in a more detail for the frequency diapason from 0.05 to 0.2 Hz using a natural scale of frequencies. The point which emerges is that the fragmentary spectrum of the tachogram contains multiple peaks some of which are likely to be relevant to the component (23). The form of the fragmentary spectrum of the deltagram is more informative, and contains 3 major resonant peaks indicated by the arrows 1, 2 and 3. The corresponding resonant frequencies are: 1, 0.079 Hz; 2, 0.089 Hz; 3, 0.106 Hz. However, the justification of these peaks as functionally meaningful components is complicated by the lack of global stationarity of the data under the analysis. A non-homogeneous character of the deltagram is easily recognised by the visual analysis. It is clearly seen from Fig. 3A that slow high amplitude oscillatory components (segments 1 and 2) are followed by faster oscillatory components with significantly lower amplitudes (segments 3 and 4). Given that HRV develops over these segments simultaneously with controlled respiration, we may associate oscillatory components of HRV with the breathing rhythms of 5 bpm (0.083 Hz) and 10 bpm (0.167 Hz), respectively. However, there is no evidence of a 10 bpm rhythm in the profile of the fragmentary spectrum. Either of the peaks 1 and 2 may be related to the respiratory rhythms of 5 bpm. To make unambiguous conclusions, we obviously need a more precise analysis which can tell us about the timing of the sources of oscillatory components. For this purpose we now apply spectral analysis to the segments 1 and 3 (controlled silent breathing) in Fig. 3A. The corresponding RR deltagrams are presented in Fig. 5A and B by the data points displayed as

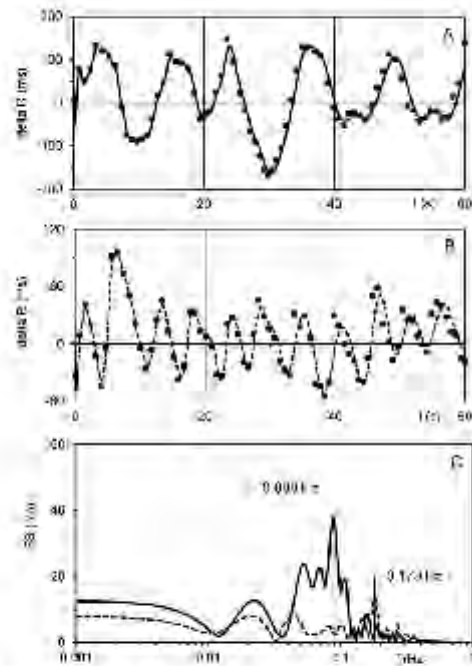


Fig. 5 – (A) The segment 1 of the deltaogram from Fig. 3A is displayed by the filled circles. The time to frequency and frequency to time Fourier transformations of these data points restore initial discrete deltaogram in the form of continuous time function (solid line). (B) The filled circles display the segment 2 of the deltaogram from Fig. 3A. The dotted line shows continuous deltaogram estimated by the time to frequency and vice versa Fourier transforms. (C) The solid and dotted lines show the fragmentary spectra computed from the data points displayed in (A) and (B), respectively. The vertical lines show dominant resonant peaks located in the frequency ranges of controlled breathing.

the filled circles. It is important to note that we have defined the RR deltaogram as a discrete finite extent function. In this context the discrete sequence of the data points is an exact graphical form of RR deltaogram.

The fragmentary spectra of the deltaograms are shown in Fig. 5C. It is widely accepted to regard a peak in the Fourier spectrum as the indication of an oscillatory component in the temporal structure of the underlying signal. Multiple peaks do not necessarily mean that several oscillations are present. They can be related to different factors that diverge a real oscillatory component from an ideal sine wave.

A characteristic feature of both spectra is the presence of well-pronounced resonant peaks: at 0.088 Hz for the segment 1 and at 0.178 Hz for the segment 3. In both spectra these peaks dominate over multiple peaks with significantly

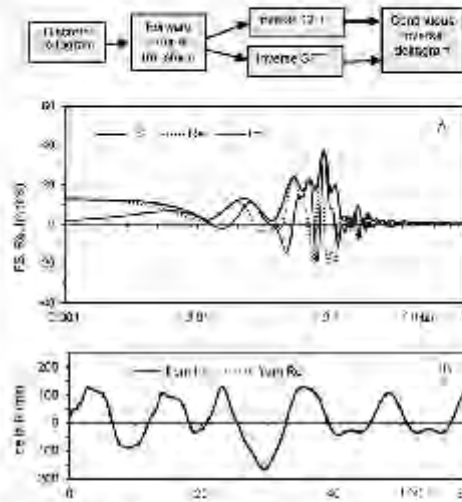


Fig. 6 – Upper block diagram shows that forward Fourier transform produces the two frequency domain counterparts of discrete RR deltaogram. From these functions inverse cosine Fourier transform (CFT) and inverse sine Fourier transform (SFT) restore original deltaogram in the form of continuous time function. (A) The solid line is the fragmentary spectrum reproduced from Fig. 5C. The dotted and grey lines show the real and imaginary parts of the corresponding complex spectrum. (B) Shows continuous deltaograms computed from the real and imaginary parts of the complex spectrum.

smaller amplitudes. Fragmentary spectra from segments 2 and 4 (controlled breathing with vocalization) have similar resonant peaks at the frequencies 0.08 and 0.177 Hz, respectively. The agreement between the frequencies of these dominant peaks of fragmentary spectra, and the frequencies 0.083 and 0.167 Hz of the corresponding breathing rhythms leads us to conclude that we are indeed observing a combination of cardiac and respiratory systems.

The reconstruction of inverse RR deltaogram using inverse Fourier transforms is the further step toward the establishment of the links between the time and frequency domains of the signal. The solid line in Fig. 5A and dotted line in B are the inverse deltaograms computed from the real parts of the corresponding complex spectra. By contrast to the digital RR deltaogram, the inverse RR deltaogram can be computed at arbitrary chosen time points, and thus may be treated as a continuous time function. From this figure, we see an excellent agreement of continuous deltaogram with the data points of original discrete RR deltaogram.

The block diagram in Fig. 6 illustrates the major steps through which a discrete RR deltaogram is transformed into the form of a continuous time function. An essential point is that the time to frequency transformation produces the two frequency domain counterparts of the original deltaogram. Both



the real and imaginary parts of the complex spectrum contain full amount of amplitude and phase information which is necessary to restore the original time function. Given the RR deltagram from Fig. 5A, Fig. 6A exemplifies the real and imaginary parts of the corresponding complex spectrum. These functions behave in a more complex manner than the fragmentary spectrum (solid line) reproduced from Fig. 5C.

For the purpose of inverse transformations, the real and imaginary part functions were presented by the sequences of evenly spaced samples in the logarithmic scale of frequencies extending from 0.001 to 1 Hz. The sampling rate was established at the level that provided 200 samples per decade, i.e. overall 601 sample for each function. Standard calculations of numerical Fourier transforms have been facilitated by effective procedures of the fast SBF algorithm [14].

Fig. 6B shows inverse RR deltagrams computed from the real and imaginary part functions. In the scales of this figure the plots of numerical solutions are indistinguishable one from another.

The definition of inverse RR deltagram specifies accuracy of inverse transforms by the components  $r_c(t)$  and  $r_s(t)$  in the error functions (22). A practical coincidence of numerical solutions produced by the real and imaginary part functions suggests that the errors of inverse transforms are negligibly small compared with the errors of the estimates of the fragmentary spectra. Therefore, a low level of summary errors provides evidence of reliability and very satisfactory accuracy with which the developed algorithms estimate fragmentary spectra.

## 5.2. Identification of a transient oscillatory component

Here we consider ability of the time–frequency analysis to detect and identify specific TOC of HRV using the dominant frequency as descriptive frequency domain measure of the fragmentary spectrum. Given conditions of controlled breathing, Fig. 7 shows the deltagram of heartbeats on the 200 s interval during which the breathing rate of 15 bpm (segment 1) was followed by the breathing rate of 30 bpm (segment 3). The length of each breathing interval was about 1 min. The fragmentary spectra computed from these segments are shown in Fig. 7B and C by the solid lines. The fragmentary spectra were also computed from shorter segments 2 and 4, and displayed in Fig. 7B and C by the grey lines. The vertical dashed lines indicate spectral peaks the frequencies of which can be associated with the frequencies of breathing. Thus, the changing profiles of fragmentary spectra reveal the frequency and timing of oscillatory components which can be unambiguously associated with the rhythms of controlled breathing. This finding of TOCs is consistent with the evidence of strong coupling between the rhythms of respiration and HRV supported by different quantitative methods [29,30]. Physiological aspects of this paradigm are known as the respiratory sinus arrhythmia [8].

Comparison of the fragmentary spectra from Fig. 5C, Fig. 7B and C shows that amplitudes of resonant peaks associated with controlled breathing decrease with increase of the frequency. This development is accompanied by progressive complication of spectral characteristics. Fig. 5C shows that resonant peak induced by the breathing rhythm of approximately

5 bpm (0.088 Hz resonant peak) is a dominant component of the fragmentary spectrum. By contrast, the resonant peaks associated with 15 and 30 bpm breathing rhythms (Fig. 7B and C) are mixed with a number of transient components the origins of which is difficult to trace. The change of the parameters of the fragmentary spectrum has significant effect on the spectral estimates, particularly the amplitude of the spectral peak underlying the TOC. In this situation the resonant frequency appears as a relatively stable parameter. This supports a dominant resonant frequency as a descriptive parameter of TOC.

The deltagram used to exemplify the temporal evolution of this parameter, is illustrated by Fig. 8A. This is a piece of the deltagram from Fig. 3A which includes the segments 2 and 3. The moving window analysis has been supported by the following parameters:

- Initial and final positions of the pointer: sample 1 ( $t=0$ ) and sample 210 ( $t=165$  s).
- Increment for the change of pointer position: 1.
- The range of the tested frequencies: from 0.04 to 0.5 Hz.
- Sampling rate in the logarithmic scale: 200 samples per decade.

These parameters were implemented in different trials using windows with different numbers of data points. Because the time points of the RR deltagram are non-uniformly spaced, the length of the window may take different values depending on the position of the pointer. During each trial the pointer takes the positions of subsequent time points of the deltagram, and at each point the frequency domain routines calculate the fragmentary spectrum for the frequencies of interest from 0.04 to 0.5 Hz (230 points), and estimate its maximum value. The frequency of this largest resonant peak supports each data point of the tachogram through the value of the dominant resonant frequency.

Fig. 8B shows the plots of dominant frequencies which were obtained using 50 (solid line) and 40 (dotted line) point windows. These are typical results which indicate that moving window fragmentary spectral analysis provides stable results, and reliably identifies time–frequency parameters of TOCs.

The choice of the window parameters should be linked to the expected frequency of TOCs. Given  $M$  point window, the value of its mean length may be evaluated as  $T_w = M \cdot \overline{RR}$ , where  $\overline{RR}$  is the mean of the RR intervals in the underlying deltagram. For the deltagram from Fig. 8A  $\overline{RR} \approx 0.8$  s. Consequently, the mean lengths of 40 and 50 point windows are approximately 32 and 40 s. Computer experiments with different window parameters suggest that  $T_w > 3 T_D$  may be regarded as condition that provides reliable identification of TOC with dominant frequency  $f_D = 1/T_D$ , where  $T_D$  is the period of the oscillation. In this context, Fig. 8B indicates that both 40 and 50 point windows provide similar results.

The distributions of dominant frequencies are summarised by the histogram in Fig. 8C. The manner in which the distributions develop clearly indicates the two groups of frequencies which are separated by the dashed vertical line. The mean frequencies for the low frequency range are: 0.08 Hz (123 samples, 50 point window), and 0.082 Hz (124 samples, 40 point window). The similar data for the high frequency range:

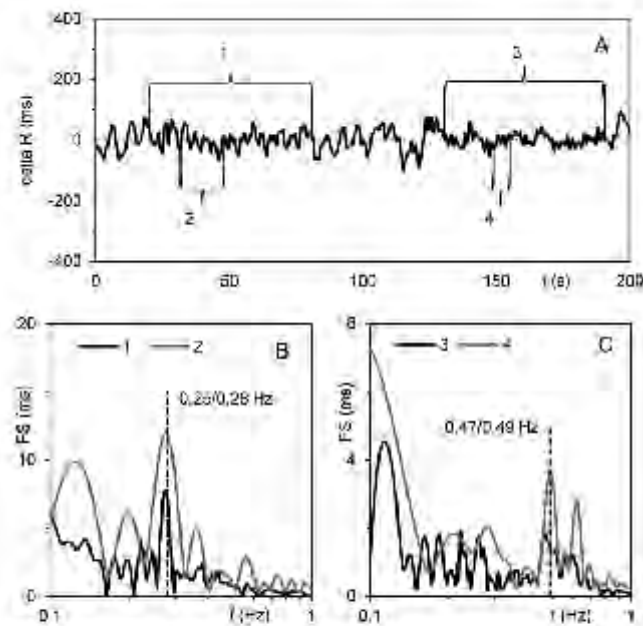


Fig. 7 – (A) Delta R based on 200 s record of 250 successive RR intervals. Segments 1 and 3 indicate two successive periods of controlled breathing with 15 bpm and 30 bpm rates. Segments 2 and 4 specify shorter segments within each of these periods. (B) Black and grey lines show fragmentary spectra computed from segments 1 and 2. (C) Black and grey lines show fragmentary spectra computed from segments 3 and 4.

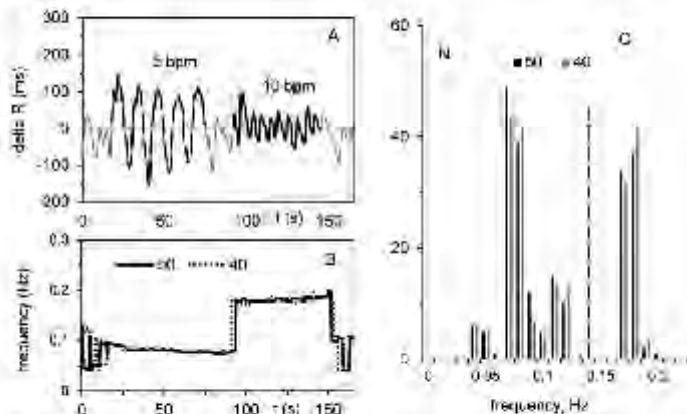


Fig. 8 – Illustrates the identification of transient oscillatory components of HRV induced by controlled breathing. (A) 210 data point RR delta R. The segments highlighted by the bold dotted and solid lines show periods of controlled breathing with the rates of 5 and 10 bpm. (B) Shows dominant frequencies of the fragmentary spectra estimated by a moving window procedure with 50 (solid line) and 40 (dotted line) point windows. (C) Histogram with 0.01 Hz bin shows distributions of the estimated dominant frequencies. The height of column is the number of dominant frequencies identified within the corresponding bin.

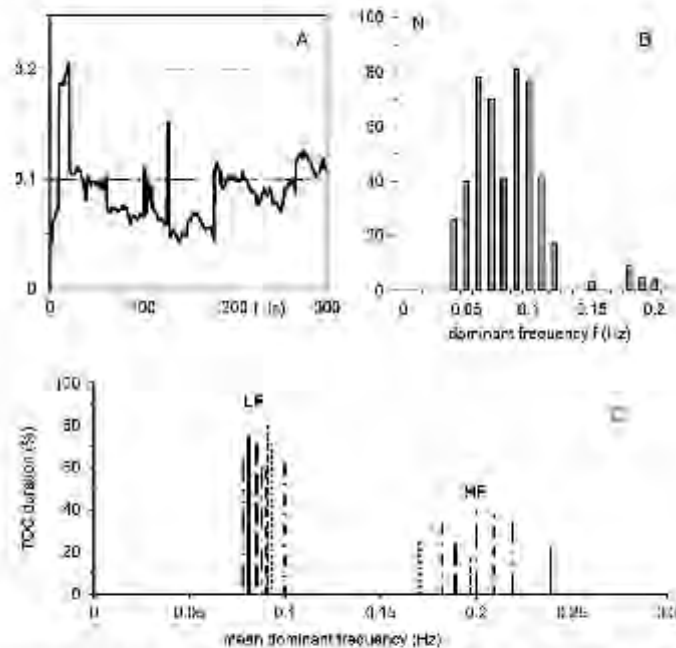


Fig. 9 – (A) Shows the trajectory of dominant frequencies estimated by the fragmentary spectral analysis from 300 s RR deltagram using 50 point moving window. (B) Illustrates the distribution of dominant frequencies in the same manner as the histogram in the previous figure. (C) Illustrates durations of TOCs with dominant LF and HF components identified from real-life HRV data of 8 healthy subjects. For each subject the same type of the line is used for LF and HF ranges.

0.182 Hz (87 samples, 50 point window), 0.181 Hz (86 samples, 40 point window). We have two good reasons for considering the dominant frequency as a robust marker of TOC. One is the fact that estimates of dominant frequencies are remarkably stable under unavoidable amplitude variations of the TOCs. Our other reason for appreciation of this marker is stability of the estimates obtained from the windows of different length.

Fig. 9 shows similar results for HRV recorded under the real-life, i.e. uncontrolled conditions. In this case the moving window analysis identifies multiple TOCs of different frequencies, duration and timing. These TOCs may be regarded as quasi-stationary elements of non-stationary HRV. An important finding is that dominant frequencies of these elements may be associated in some cases with conventional LF and HF frequency bands of HRV. A typical situation of this kind is illustrated by Fig. 9. The trajectory of dominant frequencies in Fig. 9A shows the results of the moving window fragmentary spectral analysis of 300 s RR deltagram (468 data points).

The histogram in Fig. 9B shows that distribution of dominant frequencies can be divided into the two distinct parts separated by the vertical dashed line. The mean dominant frequency for the low frequency range is 0.083 Hz (447 samples). For the high frequency range the mean dominant frequency is 0.187 Hz (21 samples). These mean frequencies belong to

functionally meaningful LF and HF bands identified in the studies of HRV power spectra [2,7,9].

The elements of LF and HF bands have been considered in the previous studies as continuous processes produced by stationary systems. An important advantage of our approach is that division of the deltagram into TOCs provides means to disclose the temporal dynamics of LF and HF elements. We illustrate this capability of the method using the real-life HRV data from 8 healthy subjects participated in the study. For each subject the moving window analysis (20 point window) was applied to 5 min segment of the deltagram. Given TOC at particular position of the window, the dominant frequency in the range from 0.04 to 0.13 Hz was qualified as LF element, and in the range from 0.135 to 0.5 Hz as HF element. Using identified ensembles of LF and HF elements, for each subject the mean dominant frequencies have been estimated. These frequencies are indicated in Fig. 9C by vertical lines, separately for LF and HF ranges. The height of the line shows the percent of the time, relative to the length of the deltagram, during which the corresponding elements were identified. This evidence of complex time-varying properties of LF and HF elements indicates that cardiovascular regulatory mechanisms are activated at different time instants, and can be associated with different control scenarios. The consistent relationship is the longer durations of LF elements (mean = 64.5, variance = 7.3)

compared with durations of HF elements (mean = 30.2, variance = 7.9).

## 6. Discussion

This work has focused on the development of new methods for extracting information from HRV data using simultaneous consideration of HRV measures in both the time and frequency domains. The necessity for significant improvements of the methods of HRV spectral analysis relates to the fact that the power spectrum, the recommended and most commonly used frequency domain characteristic of HRV [3], is a concept and tool addressed to stationary processes, whereas in fact, the consideration of HRV as a stationary process is a gross oversimplification.

Over recent years time-frequency analysis has emerged as the most favoured approach to improve the analysis and interpretation of the changing spectral composition of non-stationary HRV [9,11,12]. Being underpinned by ideas of the time-frequency analysis, the design of main algorithms reported in this paper depended critically on the methodological innovation of short time spectral analysis provided by the SBF algorithm [14]. The problem is that short term spectral analysis is highly sensitive to spectral leakage that can cause totally unacceptable distortions of the spectral estimates. Therefore, the added spectral information gained needs to be balanced by a full appreciation of the accuracy of spectral estimates. Conventional evaluation of numerical algorithms consists in comparison of computational results with theoretical models. Unfortunately, there is insufficient detailed physiological knowledge to describe HRV in terms of adequate mathematical models pertinent for both the time and frequency domains. Artificial time-domain sequences of RR intervals used in the previous studies to test the algorithms are not supported by the corresponding frequency domain solutions [9,10,17,18]. There is simply no frequency domain "gold standard" to which the HRV spectral estimates can be compared to establish the veracity of different algorithms.

Since the frequency domain judgements are not available, we have relocated the analysis of accuracy from the frequency to the time domain. This was made using the convertibility of the time to frequency and frequency to time Fourier transforms. Once the spectrum is calculated, the inverse transform recovers the original function and reveals computational accuracy. According to this analysis, we demonstrate that the accuracy with which the original function is recovered from the fragmentary spectrum is very satisfactory and may be regarded as strongly supportive of the suitability of the developed algorithms for the time-frequency analysis of HRV. Thus, the fragmentary spectrum introduced in this study allows high resolution of the signal in the frequency plane, which is necessary for the accurate identification and partitioning of pertinent components of HRV. In this way both the frequency content, timing and duration of HRV segment of interest can be captured together by the fragmentary spectrum.

However, it is important to note that extraction of short time fragments from conventional RR tachogram creates a

situation illustrated by Fig. 4. It appears that the time function to be transformed is close to the rectangular pulse. The corresponding spectrum dominates in the results of short time-frequency analysis. We overcome this problem by the introduction of the RR delta-gram. The expected trajectory of RR intervals is estimated by the algorithm of a multistep moving window averaging by which we extend conventional moving window averaging to the treatment of a non-evenly sampled signal in question.

These refinements in the technique of HRV non-stationary spectral analysis provide means for better recognition and understanding of the sources of the different oscillatory components of HRV. The previous solutions based on the measurements of the power spectrum are limited by constraints imposed by the condition of stationarity, and include two compulsory assumptions. First, the component is continuously produced by a system the parameters of which remain unchanged during the whole epoch of analysis. Second, HRV develops via a process of linear summation of different components generated by functionally independent sources.

These backgrounds have shaped virtually every aspect of conventional HRV spectral analysis, from the types of explanations proposed for functional and clinical significance of power spectra, to the way in which the HRV is reconstructed in computer simulations [9,17]. However, converging evidence from empirical observations suggests that cardiovascular oscillations are complex and mutable, and various cardiovascular control scenarios may be activated at different time instants, and hold features that reflect the underlying physiological mechanisms [31].

The coupling between respiratory and cardiac systems has been described historically as respiratory sinus arrhythmia [8]. The experimental data obtained in this study in controlled breathing conditions show that the breathing rhythm is reflected in the RR delta-gram by an oscillatory component of the corresponding frequency. If the breathing rate is unchanged during several breath periods, the induced oscillatory component plays a dominant role in the profile of the corresponding fragmentary spectrum. Therefore, regular breathing is able to suppress the harmonic components from LF or/and HF ranges. This finding of irregularities in the generation of oscillatory components from LF and HF ranges is further supported by the experimental data from uncontrolled, real-life conditions. Although in some instances the transient oscillations are most pronounced in LF and HF ranges, more typically the temporal overlap of corresponding activities is highly complex and irregular.

More studies will be needed to take advantage of the power of novel fragmentary spectral analysis techniques. An important goal is devising joint time-frequency distributions that play a crucial role in the understanding of time varying spectra [32]. Being based on physical considerations of underlying processes, the design of such distributions is supported by remarkable variety of heuristic approaches. Our finding of a specific oscillatory component of HRV linked to the rhythm of respiration may serve as a guideline to a specific distribution. The results presented in this paper provide the core of the approach.



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## Appendix 1.1

### Porges' methodology of vagal tone estimation

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**Porges' methodology** estimates the *respiratory sinus arrhythmia* (RSA) component of HRV as a marker of vagal tone. One of the major problems in interpretation of HRV is that the heart period time series is a composite of several components, each of which may originate from different sources (Porges & Bohrer, 1990). The general approach consists in the detection of the heart rate amplitude variation in the frequency band associated with respiratory rhythms. Specific signal processing algorithms were designed, by Porges and associates, to remove activity irrelevant to vagal sources of HRV. In general terms this includes aperiodic, and slow periodic processes. This allows selective extraction of RSA within the frequency band associated with breathing and vagal regulation. Calculations include the following major signal processing steps with specific objectives:

1. **Step 1.** Re-sampling is applied to the succession of R-R intervals in order to prepare the data for further quantitative analysis in the form of a time series, i.e. the signal samples taken at regular sampling intervals.
2. **Step 2.** A moving window polynomial filter is applied to the time series in order to estimate the slow aperiodic trend, the sources of which are often associated with vasomotor and blood pressure oscillations. The filter is fed with the time-windowed data set, to which a low order polynomial is fitted, identifying the smooth aperiodic trend, in the form of a template series, with unchanged sampling interval.
3. **Step 3.** The template series is subtracted from the original time series to produce a residual component, the frequency composition of which belongs to the range of respiratory frequencies.
4. **Step 4.** A bandpass filter is applied to the residual component, to remove the spectral components outside the bandwidth of respiration (0.12-0.4 Hz).
5. **Step 5.** The filtered series is divided into short segments (from 10 to 30 sec), and variances for each segment are calculated sequentially. The variance of each epoch is transformed with a natural logarithm ( $\ln(\text{ms}^2)$ ), and the final value of RSA is estimated as the mean of the epoch values.

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## Appendix 1.2

### ZEPHYR BIOHARNESS MONITOR

## LEADERS IN PERSONAL PERFORMANCE AND CONDITION MONITORING



### *BioHarness™*

BioHarness™ integrates patented Smart Fabric sensor technology into a garment that is comfortable and unobtrusive. It captures comprehensive physiological data on the wearer, eliminating the need for multiple devices. The robust BioHarness™ enables genuine real world monitoring of human performance and condition – giving you a vital advantage.

## BioHarness™ benefits

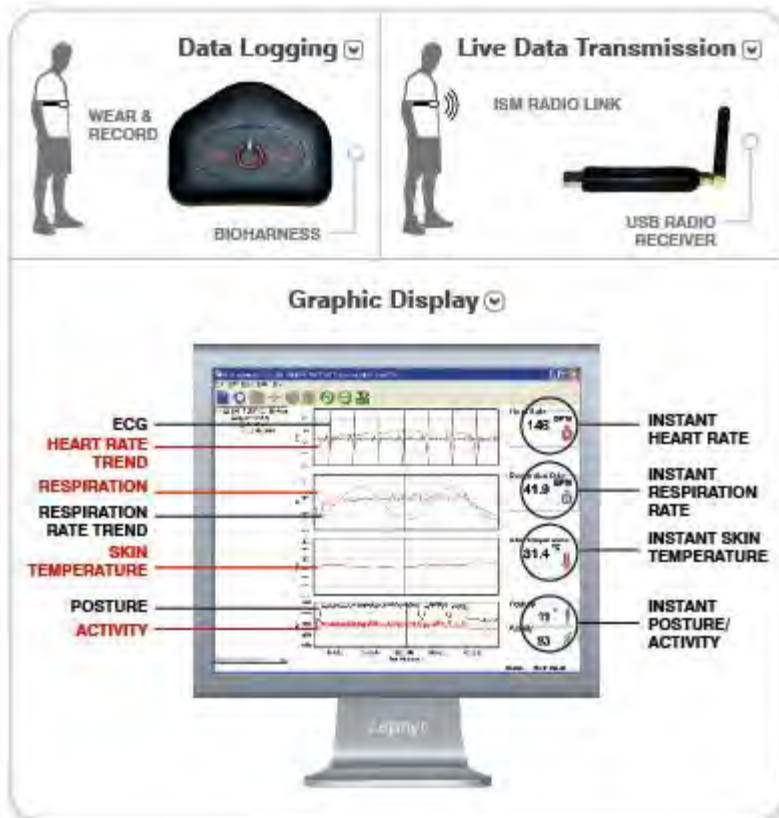
BioHarness™ has multiple applications – particularly in the sports, defense, health and wellness and academic and research sectors. Key benefits include:

### Health and wellness

BioHarness™ enables enhanced preventative care, enables effective tracking of rehabilitation success and provides accurate, quality data for in-patient and ambulatory patient status monitoring.

### Academic and research

BioHarness™ enables genuine field-based research – allowing previously unavailable research avenues to be explored, and helps achieve greater insights through analysis of quality, in-depth data.



## Product Capabilities

- Monitors heart rate, R-R and ECG trace
- Monitors breathing rate and depth
- Records local skin temperature for trend analysis
- Monitors inclination in degrees from horizontal for posture reporting
- Activity measured in velocity magnitude units over pre-defined epochs for calorific analysis
- Examines acceleration to allow study of loading and perturbation changes
- Fabric-based, dry contacts are non-restrictive and comfortable
- Allows quantitative analysis between subjects, activity, situation and time
- Real time and trend analysis via graphical display
- Wireless connectivity

Information downloaded from website: [www.zephyrtech.co.nz/products/professional/bioharness](http://www.zephyrtech.co.nz/products/professional/bioharness)

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## Appendix 2

### *Change in self-experience rating scale.*

Choose one word and one letter to describe changes in your experience of self on the scale below, relating to the sense of “aliveness”, at the relevant point in the transcript. If you cannot find a word that fits with your experience, use a word of your choice that corresponds to one of the letters. Mark them at the side of the transcript.

- a. Enlivened – lively – moved  
|
- b. Excited – surprised – touched  
|
- c. Interested – engaged in – affected by  
|
- d. Accepting of – unaffected by  
|
- e. Disinterested – bored – unengaged – distracted  
|
- f. Upset – threatened – enraged – offended  
|
- g. Devastated – shocked – horrified – annihilated



### Appendix 3

#### Cry and Response: an intersubjective analysis of Pilot 3

The entire de-identified transcript of the Pilot 3 patient-therapist session follows (identifying names, or places, have been altered or removed):

- 1) Pt                    *I'm all nervy.*
- 2) T                    *Well just relax. We are going to focus as though it was a normal session.*
- 3) Pt                    *Yes. Well had a really good experience on Wednesday. I had to take my daughter to xxxxxxUni, [00:30] I didn't know it at the time, but it was like six o'clock in the morning and she woke me up at about twenty past six or twenty-five past six and we were going out to the car to take her to the railroad station but she was too late to catch the train. So I had to go back in and get all my stuff because I had to be up at xxxxxx (Yeah) at nine. So I had all my gear and I was walking out and I thought 'Oh this just feels like the old days when I was just going to work [01:00]*
- 4) Th                    *OK.*
- 5) Pt                    *You know.*
- 6) Th                    *Was that a nice feeling that you had?*
- 7) Pt                    *It was nice to feel the feeling. The actual feeling was just ....yeah, there was no fear involved it was just....it wasn't like I've accepted that I have to go to work it was just, um, it was like a non-feeling but there was no anything, it was like this is fine, life is good sort of feeling yeah [1:30] (8)T: okay). 9) So I thought that's amazing.*
- 10) T                    *So you were kind of surprised that you felt that way?*
- 11) Pt                    *Yeah, yeah.*
- 12) T                    *Because it is different to the way you have been feeling?*
- 13) Pt                    *Yes it was an old feeling*
- 14) T                    *Yeah.*
- 15) Pt                    *-remembered.*
- 16) T                    *Hmhm because towards the end of that period of time when you were working I think from memory you were saying that you had dread when you went to work.*
- 17) Pt                    *Oh yes it was like a wall, [02:00] like I was driving through a wall of resistance getting there. And then when I was there, there was nothing in my brain. It was really hard.*
- 13) T                    *So there has been a kind of shift there then.*
- 14) Pt                    *Yes.*
- 15) T                    *To get up early and drive out and....*
- 16) Pt                    *Yes, I was in sort of pain in so much that I was thinking "Oh why can't you just get up a bit earlier?" you know, because she could have left.....she knew she had to leave at ten past six and here it was twenty-five past six. [02:30] So, um, I sort of thought, you know, oh I won't say anything because it doesn't change anything. And the fact that I had to be at yyyyy, which is halfway to xxxxxx, means that I had to drive past where I had to be, go up to the uni, xxxxxxUni, and then drive back to where I had to be. So I didn't have time to, you know, have a shower, I didn't have time to really get ready, I had to squash everything in because I didn't know I was going to be doing that. [03:00] And so off I went really tired and mess and, you*

know, so that was sort of like a negative. But I just remember that feeling as I was walking to the car was good.

- 17) T *It sounds like you were kind of a little bit excited by that feeling.*
- 18) Pt *Yeah I was excited that something positive happened. You know, um, at Acme corp I'm assisting this person to do designing of the processes they have got. [3:30] Which is what I really love doing and in which before I couldn't even look at and here I am wanting to help her do this. One of the key things being I told her is there is no pressure on me, I'll do what I do, I'll work at the rate that I work because it is a non-paying job, it's not anything, it's just doing it as a hobby sort of thing. So there is no pressure, there is no anything, you know, and so I can sort of just enjoy it for what it is. [04:00]*
- 19) T *So that is something that you described to me that you do enjoy, that kind of creativity*
- 20) Pt *Yes, yes.*
- 21) T *You know, you try and design something.*
- 22) Pt *So I think that is really good that, that has popped back that I can work on that and get me a little bit closer to where I should be.....close to a work environment where I'm actually getting paid to do it. [04:30] But today I was thinking oh, you know, I could always do something else. I could just get a job that, um, washing dishes, so, um, in part though this was the first time I sort of thought about it in a positive way. Whereas before I thought of it in a negative way in being oh I failed so I'm just a dishwasher. Whereas this time I thought of it in oh well could always wash. [5:00] You know, I can always just go out and get a job and do something. It doesn't have to be what I was doing even though what I was doing was sort of like what I felt gave me the most pleasure plus would give me the most money, which would certainly change our lifestyle. I still haven't put that thing in for the Government money, you know, that pension you can get. [05:30] Yeah, I have to bring it to you to do but I've got to do other stuff anyway, so I still run away from all of that work, it is still something that looms over my head. And, um, I'll pay somebody to do it for me and I'll be fine. But um, yeah just even thinking that is really good. Ask me a question [laughter].*
- 23) T *[06:00] But, you know, I guess you have described to me some kind of change that you've noticed in both I guess what you are feeling but also what you are thinking about (Pt: yeah). Which is bringing you closer to reaching the goals that you have.*
- 24) Pt *I know before....even before when I was sitting here...I don't know how long I've been coming here, a year or something. In the beginning there was this feeling [06:30] that oh I really hope this works because this is the last chance I've got.*
- 25) T *Yes, you told me that.*
- 26) Pt *Yeah, I did. But now that fear is not there, right? It's like I haven't got that voice saying I hope this is going to work. I haven't got a voice saying it is working but I haven't got a negative voice.*
- 27) T *OK.*
- 28) Pt *[7:00] So I think, you know, I'm doing all this meditation, I'm doing a whole heap of things and I think it is all just combining, if meditation works and, um, yeah, it's good.*
- 29) T *Yeah, it sounds like you've had a nice feeling and feeling like you are making some progress rather than this kind of apprehension about whether this is actually going to make a difference or whether there is going to be some improvement. You can actually see some shift, some kind of change.*
- 30) Pt *That's it. [7:30] I notice change happening so that makes me happy.*
- 31) T *Hmm, there is still that kind of question isn't there about the sorts of difficulties there in terms that you mentioned there once that there are forms you haven't completed and you haven't returned the forms ( 32)Pt: yeah). So there is still this kind of avoidance of sort of things that feel like pressure or things where you have a responsibility there.*

- 33) Pt *[08:00] Yeah, and the funny thing is it is to get income. So I'm avoiding it so, um, which is a pretty silly thing to do. But, um, yeah, because, .....because it is giving me problems and I don't want problems. And one of the problems was how much money do I have and I have no idea how much money I have. So I have got to go and work it out with somebody how much money I've got and I sort of sit there thinking [08:30] oh it's just too hard to go and.....as if I'm an idiot I should know how much money I've got and the fact I've got to ask someone to come and help me look at some bank accounts, because that is really all it is, implies.....*
- 34) T *So you're kind of embarrassed about that?*
- 35) Pt *Yeah, sort of thing, yes. And, um, yeah, it is embarrassment to go and do it. But, um, [09:00] XXX does the bill-paying at the moment, so she's got the little card that gives us the access to the, um, bank accounts on the computer. And I thought well before I go and ask anyone I'll just try and figure it out for myself. But I asked her for the card and she wouldn't give it to me. So that's awfully strange [laughter]. It wasn't that she said no she just gave all these reasons why she wouldn't give it to me and I thought that's really strange. So I don't know why that is but I just felt that oh [09:30] she doesn't want me to look into our bank accounts. So it just sort of pushed me away.*
- 36) T *So you found that hard to understand why she wouldn't want....*
- 37) Pt *Yeah, I found that hard. And because she just gave excuse rather than no I don't want you to I couldn't ask her....I know I wouldn't have anyway, but I couldn't ask her why don't you want me to have it because she didn't say I don't want you to have it. She just goes....all she had to do was say the card is on the desk or wherever the card is.*
- 38) T *[10:00] You felt the underlying issue was she didn't want you to have it?*
- 39) Pt *Yeah well yeah.*
- 40) T *She wasn't giving you the true sort of reason?*
- 41) Pt *No because she doesn't usually do that. You know, like when you don't want someone to have something you'll come up with oh I can't come to your party tonight because, um, my uncle died. Whatever it is, you know, you don't want to say something so you gloss over it so, um, it wasn't, yeah, so that's what I felt it was. [10:30] It was just making up reasons for me not to have it and the end result is I didn't have it so I guess it was right, (hm) because otherwise she would have given it to me rather than bringing up reasons why she couldn't.*
- 42) T *Hmhm so how did you respond to that? Did you just leave it?*
- 43) Pt *Yeah, I just left it because I just don't know how to respond to those things.*
- 44) T *Hm. So you kind of didn't know what to say to her when....*
- 45) Pt *Yeah, because it just came as a shock out of the blue ( 46) T: right). 47) Pt: So I'm just hmm?*
- 48) T *So you were a bit gobsmacked (Yes yes) [11:00] and thinking what is going on here.*
- 49) Pt *Yeah, and that freeze-thing comes in.*
- 50) T *Right, so you just freeze up.*
- 51) Pt *Yeah, and my brain....nothing gets said, nothing gets done*
- 52) T *... right.*
- 53) Pt *So we have to work on that freeze.*
- 54) T *Like you don't bring it up later on so it just gets left?*
- 55) Pt *I don't know how to bring it up later on (56) T: yeah). 57) Pt: Um, because, because she doesn't say Oh I'm not going to give it to you, because she gives reasons, [11:30] I don't remember the reasons, I'm just stuck on the fact that she said it. (Hm) I don't really remember it and even if I do remember it and then she goes 'Oh you know you bring these things up' and*

*I think you were the one that said it! Because, you know, she's in defence all the time so it is always my fault.*

- 58) T *I see. So you don't know how to bring it up and in a sense you don't know what to say so that you don't elicit [12:00] this defensive response.*
- 59) Pt *Yeah, I don't know how to say it in a way that....*
- 60) T *Doesn't come across as you .....*
- 61) Pt *As conversational, yeah. And, you know, she doesn't necessarily want to....if she doesn't want to give it to me I've got to figure out why she doesn't want to give it to me. Really and she's not going to tell me so, um....*
- 63) T *It is kind of hard to get inside her mind when you can't even talk about it (64) Pt: yeah) 65) T: and gather more information.*
- 66) Pt *[12:30] It is.*
- 67) T *So it is like the easier option is to just let it go and ignore it.*
- 68) Pt *Yeah, yeah, and that was months ago, like I think January or February and, yeah, so it hasn't come up again so I've got to do it again somehow. Just throw it up again and I guess just re-ask for the card because she's probably thought about it and maybe she's okay now or [13:00] so we'll just go through the game again and eventually I won't be gobsmacked, so to speak, and I might be able to go to that next layer.*
- 69) T *Is it like each time you bring it up that kind of level of fear and apprehension is not quite as high?*
- 70) Pt *Well I'm imagining that that would be the case because I don't usually do that but because I need to do my bank things, I'll then have to bring it up.*
- 71) T *The bank thing is to sort out your money situation. [13:30]*
- 72) Pt *That's right, yes. So I have to sort of get access to it. So I can get access to it with her sitting there, so I'll say can you dive in and do it, because really my goal is to get access to the information. If she was to keep the card and keep the key to the gate, that's fine as long as I can just....you can open the gate for me and keep the key.*
- 73) T *Hm, hm, so you can get the data that you need?*
- 74) Pt *So I can get the data that I need, yeah.*
- 75) T *And then you can sort out what you need to sort out.*
- 76) Pt *Yeah or [14:00] find out if I can't sort it out and then I can go and get the help. I actually went to the building society where we keep the money to get the help, and the lady goes, "Oh no you need a financial advisor." And I thought I don't think so, I just want to find out how much money I've got, that's what these accounts explain to me. So she sent me off and gave me a financial advisor....this must have been before Christmas, and of course the financial advisor didn't ring me back for three or four weeks. And then he said, [14:30] "Oh no you don't need me they can do that.; and I thought look I know they can do it, I don't know why they didn't want to do it. But obviously it is like somebody coming in with a whole heap of coins and saying "I want to deposit that." And they have got to run through and waste all their energy on one customer and do all that work.*
- 77) T *More like if they can get it fobbed-off.*
- 78) Pt *Yes, yep. But anyway that's why nothing more [15:00] has been done on the thing. Plus I have a company car ....well company so much as I've got a company and the car is in the company name and I couldn't find a spot to put the car in as an asset on the form. I did all the form and I got to the end and I had no car and I thought I'm sure they are going to want to know about that but then I couldn't find a place to put it. [15:30] So now I'm going to have to go and ask [name] our accountant about that so he can help me with that one.*



- 79) T *Yep, yep, okay. So rewind me back a little bit. I'm curious about the situation with the bank person. Did they say you need to go and see a financial advisor?*
- 80) Pt *That works for the bank.*
- 81) T *That works for the bank, yeah, but your response to that is [16:00] "Nah I don't need a financial advisor." Well I'm gathering this is some kind of internal response that you had*
- 82) Pt *Yeah.*
- 83) T *Because you kind of agreed and you went along and .....*
- 84) Pt *Yeah, I went along with it because from that embarrassment view I didn't want to say I couldn't understand my ....a simple credit account. Um, and so when she said oh is this for investment reasons I thought well it could be for investment reasons I guess. [16:30] So I sort of allowed her to think that because I didn't want her to sort of think no I've ...I've got all this money and I have no idea if it is mine or if it is yours.*
- 86) T *So you don't want to come across as being a fool and ..?[16:47]?*
- 87) Pt *Exactly, so rather than saying no I just have no idea what I'm looking at when I'm looking at this and the fact that I haven't looked for so long, so I'm not even au fait with what it looks like, [17:00] would make me look like an idiot to my mind.*
- 88) T *hm. So you just go along with this but then it ends up delaying the whole process*
- 89) Pt *Yes exactly.*
- 90) T *creating more problems for yourself and then go see the financial advisor and then sends you back to the bank.*
- 91) Pt *Yes, and that is 50 years of my life so it is not like it is new.*
- 92) T *It has become a pattern that has happened throughout your life.*
- 93) Pt *Yeah because I'm always um, I don't want to look like a fool.*
- 94) T *[17:30] So, therefore you will just go along with what.....*
- 95) Pt *Whatever.*
- 96) T *Yeah, whatever.*
- 97) Pt *It's like if people explain things to me, because I'm not a word person kind of like you, I can't remember everything that people say if they are just wording it at me. I, you know, can't take directions from people because, you know, I just say give me two directions. [18:00] They don't tell me to go left, right, over the hill, turn left at the service station, turn right at the stop sign, it is meaningless to me. So if I say to somebody explain to me why carbon burns and they start explaining it to me after about the first couple of concepts I would have lost the plot. But if I say here is a piece of paper and here is a paper show me, you know, [18:30] carbon burns or why carbon burns and then I can watch that and I can see if logically they have made any errors or if they have left something out. But if they are talking to me I can't retain it in so much that if they leave a space out, that is obvious to them so they haven't included it, then I will lose my spot but I can't take them back to that spot or anything like that. So I get, I can't.....so I just say yeah okay, [19:00] okay, I've learnt that I have to go and learn that by myself....okay, gotcha but I'm totally lost.*
- 98) T *So you say got you and you've got no idea.*
- 99) Pt *I've got no idea.*
- 100) T *Okay, and you don't want them to know that?*

- 101) Pt *No, no, only because if I said I don't understand you they'd start again and it's talking.....like to say I don't understand [19:30] wouldn't solve anything because they would just begin again.*
- 102) T *I guess it sort of reminds me of the last session we had where....do you remember at the end of the session?*
- 103) Pt *I don't remember, we were wasting our time, yes.*
- 104) T *Well I'm not sure it was entirely a waste of time because where they kind of dialogue there that you were frustrated with me, [20:00] um, because you felt that I was sort of leading you on a certain kind of path.*
- 105) Pt *Yes, and you know what you did? You led me on another path because you felt we had to work on it. And so here I was saying that you lead me down paths and you say "Oh we had better investigate this." And so you led me down another path. And I kept saying but it doesn't matter to me, and you'd say "Oh but I think this is important" and you were doing exactly the same thing. You are going down a path that is of no importance to me [20:30] whatsoever and you want to take me down another path to investigate something that is of no importance to me whatsoever.*
- 106) T *Well I'll tell you why, why I bring that up. It's because you mentioned in the dialogue there that you're not a verbal person and then you made a comment 'unlike you'*
- 107) Pt *Yes.*
- 108) T *There was some kind of comparison there.*
- 109) Pt *Oh yes because we can be talking and, um, I'll say, um, something at five past nine and [21:00] we'll digress and you go 'oh I want to take you back to something you said earlier'. Earlier, "My God that's good!" I'm really impressed that can remember it and lock...put it somewhere to go back to. Whereas when I'm having conversations with people I sort of think oh I've got to get back to that and I'll make....I'll bend my thumb or my finger to try and remember that point because I'm letting the person digress or whatever [21:30] but I can't do it. But you can remember all of those things you want to come back too even if it has been five or ten minutes ago, so I'm really impressed.*
- 110) T *The difficulty in terms of you going back is what you are remembering or you being able to lead the conversation back there?*
- 111) Pt *No it's me remembering it and it is only when I've left um, the conversation [22:00] that I think oh that's right they said such and such and I wanted to talk with them about that.*
- 112) T *Hm, so after the last session we had did you have this experience?*
- 113) Pt *Yes! Yes, I had the experience-.*
- 114) T *Then why don't we talk about that?*
- 115) Pt *That you were wasting our time and you were repeating exactly the same error that um, I said that you always do. And there you were trying to discuss it but you were actually doing it. But I didn't realise it at the time [22:30] But I felt all the feelings of frustration but because I don't voice it - I haven't got time to look at it. I'm aware of it all happening but, you know, you are asking me questions and I'm answering the questions so I'm aware just slightly subconsciously that it is there just coming into the consciousness. But it is only when I leave when the conversation has finished that I can go and have a look at that sort of subconscious layer and realise what it was trying to tell me.*
- 116) T *[23:01] Hm, so what did you find when you did that?*
- 117) Pt *It was exactly the same error that you were wanting to know about. That um, that you felt it was really important that we stay on and I thought no it is very important that we go forward with what I'm talking about. But you were more concerned with your relationship with me doing it again than with me wanting to go forward and look at my problems.*

- 118) T *[23:30] So you are frustrated with me with that perception that I keep coming back to the same stuff again?*
- 119) Pt *Only if you want to- no if you said to me I want to go back to that thing you said about you remembering words or whatever it was - see I don't even remember what it was but- that's fine I have no problems with that. But when you went.....what we were talking about was that thing [24:00] about um, God being, um, having unconditional love and the Christian Church has got unconditional love according to your definition of unconditional, because you've got a condition in there that you don't count as a condition. So that was what....so I brought that up again last week to say you sometimes if you feel ....when we are discussing those things that you have been put a bit of a negative....I've said something that you think is wrong [24:30] you'll go to try and prove that what I've said is wrong or that I actually have exactly the same view it's just slightly different, so I'm no more wrong than you. And that's what we were talking about so then....and I'll say it is very frustrating because you ask me questions in a way that you are trying to corral me into a certain answer rather than asking me questions to try [25:00] to go forward, it's actually trying to go circular. And you said 'well that's very important let's discuss that', and to me you asked me a question so we could get back to that. And I thought well there we are we're not going forward we're discussing whether you're....whether you try to corral me into a, um, [25:30] getting an answer that you particularly want. And there we were discussing it again with you asking corraling questions with you trying to get me back to it. And I thought oh well there we go again, you've done it again [laughter].*
- 120) T *And how did you feel about that?*
- 121) Pt *I feel - last time, um, last week I just felt frustrated because again I didn't think [26:00] the subject was me and my problems. And we're sort of on the edge of getting places but we sort of only seem to get to that place when you say at the very end 'oh well that's very interesting [name] we'll have to investigate that further'. And I think oh we never investigate further we just start, we go places and we get to the same point.*
- 123) T *Tell me a bit more about this sense that you have...that we're on the edge of going somewhere. [26:30] What is that kind of sense that you have?*
- 124) Pt *Well it's like I said, you know, I freeze up and I say I'd like to really investigate that and work on that and work away from it as in freeing me up and we never seem to. I've said that many times. I say yeah I have, um, problems in this area or that area that I'd like to work on and it is always at the end [27:00] and you say 'well that's very interesting we have to work on that'. And I think but these are things we've said many, many times and you've said the same response to me. And maybe you are working on them and you've got your way but I'm not, um, dumb.*
- 125) T *It doesn't seem from your perspective that we are working on these issues.*
- 126) Pt *Not directly, yes not directly, perhaps indirectly. But it seems, um, you know, you're asking me for an opinion [27:30] so I'm forming an opinion I don't really, really have, I'm just putting words to a feeling at the moment. Yeah, it just frustrates me that we get to the end of something and you go 'well that's very good we'll have to....', you know because you say the same set of words all the time. See I'm not a word person so I don't remember. And I think okay it will be the same in a fortnight. Oh, I think it is good, [28:00] I think we've realised a lot but we don't sort of....like I said we'll have to work on that and you go 'yeah' but we never seem to. So I don't know why you bother saying yeah.*
- 127) T *Yeah I- I mean [28:16] for bringing it up.*
- 128) Pt *You always say that too [laughter].*
- 129) T *So I'm kind of like a broken record huh?*
- 130) Pt *Er, no you've got set responses maybe or you really are glad I brought it up. [28:30] But, um, it doesn't bother me, like I'm still coming so if it really bothered me I wouldn't come.*
- 131) T *Well as you....to be ?[28:44] you go away afterwards feeling frustrated that in a way responded by saying that's important let's talk about it and never talking about it.*

- 132) Pt *Frustration's too strong a word. Last week I was frustrated because [29:00] we fell into the same circle that you wanted to discuss. Um, so I was a bit frustrated then, very little, but I was frustrated. But I'm not frustrated when you say we'll close the blinds. I'm just accepting.*
- 133) T *I guess it kind of seems like [29:30] you are noticing this, you are noticing my responding, you're noticing that I'm not sort of following up on these concerns that you are raising.*
- 134) Pt *That's because, ...that's why I'm good at my job. I listen to what people say, I recognise patterns so I can really design things really well and I know when something is missing. And that is why I can design perfect systems for people [30:00] because I'm very perceptive and I pick up on what people say. That's just what I do innately and so I'm mapping it to my picture, in my head.*
- 135) T *Hm hm.*
- 136) Pt *And so when people say things that don't fit into that picture it goes 'ding!' in my head.*
- 137) T *Hm. So is there a ding that I'm mapping this particular kind of way by responding this kind of particular way?*
- 138) Pt *Yes and then if you respond [30:30] in a different way that really, "Oh," I wouldn't say anything because I just wouldn't understand it. But if you did it twice then I'd get an understanding of more what you are, um, doing. I'm just trying to recall something that happened, not with you but with somebody else. They said something and I just noted it and didn't care about it. And then they said it again trying to reinforce what they were saying.[39:00] And I went, "Oh that's funny I wonder why they would say it twice," and then I try and put a reason as to why it's important to them that I recognise this in them or I get what they are trying to say. Like people are trying to say things all the time without saying things.*
- 139) T *Carry on.*
- 140) Pt *Oh okay. Um, people might want to be sort of complimented [31:30] for being such a nice caring person. But rather than saying, "Oh I'm a really caring person", which would be a bit wrong, they sort of tell you a story about Mrs Jones and her problems and as a side issue what they did to help Mrs Jones. But, um, sometimes that might be a story about Mrs Jones but sometimes, depending on how they say the story, you really realise it is about the, they are talking about them [32:00] themselves or whatever else is important to them.*
- 141) T *OK. Something I ?[32:09] how do we flow from ....because that is a different idea and I'm just wondering how we went from....*
- 142) Pt *I answered your questions. [laugh] You ask me a question and I answer it. I don't initiate anything. I might say something that is broad and you might take one bit of that and [32:30] want expansion on it and we might get over there, but it is not because I take it there. I'm trying to answer your question. You are the captain of the boat.*
- 143) T *If I'm captain of the boat I'm a little curious as to how we went on....we were talking about you and I and how we interact and now we're talking about....*
- 144) Pt *I'll have to start with Mrs Jones. [33:00] You said.....I came up with, oh let me just think, I'm not a word person. If it were a diagram I could show exactly how we moved. I was talking about people don't always.....people use other words or other frames to describe themselves because they don't want to come out and say, "Oh I'm so intelligent", or "I'm so good", or "I'm so giving" or whatever. [33:30] Um, and you asked me for an example so that's when I gave the example of Mrs Jones. Now we got to that because, um...I was talking about the fact that, um, I'll pick up on this when someone says something more than once when they only would really say it once if it was just a conversation. [34:00] Like when people try to empathise, um um, emphasise something they'll say it more than once and they will say the same thing a couple of different ways sometimes. And that strikes me as weird when they do that because you only need to say something once. And, um, that came from the fact that, um, [34:30] I design circuits and I can see things and see when people don't say things properly and that came from the fact that you noticed that I seem to, um, pick on things you say or do or something and you think that is very important that I do that. And I said no it is just innate*

*because it is not something that I deliberately do or choose to do it's just that you.....if you say something, [35:00] um, then it is, um, and it is out of context or out of place with what you're trying or been saying I'll pick it up. So that is the best of my ability, I have to work backwards. Whereas you could remember the thing you actually started with. But everything was a response to a question you asked.*

- 145) T *Do you see this like me driving the boat here? And yes [35:30] you said before that you are frustrated that we seem to be on the cusp of something, the cusp of moving forward to you want to look at and yet we don't get there.*
- 146) Pt *That's right because we end up at Mrs Jones.*
- 147) T *Huh. So what, it's like on the one hand you are wanting the conversation to go somewhere but I'm driving the boat and taking us off on another direction.*
- 148) Pt *[36:00] [sigh] [pause] It's because it doesn't happen often so it's not something that is bothersome as I said before. Like, um, like I was very frustrated trying to remember back. Not frustrated but very stressed, [34:30] trying to remember back. It stresses me to a degree when you say, um, "We seem to have gone off all over the place we've ended up at Mrs Jones, why is that?", as if it is my- as if I had anything to do with it. And I think well why do you ask me the questions, you're the driver of the boat. Why are you asking me why we've crashed on rocks in WA when we were going to Fiji. [37:00] You know, I think it is a silly question to ask the engineer. Well I don't think it is silly, that is just my words but, um, yeah, to ask a question to go back before we digress, um, sometimes we go over stuff we've gone over and I see.....to me you don't seem to take notes and you probably might have a very good memory and you ?certainly seem to but, [37:30] um, I sort of think why are we going over this again multiple times when we've already gone past these points and you come up with the same answers as you've come up with before. And I think well if you took notes we might move....we might move faster to places.*
- 149) T *Perhaps, but it's.....[38:00] it is interesting because it sounds like you are annoyed by this.*
- 150) Pt *Okay but as long as you....I'll answer that question but now.*
- 151) T *That's not a question.*
- 152) Pt *Well it's....well what would you call it?*
- 153) T *That's an observation.*
- 154) Pt *An observation, okay. But you are wanting a response right?*
- 156) T *I guess I'm just wondering is that what it is like for you. I'm just trying to understand [38:30] your perspective of it.*
- 157) Pt *Rightyo, rightyo, but to me- okay, this is my response to it here we go again we're discussing um, because you have asked for it, you've made the observation and you're waiting for a response and here we are again discussing how I feel about you asking questions. And to me it's [39:00] it's about you and me or your interest from a, um,....you're interested from your needs rather than from my needs. I might not- you know, I'm just telling you how it feels to me. You're saying 'this is really interesting our interaction, I really like this, tell me more about it' and I'm saying [39:30] well actually I'm here because twelve months ago I wanted to kill myself and I'm trying to get better and do all these things and I want to look at my weaknesses why I freeze, I want to look at why I can't do these things. And you're interested in our interactions between us, which to me is very interesting and, um, I am interested in those things too with other people but, um, [40:00] it's not to me ....although I can see that it can be, it's not to me being a direct movement of me going forward to, um, getting better.*
- 158) T *You said that there is a sense that something is changing and there is a shift. On Wednesday morning you felt this feeling you've not felt in a while.*
- 159) Pt *[40:30] Yeah, yeah, and I also said I do a whole heap of meditation and a whole heap of other things and I don't know which one it is, but it is good, it's all good. That doesn't mean ....you are tacking against the wind in the sailing boat, you're moving forward. You can go with the*

wind in the sailing boat and move a lot further forward faster but to me it seems like we're tacking. And you say 'oh yeah we're getting forward' you said, as if that negates my [41:00] earlier statement and yet it doesn't negate it at all. We can still be moving forward but it doesn't mean I'm happy with the speed or, or whatever.

- 160) T *I guess the tacking thing is that you saw an analogy as you said before I'm the one driving the boat here and then you are bringing in a metaphor there of tacking the boat. And I guess the question is [41:30] if I'm the one driving the boat here then it seems that I'm tacking the wrong way and we need to turn the boat around and go the other way.*
- 161) Pt *As I said the more energy we give this the bigger we make it appear. But really it had so little energy in the beginning that it's this little song is on my mind. Yet when you give it energy [42:00] and I respond it just gets bigger and bigger until you think oh this is a very big thing. But it is just a little thing on my mind, on my radar, that it takes energy for me to sort of try and figure out what I'm trying to say. So I've really got to look and I can imagine this is what I'm going to say and then you make what I say as if it is a statement that contains energy [42:30] but it doesn't contain any energy. It's got no force of my mind behind it so it is very hard for me to then defend it because it wasn't there in the first place. I've only dredged it up because you've asked me a question because you're the pilot and now you're ....because I put forward analogy saying just because you're moving forward doesn't mean that's the best way of moving forward....that means that it's the best way of doing things. And then you say 'it seems to me that what you're saying is that [43:00] I'm the driver and we're tacking', and I never said that we were tacking. I just used that as an analogy to explain why moving forward is not just this tick oh we're moving therefore everything is fine. And I'm not saying everything isn't fine, I'm just saying that was what the analogy was for. You can move forward and you can move forward and I'm not saying we're racing along with the wind behind us, I'm just using that as an analogy to explain a thought.*
- 162) T *So that was just a thought that popped up in your head? [43:30] I guess what I'm wondering is how do we get out of this?*
- 163) Pt *Do you know how easy we get out of it (164) T: yeah).165) Pt: We just go back for the last twenty minutes we've been talking this thing, that I say always keeps coming up, and we talk about what we were talking about before you thought something was connected to you and we just keep going forward. We just forget it exists, we just deflate it, pssshhhh, take our minds off it and just say let's go back to when you said [44:00] [name] X, Y, Z. What you did, you said 'let's go back [name] to when you said ....I'm going to roughly use your words, so when I say I it is you [name] right. Let's go back [name] to when you said I can use words better than you, that was some sort of judgement thing. Now as soon as you said let's go back to something you said [name] to about me we've gone all over the place [44:30] Until then we'd been moving along, I'd been telling you my feelings, what I had been doing, all of those sorts of things and then as soon as I said, "unlike you [name] I'm not a word person" But as soon as that came in you focused on you in the script and we've been whoa man and let's get back to me and redirection and let's look at this and we haven't been looking at – [45:00] we, we stopped moving in the direction we were going. We took a side street.*
- 166) T *Perhaps I'm not a good driver. Maybe you need to drive the-*
- 167) Pt *That's very sad if that's the case [laugh]. 'Cause you'll have to pay me much money every hour.*
- 168) T *Yeah, I mean I mean, [45:30] if, if, you – are finding that we are wasting our time going over this stuff and it is important that you let me know that. Just say I'm feeling we've gone off a tangent here.... focus... [45:46]*
- 169) Pt *Yeah, okay.*
- 170) T *Let's see how that goes.*
- 171) Pt *Yeah, I'm not conscious that we're going off on a tangent. I'm answering your questions, I've got faith that [46:00] the reasons you're asking me the questions is because it is important. It's only, you know, halfway down the track that I realise that we are talking about....that we are circling.*

- 172) T *So let me know when you notice those...*
- 173) Pt *Okay, I shall. But you know what?*
- 174) T *What?*
- 175) Pt *You'll say 'so why do you feel we're circling at this point' [laugh] So it will just start another circle [46:30], another tangent, but anyway I'll say it.*
- 176) T *Good on you. Now we're got to get all this equipment off us.*
- 177) Pt *Has the hour gone?*
- 178) T *Yeah, it's gone quick.*
- 179) Pt *Wow, well that was good because we did a lot of stuff there to get your empathy and get your responses.*
- 180) T *[laugh] Alright well I'll go and find out how we get this equipment off. (Pt: OK) So hang on because I need to talk to you about...*
- 181) Pt *Yep.*
- 182) T *Alright, um, we just un-strap ourselves and get this here.*
- 183) Pt *[47:30] Yeah, I thought we were going to have all wires all over us and a head strap on and all of those things. It is pretty good isn't it.*
- 184) T *Now in terms of the process there is another session ....one is coming up again next week. Are you able to come in next week?*
- 185) Pt *Yep.*
- 186) T *So I'm thinking that book there, I'll have to check to make sure, I think it was at 10.30 and we were going to transcribe this and we're going to go through this.*
- 187) Pt *Oh how fabulous.*
- 188) T *So we will be able to just sit and....*
- 189) Pt *[48:00] Yeah, yes, no that's really good.*
- 190) T *It will be on paper.*
- 191) Pt *I think we did a good one from the point of view of research.*
- 192) T *It wasn't intended to go that way but.*
- 193) Pt *No, no, it wasn't intentional on my part either, as in it was all true...true reactions....*





### 3.1 Cry and Response, key expressive moments; whole session analysis.

#### 3.1.1 A gift

Near the beginning, at turn 3, the patient sets the tone for the session when he says, *“Yes. Well had a really good experience on Wednesday”*. In interpersonal terms this could be considered a “gift”, or “giving of self”, towards the therapist. Hence the initial “call” is more like a self-declaration without demand characteristics. This mode of relating continues and the patient seems reflective, commenting that, *“Yes it was an old feeling ..... remembered”*, on turn (t.) 13 and t. 15, alluding to both remembrance of better times, and loss in the present. When the therapist draws attention to the period of changing fortunes, the patient responds with the metaphor of ‘a wall’, on t. 17: *“Oh yes, it was like a wall, like I was driving through a wall of resistance getting there”*. While this is associated with expression of pain, he comes back to the assertion of feeling good on Wednesday: *“I just remember that feeling as I walked to the car was good”*.

The patient is highlighting that, under conditions where *“there was(is) no fear involved”* (turn 7), he has a sense of himself, associated with a sense of flow and possibility. This progress is welcome, also a kind of offering, to which the therapist responds: *“You can actually see some shift, some kind of change.”* (t. 29). At times the therapist attempts to check in with some other aspects of the patient’s reality, suggesting the shift, *“is bringing you closer to the goals that you have.”* (t. 23); and, *“there is still that question isn’t there about the difficulties there....you mentioned the forms that you haven’t completed....there is still this kind of avoidance...”* (t.31).

#### 3.1.2 Theme: “Too hard....I’m an idiot....I’ve got to ask someone”

The patient relates to this, picking up the subject of his own financial affairs. In doing so, he identifies cycles of interpersonal interactions in conversation that he finds frustration, associated with a sense of embarrassment, foolishness, and perhaps shame. On t. 33 he comments, *“So I’m avoiding it... a pretty silly thing to do.....I have to go and work it out with somebody... it’s just too hard to go and ...as if I’m an idiot.....the fact I’ve got to ask someone”*. He recounts a recent episode with his daughter that played out in this way, with his sense of embarrassment preventing resolution of a money matter. In exploring this with the patient the therapist elicits the disclosure that this episode had been experienced as a *“shock out of the blue”* (t. 45). The therapist responds with, *“So you were a bit gobsmacked.”* (t. 48). This appears to resonate with the patient, who identifies a particular state of mind: *“Yeah and that freeze thing comes in”* (t. 49). The patient sees the need for attention here: *“we have to work on that freeze”* (t. 51). He elaborates at some length, about being disorganized by the daughter’s refusal, *“...she doesn’t say ‘Oh I’m not going to give it to you, because she gives reasons.... I don’t remember the reasons...I’m stuck on the fact that she said it....I don’t really remember it.... ....she’s in defence all the time so it’s always my fault.”* (t. 55). The fact that the patient takes up the word “gobsmacked” on t. 68, also suggests that he found it to be a word that had a good “fit” with his experience.

A further example of the patient’s difficulty in verbal interactions is given in relation to dealing with the bank. There is the sense of patient and therapist looking at this matter together, with the patient being able to describe some of his experiences of these processes in a way that can be jointly “seen”. The patient *“doesn’t know how to say it in a way that..... as conversational”* (t. 59-61). He recognizes that these interactions, where he might display inadequacy in self-knowledge, and capacity to negotiate conversations without *“the freeze thing”*, tend to be avoided. However there is another call, that of the world, that can’t be avoided: *“....I need to do my bank things. Then I’ll have to bring it up.”* (t. 70). In the bank example, there is a contrast between inner thoughts telling him not to heed the advice he is

being given, "... *'Oh you need a financial adviser'. And I thought, I don't think so...*" (t. 76); while finding that his stream of consciousness / thought gets silenced, even though later events prove his intuition to have been correct. In these passages the difficulty in maintaining his sense of self in interpersonal interactions is flagged as critical, perhaps reflecting developmental experience of a sense of inadequacy, in relation to language and interpersonal exchange. This may have been an ongoing source of trauma that has been difficult for the patient, or others, to recognize. Such a developmental scenario may have involved a sense of shame, in the face of someone with a superior skill. In early development this would commonly relate to verbal scenes, where the parent has unquestionably greater capacities and knowledge. There is also a distinction, made by the patient, between the difficulty in dyadic exchanges, and the more imperative situation of external exigencies: recognition of the need to relate to the world beyond, the world of triadic relatedness.

### 3.1.3 Development in the dyad: "I'm not a word person, unlike you"

The therapist makes a call on the patient's attention on t. 79, "*So rewind me back a bit...*", finding again that the patient, "*went along with it because from that embarrassment view...I didn't want to say I couldn't understand my... a simple ...account...*" (t. 80). At this stage of the session the issue of embarrassment, the sense of disadvantage in conversational exchange, and the fear of "looking like a fool", have been made explicit, while being experienced as a joint focus of attention rather than as a dynamic between patient and therapist. The patient highlights the repetitive nature of this experience: "*...that is 50 years of my life so it is not like it is new*" (t. 91), "*...because I'm always um, I don't want to look like a fool*" (t. 93). This suggests a likely early developmental basis for the experience, and that the current "freeze thing" (dissociation), reflects re-experiencing the "*slight forgotten shocks*" of early traumata. It is at this point, about 18 minutes into the session, that a significant shift follows the patient's comment, "*It's like if people explain things to me, because I'm not a word person, unlike you...*" (t. 96). The focus is turned, in this comment, onto the person of the therapist, and the relative disadvantage of the patient in the therapeutic relationship. The patient may be expressing the fear, consciously or unconsciously, that the scene of humiliation could recur in therapy. This focus on the therapeutic relationship, and more direct emotional experience in the immediacy of the therapeutic interaction, is maintained for the remainder of the session, although it can be seen as an elaboration of the theme already introduced, of "difficulties in conversation".

The patient's comment "*I'm not a word person, unlike you...*" doesn't immediately disrupt the flow of the patient in describing his predicament with others. The therapist makes an association to the last session (t. 102), "*it sort of reminds me of the last session...*", and the patient makes another pointed remark: "*...we were wasting our time...*" (t.103). The therapist draws attention to the earlier comment, "*....It's because you mentioned in the dialogue there that you're not a verbal person and then you made the comment, 'unlike you' "*" (turn 106). The attentional shift to what is happening between patient and therapist is now established. The patient elaborates on the nature of his disadvantage in conversation and there is a repetitive quality to the exchanges, focussing on who is leading who, and the patient's assertion, illustrated by the following quotes, that he needs to be able to visualize things, in order to understand: "*if I say...explain it to me, after the first couple of concepts I would have lost the plot. But if I say here is a piece of paper and here is a paper show me, you know....I can watch that and I can see...*" (t. 97); "*...I haven't got time to look at it...*"; "*It is only when I leave when the conversation has finished that I can go and have a look at that sort of subconscious layer...*" (t. 115); "*...I'm mapping it to my picture in my head...*" (t. 134). In drawing attention to the visual dimension of thought, the patient may demonstrate greater comfort with the element of thought and feeling pre-dating verbal thought: the images which are seen and felt in the mind. He also highlights the capacity to pick up discrepancies, "*I*

*recognize patterns so I can design things really well and I know when something is missing*” (t. 134); *“....the best of my ability, I have to work backwards”* (t. 144). Generally, however, there is little evidence of awareness that some of his comments may be challenging for the therapist, although there is evidence of adjustment, when there is a direct suggestion the therapist’s guidance may be experienced as unhelpful (the therapist saying, *“you are wanting the conversation to go somewhere but I’m driving the boat and taking us off on another direction”*)(t. 147), with the patient softening his position: *“It’s because it doesn’t happen often so it’s not something that is bothersome...”* (t. 148).

The patient complains, *“I don’t initiate anything”* (t. 142), reflecting his position that the other always ends up leading or directing matters, as expressed by dubbing the therapist, *“captain of the boat”*. The patient asserts the wish to be allowed to lead, while also expressing trust and yearning for a guiding other; suggesting a vulnerable self, in need of support. Despite his sense of disadvantage he is able to assert his capacities, that *“...I’m not...dumb”* (t. 124). Even as the patient conveys his sense of frustration with the repetitive quality of the interaction, he flags the seriousness of the situation: *“...actually I’m here because twelve months ago I wanted to kill myself and I’m trying to get better and do all these things and look at my weaknesses, why I freeze..”* (t. 157). Evidence of vulnerability is conveyed more by the content, than by the affective tone of this expression. The frustration that forward progress is not more consistent is put into the context of life threat.

### **3.1.4 Resolution: “we did a lot of stuff to get your empathy and get your responses”**

Finally the repeated pointed remarks of the patient lead to the therapist attempting to redress the situation directly, saying *“Perhaps I’m not a good driver. Maybe you need to drive the...”* (t. 166). The patient responds with what is intended as a joke on turn 167, *“That’s very sad if that’s the case (laugh). ‘Cause you’ll have to pay me much money every hour”*. The therapist is affected by this, and, when he responds with, *“Yeah, I mean I mean, if, if, you – are finding that we are wasting our time going over this stuff and it is important that you let me know that...”* (t. 168), there is a noticeable display of emotion in his voice. The patient again softens his position, in response to this overt display of feeling: *“...I’m not conscious that we’re going off on a tangent. .... I’ve got faith that .... it is important”* (t. 171). As the therapist flags the end of the session nearing, the patient shows involvement and enthusiasm, *“that was good because we did a lot of stuff to get your empathy and get your responses”* (t. 179). There is a sense that his perception of the therapist has changed from being of the therapist as dominant / having an unfair advantage / being exploitative; to a position of greater mutuality where the therapist is seen as “human like me”. This could be considered an experience of “fellow feeling”. The patient’s closing comments, *“it was all true...true reactions....”* (t. 193) seem to confirm that the experience carried a sense of authenticity.

### **3.1.5 Analysis**

In formulating these various “calls”, in terms of the patient’s self-expression, there is a sense of someone continually (repetitively) frustrated in verbal interactions, who defines himself in terms of his capacity to “see”, and to perceive when something ‘doesn’t fit’. On the other hand, the capacity to ‘feel good’ is identified. The patient also recognizes useful abilities when there is sufficient personal space to enact them. These capacities are strengths, suggesting development has not been purely traumatic in nature. The “other”, like the therapist, may tend to “corral” him through their use of language. He is always “on the edge” of expressing his needs, but gets lost before he can initiate anything, and then feels derailed by the other seeming to take precedence, while also yearning for a ‘special’ other, who could help him find his voice. He wants to be close but does not want to have to be concerned for others who he tends to see as having the advantage over him. He wants “to be shown” rather than told. He

finds it exciting, and perhaps enlivening, in the session when this happens: i.e. when the response of the therapist shifts from the domain of verbal / intellectual expression, to the domain of verbal / affective expression. This moment could truly be considered an “image received”, from the patient’s viewpoint. While the material does not explicitly explore his background, it would be consistent with an early relational background where there may have been deficiencies, in terms of interpersonal play and the capacity to enjoy language for its social / playful potentials. The outcome seems to be that the patient tends to use language in a linear way, at times impinging upon others, which frustrates him in relation to making effective social connections. This could, unconsciously, be similar to early impingements that the patient may have suffered in relation to others, if early exposure to language was largely instrumental in nature.

Perhaps the key implicit “calls” in this session are, 1) the opening gambit of statements of “feeling good” that communicate something like, “I’m someone who has something to offer; could be loved; join with me”; 2) self-definition as someone who is “not a word person” and is in this way differentiated from (most) others, who are; 3) self-definition as someone who can pick up on discrepancies in communication and see patterns, therefore someone who needs to be “shown”, and subsequently needs time to “work backwards”, in order to understand. What the patient may be unconscious of is that, in attempting to express and define his problems, he frequently “shows” frustration – his self-state measures show that he is aware of “feeling frustrated” (see Part 3, 3.11.3), but he seems not to be aware that some of his pointed, affectively laden comments have an effect on the therapist / other.

The therapist reinforces the shift of focus onto the therapy relationship (often referred to in therapy as “working in the transference”). While this may have challenged the patient, and involved some disruption, the patient does take up the focus and in a sense “shows”, albeit inadvertently, the nature of interpersonal difficulties that he experiences. He is now talking about something as a present reality, with affective immediacy, feeling “safe enough” with the therapist to do this. The therapist becomes unsure as to how to rectify the circular, repetitive conversation that emerges and starts to experience frustration (a similar affect to the patient), until such time as he “shows” affect, albeit inadvertently, to the patient. The content that accompanies this affect is explicitly non-coercive: *“if, you – are finding that we are wasting our time going over this stuff and it is important that you let me know that...”* (this statement follows the previous, *“Perhaps I’m not a good driver. Maybe you need to drive the...”*). Interestingly the affect that is “shown” is not frustration, or anger, but rather vulnerability, with mild distress. Perhaps this kind of response from the therapist, affectively genuine and non-coercive, represents something “new” in response to the patient, as opposed to the “defensive” interactions described, which have left him silenced, choosing avoidance over exposure. Arguably, vulnerability may be a form of affect that is dissociated in the patient. In contrast to the effect of the patient’s own frustration, which tends to distance him from others, the therapist’s expression of vulnerability has the effect, for the patient, of bridging the distance between therapist and patient, to the extent that he feels significant “empathy” has been shown, and appears to finish the session in an enlivened state.

While the shift of focus onto the therapeutic relationship created greater affective immediacy it also showed that, while the patient was aware of the effect others had on him, he was less conscious of the effect he had on others. The response of the therapist may also have given him the opportunity to recognize this.

To some extent there has been an exchange that could be glossed at the implicit / affective level as “Here I am, join with me” that is responded to by the therapist with, “Here we are and we need to look at what is going on between us”. As the patient repeats the interpersonal predicament he generally finds himself in, he might effectively be saying, “We seem to be

going the wrong way but you're in charge". The therapist tries to respond with, "We can go your way", but ends up in a bind, where the patient wants him to be the "captain", but also wants his autonomous flow of consciousness (self) to be reinstated. In the condition of this bind, the immediate predicament is resolved by the therapist's display of vulnerability.

Given that the patient has referred to having been in hospital the previous year, at a time when he was suicidal, the therapist would seem to have expressed an affect that probably underpins the patient's emotional pain, but is unable to express directly. The effect is that the patient feels closer to the therapist, and is pleased with the interaction. One might say that there has been a right brain to right brain communication. The interaction also has potential to change the patient's view of the other, from one where he sees the other as having an unfair advantage over him (being a "word person"), to one where he sees the other as a fellow human being ("like me"). A sense of fellow feeling has been engendered for the patient. In this session, the early assertion of self is followed by the elaboration of a difficulty "in the world", reflected in language that is outer-directed, followed by a shift to the immediacy of the specific relationship with the therapist, where the language is more directly relational, and finally to an apparent partial resolution. This seems to have been facilitated by the sense of affective genuineness of the therapist, and hence a more concrete sense of the "realness" of the relationship, for the patient. It seems possible this is a moment of "unification" with the therapist, perhaps a prelude to the patient being more at one with his own sense of vulnerability. If so, this would be a significant step towards a more secure sense of self.

### 3.2 Microanalysis: "I'm all nervy"

Some further support for this analysis comes from a "microanalysis" of the first two turns of the transcript. Such exchanges, at the beginning of sessions, are often felt, by both patient and therapist, to be part of an informal greeting and settling process, rather than part of the "session proper", although such exchanges can be revealing of the patient's situation and concerns in therapy.

On the first turn, the patient says, "*I'm all nervy*". This statement has an obvious referent to the fact of the session being different because it is being recorded for research purposes. In a sense, although an apparently trivial and commonplace statement, it refers to a discomfort and anxiety in this "research" situation, where the privacy of the dyadic therapy is threatened by knowledge the session will be heard by others, making it explicitly triadic, in a relational sense. It is also a statement of vulnerability in the face of this triadic (self-world) relatedness and, perhaps, of an acknowledgment of the vulnerability that has contributed to his condition, although one expressed at a verbal, rather than emotional level. The second turn, by the therapist, is "*Well just relax. We are going to focus as though it was a normal session*". Here the therapist recognizes the patient's anxiety, responding in a soothing way, in accord with the research instructions, gently asserting that it will be possible to treat the session as "*normal*". He expresses confidence that it will be possible to "be ourselves", even in this new situation of being recorded. In fact the session elaborates the patient's dilemmas and difficulties in relation to the wider world: he explicitly describes how fear disrupts his sense of self and how important the "old remembered feeling" ('self') is to him. Furthermore he describes the "embarrassment view" ("50 years of my life"), giving a strong indication the affect of shame has come into play in interpersonal situations, where he chooses silence and avoidance in the face of "being at a disadvantage", and experiences "shocks" that confuse and disorientate him.

When the final 3 turns of the session are examined, we see evidence of the experience of the session as a whole. The comments (below) suggest a difference, overall, in this session (something new), and this has been valued, by the patient:

191) Pt *I think we did a good one from the point of view of research.*

192) T *It wasn't intended to go that way but.*

193) Pt *No, no, it wasn't intentional on my part either, as in it was all true...true reactions....*

In this closing, there is a sense that something genuine has occurred, with a spontaneous dimension noticed in the therapy. Perhaps the patient's self-world relationship may be a little less weighed down by the sense of disadvantage, and shifted towards a greater sense of equality with others.

## Appendix 4: full transcript Pilots 1 and 1.2; linguistic analysis Pilot 1

### 4.1 Pilot 1 transcript (bold type: “motivated selection”, as developed in Pilot 1.2; 6.3)

1. Th: Alright, we're starting, just xxx according to the computer, so...
2. Pt: Okay. **Are we live?**
3. Th: I think there's one more thing I've got to press,
4. Pt: yep
5. Th: **we are live**... pressing the recorder button would be a good idea. There we go, we're recording.
6. Pt: Okay, alright.... Okay. Well I was thinking what to talk about and er, two things possibly, one of them is girls and the other one I've been having interesting conversations with XXX and YYY, primarily YYY, um and maybe I'll just start there. But um we were all out, like XXX and I went with XXX's kids on Monday night, because my cousin VVV, he's selling his ...business, like he has bbb ccc, like a store front, and um so we thought we'd visit him, I've never been before, he's had it for thirteen years, I can't believe we've never been before, but um we thought we'd visit and do a bit of a ceremony just being there and... Anyway like I love XXX's kids and uh it's a four year old girl and a two year old boy and whenever I see them we play and I tickle and sometimes I tuck them into bed and um we were out the front of the shop eating and stuff (Th: hm) and YYY made some comment about you know being dad, me being dad (Th: hm) and um and it went a bit further and I kind of, we moved from the shop to a cafe from – it was in aaaa and we moved to a cafe in bbbb and um I decided to go in a car with YYY to ask him more about that, and he was saying, **“you know she's in love with you right?”** And “what do you mean?” Um, like I think you know I told there's a, I felt there's a risk of that before and last year when we were working together and you know we went out for drinks before I went to Europe and she went to Europe with her family and **I felt there was sexual tension coming from her**. Um, but you know I think we even talked about it earlier this year XXX and I between each other and she said, “No, there's nothing” um ...
7. Th: So how was that, for YYY to talk like that?
8. Pt: Um, **bit scary**. Like I tried to say you know it's your opinion and tried to get evidence of what he saw that made him think that and was saying you know the way she looks at you when you're with her kids and some things that she says about you sometimes and I'm saying that's fine, but that's one possible explanation, another explanation could be that she's just left an arsehole husband and this man is treating her kids nicely and except no she's not with you. So it's frustrating and scary if it's true, but...
9. Th: Yeah, I guess it's – I mean you know that we talk about, you know, **this being in love**, don't we? And....er, **what exactly we mean by it isn't always clear** and (Pt: yeah) there's something scary about it, like you're saying I guess.
10. Pt: **Well I want to be in equal relationship**, it's scary because you know he, like I wanted to clarify this more with him and he was saying that you know people can be attracted to you, your personality or spending time with you, not necessarily sexually, but he was saying that she's probably all of those things. And I was saying I don't want that with a close friend or a best friend, I – because then it's uneven. And you know XXX's approached me before and made advances on me and I made it clear it's not what I want. And so I was saying to him that YYY if the two people I feel closest to, and they have to be the ones that identify as closest to, **if they're both physically attracted to me does that mean that I can't have equal relationships?** I can't um have say heterosexual male friends who I feel just close to? Can I not attract people unless they're attracted to me in all ways? I mean –
11. Th: I guess there's a kind of wondering about whether that's what keeps them with you or something do you think or ...
12. Pt: Yeah, I mean that's on my mind, for sure. We both agreed it's a bit academic, it's hard to say and it's all a bit – jumbled up in there and it's all grey and that's my fear and YYY, I don't know how much he was getting it because you know I was talking directly to him and he was saying, “I want you to be honest”, and it was about him as well as her. And I was saying to be honest, YYY, you know **do you two want to be around me just because I'm a piece of arse basically?** I just blurted it out and –
13. Th: Feel like **you've been treated that way – like a piece of arse**...

14. Pt: Yeah. But saying that I was able to reflect, it's more about me than them because he was saying, "No, not at all", and he went back on the attraction thing and spending time together and being friends and maybe there's more but that's not all of it that's not all the equation. And I just thought well maybe I feel like an object sometimes, you know? And you know **I thought about the meat hooks in the analogy and maybe I do feel like a piece of meat a lot of the time** and um...
15. Th: People expecting things..
16. Pt: Yes
17. Th: ...**the meat hooks?**
18. Pt: Hm. But me expecting that they'll expect something so they can do whatever they want **but if I didn't think of myself as a piece of meat, then maybe I wouldn't care that these two friends are attracted to me physically or sexually or romantically. Um maybe I'd go okay I've put down firm boundaries** and they know it's clear, I don't want anything from them and if they still want to be good friends with me then that's their choice.
19. Th: I mean the fact is you're not really attracted to them in either case, so...
20. Pt: Hm, that's right. It's funny I hadn't even thought of this but I had... connection within group on Friday night, um **I was accused of being attracted sexually** to one of the group members. Um year....
21. Th: **An accusation.**
22. Pt: Yeah, it felt, well actually I made the statement **I feel like I'm being lynched.** Yeah. Because I mean it's come up in the past, it's because VVV who I worked with at ddd, he was the one who um was in the group and invited me into it and I had met him and his girlfriend before because he was an artist, and I met her at um exhibitions. So we're in the group and then earlier this year he attacks me saying you know I don't know if I trust you because I heard that last time I wasn't here you stayed back late and when everyone else left and that's not okay with me and you know why are you on facebook with QQQ and why are you emailing each other and like this went over two different groups, this discussion. And that died down, like I tried to say, "Well I've never actually physically seen her when you're not there unless in the group, there's always been someone there, I wasn't by myself with her that night". So that died down, they've actually just broken up and then his work – he wasn't there, because he was at a showing in ggggg, and we were doing a lot of relational stuff, the facilitator was saying okay you two how do you feel about what he said, how does she feel about what you said, did you feel supported? And it came around to BBB and I – and **the group leader basically was saying that I think NNN fancies QQQ.** And you know there was a whole lot of discussion.
23. Th: **The group leader was saying that?**
24. Pt: Yeah. Yeah.
25. Th: **that sort of would add to the authority of it I guess.**
26. That's right, yeah **she was leading it.** She was trying, I felt she was, look in a group before, **she had said I'm not going to let you disappear into the back of the group because you've identified that you want to be noticed, that you want to engage and so I'm not going to let you get away with much pretty...** that was the message. So I got the feeling that by doing this **she was trying to expose stuff that I might not be facing** or um..
27. Th: What do you make of this though, it's er, you **say it felt like a lynching....**
28. Pt: Yeah
29. Th: Some sort of crime that you've been you know put to the sword for or something....
30. Pt: Yeah
31. Th: ..it seems.
32. Pt: **And I'm being dishonest and I don't know.**
33. Th: I mean does it make any sense to you or is it that just...
34. Pt: Yeah I mean it makes sense because I'm saying things like QQQ I like you and I feel warmth from you and um you know I like how we interact. But I, in the last group before that I said pretty much the same words to a sixty year old woman, so I mean but it makes sense in terms of we're both young, she's about my age, we're both attractive, fairly attractive, um but she's not my type either. And if I'm attracted to her, I don't know that. So I don't think I am. I'm attracted to her personality, I'm attracted to spending time with... kind of like what JJJ was saying, but I actually said in a group, after it got to a point where I thought okay they're going to throttle me, that I said I'm actually, QQQ I'm sorry but I'm not attracted to you, not sexually attracted to you. I like the friendship but nothing more. And all that



- sort of stuff happened. And then one of the people in the group said to me that you know I get what you're saying, but **if you were attracted to her that would be okay, it's not a crime to have feelings. I appreciated that, that's a nice statement because it's validating, it's okay to have your feelings, you don't have to be lynched even if you do have your feelings.**
35. Th: Yeah, it's **a little bit surprising to me that a group leader would say that**, but uh the uh there seems to be something here about, you know, unruly feelings or, you now, perhaps sometimes feelings in other people's imaginations so to speak um...
36. Pt: Yeah
37. Th: There's also **something about possessiveness and um danger as well..... this fellow er, gets quite aggressive with you really it seems** (Pt: hm) for instance..
38. Pt: Yeah. And it seems really strange because he and I, we're mates you know, we're pretty, we have a certain level of respect for each other and he was saying if you wanted to talk to my – it was so, so backward, if you wanted to talk to my girl you could have asked me first, that's what mates do. And I just thought you know you introduced me to her at the show like you brought me into the group with her like and when you do that, that, my responsibility to you changes because I've not got a different relationship with her.
39. Th: Well there's something that seems to go on in these interactions where you know perhaps not surprisingly **but it's like you get put on the back foot** (Pt: hm), um maybe it's not... where you can go or something with it.
40. Pt: Hm. I mean **I think part of the lynching term for me is that my sexuality then becomes out there and it's on display for all, and I feel I have to protect it.**
41. Th: It's quite exposing I guess.
42. Pt: Hm. Yeah. And like I said in the group I'm not attracted to her, but then I mean I did go away and think... I don't think so. And when the group ended like some people stay back and have food that everyone brought and other people leave and go off, and I said in front of another group member I'm fighting back the urge to flirt with you .... because what she was also doing was she was doing, she was saying to the group I'm going to.... because I don't know why she was saying, um because of what I was saying. So I said... I'm, you know I feel like teasing you and flirting with you because well all this stuff that was said, um I've got a witness here. Um....
43. Th: That seems to be quite a topic in the group really.
44. Pt: No and that's funny because it's only ever come up with QQQ; BBB; and me. **Sexuality is never discussed**, um no-one ever talks about an attraction to another group member, which in my mind I thought that would happen in a group like (Th: Hm) you know a couple of people there are quite attractive, um 90 per cent of the group have know each other for years, so....
45. Th: So it's **a bit like you've been singled out**, or the three of you have been singled out in this regard?
46. Pt: Yeah. I mean **the benefit is that is that we get to do the work when everyone else is hiding it maybe, I mean it's a good thing.** But I mean it's probably related as well, but like the other day I was leafing through a magazine and I found this picture of **an ad, fashion ad and I'd seen it on billboards before and you know these two attractive women and I tore it out and thought I'd like to put this on my wall.** Um and I've done that before, like I've had posters or pictures that I've wanted to put up, but I go through this guilt process because I think, I project, like I think into the future – **what if I brought a partner home and I've got these women up on my wall and sometimes it can be quasi sexual and sometimes it's just a fashion ad with beautiful women and..**
47. Th: Uh if you were to bring someone home that would, you know if you, how would you feel about that...
48. Pt: **I feel it would be disrespectful, I feel it would be uncomfortable for them to..**
49. Th: There seems to be something again in the talk at the moment where there's, this uh boundary or something where you know....**talks about sexual shame (Pt: hm) or we're talking about earlier about feeling like you're a piece of meat** or something, you know (Pt: yeah), um you know a boundary where you **sort of shift from being a person to a sexual object or something**, it seems..
50. Pt: Yeah. **It's just sexuality for me is so detached from me as a person.** And the last few years it's gotten a bit um blurred, like you know with... .. experimentation and fantasy and I don't know where it lies sometimes. And um..
51. Th: So you say it's got a bit disconnected, do you say, or...

52. Pt: Yeah. Like you know we've discussed about my family and sexuality was non-existent and joked about if spoken about at all. So when all this kind of stuff in groups and with friends come up, **I'm like at a loss**, what do I do with it, um. I find it hard to get in touch with it by myself, or with a partner, let alone when it's coming out here, there and everywhere.
53. Th: Men do, that is the case I guess **when it's here, there and everywhere as it is in many ways in a – the world we live in (Pt: Hm)... um you know it often is being separated from actual relationships** isn't it, um
54. Pt: That's true...
55. Th: sort of things we get exposed to and um it's not clear where you know I am as a person, or you are as a person (Pt: yeah) in relation to that I guess (Pt: yeah). Feel a bit lost wouldn't you.
56. Pt: Yeah. And **I've taken on your words** about well it's all well and good to think it out in your head and you know analyse and hypothesize, but **you need to just take action, you need to figure it out through action**. And...
57. Th: **Through connecting really**.
58. Pt: Yeah. **Yeah connecting and finding what comes out of the connection**. And that's where the topic of girls comes up, because you know this one girl, woman, who's working in another ...service, ...that she's working with the family that I'm working with, and you know we've been having lots of meetings lately and this has been the case presentation that I did the last few weeks. (Th: hm, sure) So we've been working intensively and on Friday morning I had the case presentation and we were putting together a treatment plan and I told her this was happening and she wanted to know because the service is pulling out of the family because whatever reason. Um so after the meeting I took her out to lunch because my boss had been saying you've got to meet with her and take her to lunch and get all the information you can because she's worked with them longer than I have. And you know we're talking a bit about work but **then we start flirting**, like because we've been flirting a little bit lately. And um the conversation was mainly about the personal stuff and we were talking about our backgrounds and talking about drugs and, and a bit sexually flirtatious and she'd said to me the day before, or a couple of days before that on the phone, I'd call her from home because I had cheques that she needed to take for something, and I'd said I'm still at home, I'm in pppp and her service is in pppp. And she said, "Oh you're a pppp boy because I live there too, um we **should go out for a coffee one day**." (Th:hm) **so she's put it out there, um**.
59. Th: Yeah, well this is **something happening** isn't it (Pt: yeah) as opposed to just in your minds.
60. Pt: That's right.... it's been six months since anything's happened. But um and of course I've gone back and forth with maybe she's just being friendly and neighbourly and maybe she just wants to be friends and I've said to my friends I don't need another female friend, got enough of those thanks. So I thought I'll suss it out. We were having lunch and on the way back to the car I said to her you know I'd like to take you up on that coffee, how about the weekend and she said cool. So we made tentative plans, I messaged her, she said Sunday arvo would be good possibly but she'd got a lot on and it didn't happen, um because she's Chinese and it's been New Year so she had heaps on, um and said she'd call by 4.30 on Sunday afternoon to confirm that she had a 5 o'clock appointment. Um and I was, I was a bit impressed with myself because I was all a bit, I was a bit flexible and yeah whatever happens and if it doesn't happen it's cool. Um she didn't call by 4.30, she called at 7.30 and by then I thought okay it's probably not going to happen, but if we could go for a drink tonight then that would be great but she was with people and she was talking to me, she was in the car, she was driving, she had me on speaker, I was saying hello to everyone, and then she was getting directions – I said EEE why don't, do you want to call me back when you don't 48 things happening at once, you know.
61. Th: So then further contact this week, or....
62. Pt: Yeah, um she messaged Monday morning saying sorry I didn't get back to you, it was a manic weekend. And then I saw her for a worker's meeting Tuesday with another service, and a lot of other people were at the bathroom, we were talking outside and like again **I'm getting these signs**, because even at lunch she was, you know, giving me a smile and flicking the hair and all this stuff, and while everyone's at the toilet we were talking and laughing and stuff and getting personal again, and I said um so you know have you got more family stuff on tonight? And she was like, yeah, I do. And I was thinking in my head well because if you weren't I would ask you out for a drink before dinner. And um so anyway later on I reconsidered and thought I should have told her that, so I messaged her that and

said it's a pity because I would have asked you out for drink. And she wrote back saying thanks for the invite but then didn't say anything about let's do it another time or um whatever.

63. Th: **It's a bit tricky isn't it**, I mean how are you feeling about it at this point in time? You said you felt she was going to put something out there (Pt: Hm) um and it hasn't quite happened, um and there's a bit of a question about how far to put yourself out (Pt: Hm), out there I guess.
64. Pt: Yeah, and I thought **we're both kind of towing around it and we're both kind of not taking risks**, and I thought if I send that message saying I would have invited you out if, for a drink if you weren't busy, I thought I'm trying to make it clearer because, I've never dated before and, well not much, and I don't obviously there's no rules but **it's such difficult territory to negotiate**.
65. Th: You've never dated before, I mean you've been out with women before but I mean what, what – what are you thinking of here?
66. Pt: Uh yeah I see, **I see dating as a milligram between friendship and relationship**. So with AAA we were friends at first and very quickly it went into a relationship, sexual and um partnering-up. With DDD we slept together the night I met her, so it felt like we'd dived already in and then like the next time we met was at a bar and we had dinner and drinks and that was really awkward, but then we, having slept together again that night, and so I felt there wasn't any inbetween there. And with KKK it was friends for a year and then uh once we were finishing Uni we got together straight away. **So I don't know the middle ground**.
67. Th: Sounds like something you're keen to, find out about or something or to explore...
68. Pt: Yeah. When I came back from America that was my plan, I'm not going to dive into anything, **I'm going to date and see what that's like to be in the middle ground, to not be too committed but not be a slut too much**. And RRR came along and then that moved fairly quickly. So I liked to date and I liked to keep it casual and I don't want to be the guy who has three dates in one night, but I don't want to be the guy who dives into relationships either. So but again you know it screws with my control issues this whole, this whole um unsure, you know unsure if she likes me or unsure if she wants anything more than a coffee or. And her colleague who's on maternity leave um the colleagues' partner is my colleague, XXX, and they all went to Uni together. Um and so I've been talking to SSS about it and SSS's saying no that's definitely asking you out, asking for a coffee and....
69. Th: So she's not in the same workplace as you?
70. Pt: No. No, she works for another service (Th: OK), yeah and her colleague and XXX are partners (Th: Hm), and they've had a baby together. Um but yeah I mean **it screws with my mind because I don't know about this stuff** and I don't know if a coffee's just a coffee or if it's more than a coffee and I mean heaven knows.
71. Th: Yeah I mean **it's, does seem to be uh fairly marked, a bit of dangerous territory** I guess or um you know when you did make a suggestion, it's a kind of I would have done something if the circumstances had been different or something you know. Um still you know waiting I guess, and there's a question in my mind about in these situations about um **whether it's okay to take initiative** and....
72. Pt: Hm. Well even that message about you know I would have asked you for a drink if you weren't busy and then **her saying thanks for the invite, but then not suggesting anything else, that for me was rejection**. Because she's got, this long weekend she's going away the whole weekend, leaving tttt (Th:hm), um and she's, and then we actually talked on the phone yesterday and um we were just chatting about work stuff and then you know she was saying things have been so busy, and I was saying you know have you got another family thing on tonight? And in my mind I wasn't actually asking if she was free, but I heard her do this thing uh no, no but I'm packing to go away and that's always a mission. **And I'm reading that as no I'm not free for you**. But I already had plans with my friends like and I felt like saying I've got something on, so don't worry, I'm not cornering you. But yeah I mean I want to take the initiative and I'm attracted to her, like I've been thinking about her a lot. Like that's maybe something to focus on, I'm attracted to her, she's been in my mind, I'm not totally sure about where I, what I want from it, **but I know I want a date**.
73. Th: So that's part of it isn't it I mean uh when you're aware of being attracted, you know when you're wanting something to happen I guess (Pt: hm), um whether that's okay to do that, to act on that.
74. Pt: Hm. I guess if I think to the women I've been with, **it's been um with their permission** you know it's never really been – **well RRR I pursued**, like I made it clear that I had the hots for her and but she said let's be friends and it was only when she couldn't resist the temptation any more that we got into it.

75. Th: It did take some time didn't it where you had (Pt: Yeah) thought that was different from what you'd been through before...
76. Pt: Yeah. Yeah it was like at least a month. And so **I was pursuing her and she was on the defensive for that time and once I gave up you know it just happened. But I mean I don't want to put it out there and then have her react as if oh god we're only colleagues like I'd be so embarrassed, I'd be mortified that I took the cues wrongly.**
77. Th: But **that's the big concern, that you might have it wrong...**
78. Pt: Yeah. And that I'm making much ado about nothing that whole thing about you know you live in pppp too, let's get a coffee...
79. Th: It's a little bit different isn't it from I mean **you mentioned rejection** a little while ago as well **but this sort of thing and just having it completely wrong** (Pt: Hm) **is you know a bit different...**
80. Pt: **Part of me doesn't believe that normal women would want anything from me...**
81. Th: Yeah – wouldn't want anything...
82. Pt: **My friends don't get it**, I've talked to them about low self-esteem and they see me and they say it just doesn't compute, you – like they get it for themselves like they're so terrible, but they **can't get it for me why I think I'm so terrible. And I have a ..... really bad image of myself, really bad self-esteem.**
83. Th: **You wonder whether you could be loved.**
84. Pt: **I just look at all the bad parts of myself and think that's what they see, so why would they want that?**
85. Th: This is sort of the bad parts we're talking about something other than sexual attractiveness maybe....
86. Pt: No, **when I say bad parts I think of physicality, I also think of personality as well, stuff I don't like about myself. But yeah I mean I definitely think of my physical attractiveness as well.**
87. Th: Come both ways hasn't it because I mean with XXX for instance you kind of sense that she might be attracted or TTT for that matter (Pt: Hm) and some of the past relationships that have come. But then it doesn't come the other way necessarily you being attracted to them.
88. Pt: Hm. **So I do value it, I say I'm just a piece of meat, I can't be attractive physically, I'm just a piece of meat that will satisfy their hunger and they don't really like me for me. They like me for what they can get out of me.**
89. Th: **So you get to a pretty vulnerable place with this sometimes don't you... take things....**
90. Pt: Hm. Yeah and that's interesting because I was saying some of this to TTT, I was able to actually say it and I had to sit with it when he was saying no it's not the case, and you know **he was speaking quite genuinely to me and he was saying that there are a lot of great things about you** that you know I like about you, and I like spending time with you. And um he sent me a message the next day sarcastically saying I know that at the moment the wedding's off but um, but um what he said next, like I still want to be friends, it doesn't change anything. And, and I think back in my past how many heterosexual males have I been good friends with and not many. Because that would confirm they want me for me. I mean **you can get emotional stuff out of people** but I can only think of one and that was my room-mate and that didn't go too well.
91. Th: Something went wrong?
92. Pt: Well **we were good friends and we got to a really close level** and we were able to talk about stuff, but then **when we moved in it divided us because the different living patterns and disrespect – I really felt he disrespected me** and didn't, I don't know, it was just wrong to live together because um the friendship suffered and to this day I still don't think you should move in with friends, close friends, yeah. And so that divided us for quite a while afterwards and when I tried to get things back on track, we made up a couple of times but he could never follow through with it. Um and this year when he tried, like I found in my facebook and he tried to um get me to come and play squash with him, I was too busy and depressed so I had not energy to follow that up. It's just I don't know if it's all confusing that's all.
93. Th: **A period of closeness there.**
94. Pt: Yeah. And I **felt really good to finally have an equal mate who had a fair degree of emotional intelligence**, because a lot of guys don't, and I feel I do, and I feel I need a guy who's on that track, not

- just talking about sports and been and crap. So yeah it felt really good, I felt like I belonged somewhere, I felt like accepted.
95. Th: You could talk about things there that you wouldn't talk about with your family, with your brothers for instance, maybe...
96. Pt: Hm, yeah. **Talk about relationships.** Like he and I loved talking about the ins and outs of relationships and how people interact and girlfriends and stuff, because we were both in relationships at the time. And now like I'm getting acceptance with this group, with my cousin, and XXX and TTT, but I just don't think and you know like one of my best friends from school BBB, you know I thought he was heterosexual for a long time, but he's gay so um, struck him off the list of straight friends. And then there's HHH who was friends with all of my brothers and **now I'm much closer to him, and he's the one that just got married a few months ago and um we get on really well and he's really deep and really philosophical and loves talking about human interactions um in relationships.** He's the one person I can identify at the moment in my life who's apparently straight, and **even then my mother for years has said he's gay** and he doesn't know it.
97. Th: Well there's .... I mean there's confusion isn't there about perceptions there and uh your mother sees things differently to you but I mean sometimes people will mistake sensitivity or something for (Pt: hm) gayness, or....
98. Pt: Yeah. I mean he's got a bit of a lisp and he and I had a conversation one night where he goes I know what people think of me, I know that they assume I'm gay, and I was on the border of sharing my sexuality with him, but I didn't go that far.
99. Th: And you know you have felt **a bit of confusion at times about your own sexuality** (Pt: hm-mm).... a range of fantasies that you, you would have, although you know I don't know what you make of, of how you're reacting when things actually happen.... a few examples in the group and this woman from another service and um also the way you react when you know someone like TTT approaches you and....
100. Pt: Yeah. **I mean interaction with woman I love them and I know that's predominantly what I want for my future. With men it is more fantasy world and it is more physical, so I don't think there's much emotionality in it at all,** I don't think I want an emotional relationship with a man. But by the same token like I was er, at the cafe where we hang out some times on jjjj street and the waiter there was cracking on to me, a guy, and at the time I didn't feel very sexual about it, but later, like and you know he's come up and given me a back rub and stuff and well it took a few hours before I thought oh that could actually be nice that sexual experience. So there was a really delayed reaction, at the time it was a bit dead, it was a bit, it's nice physical touch but it doesn't get me off or anything. Um I keep thinking I'd like to get, you know I've been to a female erotic massage, I wouldn't mind going a male erotic massage and seeing what that's about and yeah. In terms of my reactions to those things I think it's a bit fantasy world, it's **a bit not really what I want long term.**
101. Th: That's also imagined though (Pt: Hm)..**something long term.**
102. Pt: Well long term **I definitely imagine being with a woman,** yeah, very little doubt about it.
103. Th: Since TTT was joking about you being a father....
104. Pt: Yeah to XXX's kids. And **definitely I want to have kids one day, I love them, I've always loved kids** and XXX's I feel really close to like I feel like a real uncle. They get really excited when they see me and I really take an interest in them and they feel comfortable around me.
105. Th: That's where you like to be by the sound of it.
106. Pt: Hm. Then again is TTT right, am I playing into XXX's fantasy? Um because it is, **it is very fatherly,** it is like putting them on my back and throwing them up in the air and um telling them off when they do something wrong and um helping them out and... And they tell their grandparents about me and um they mention me in front of their father and he gets really jealous. He gets jealous about all males with his kids. And XXX is very vulnerable at the moment, She's still going through problems and she's still going through so much grief and she's so confused and anxious all the time and I'm trying to be a good friend, but am I **you know don't think I'm leading her on** but maybe she would be led on whatever I do, I don't know.
107. Th: Well you've talked about it (Pt: Hm). I mean there's um a lot of agonizing that seems to go on a bit when these things get raised and sort of self-doubt.

- 108.Pt: Maybe again a part of it is also **am I getting it wrong?** Like with *QQQ* am I reading the signals wrong? With *XXX* **is it bleeding obvious that I'm reading the signals wrong?** **I mean I often get bamboozled by people** who will tell me something and then I'll take it to my manager or the team and people go did you believe that? And I think in my mind it wasn't even a question of belief, like yes. But for them whether it's experience or I don't know what it is but it's like I'm very easily led astray. **If someone says something quite direct in my eyes and firmly and has a lot of faith in what they're saying, I believe it.**
- 109.Th: ....**dominated by someone's convictions.**
- 110.Pt: Hm. Yeah. And **I connect that with my parents and I connect it to um the fantasy world that they painted for us** that we're a rich, affluent family, whereas they've come from very poor backgrounds. And **other fantasy stuff like enrolling as a different birthday** in (Th: Hm) preschool and me having to have a fake birthday with other kids for years.
- 111.Th: Yeah that was **quite a source of confusion and distress wasn't it** (Pt: Hm) for a long time, still is in a way.
- 112.Pt: Yeah. I think back to that stuff and I feel like reality for me sometimes slips through your fingers because all someone has to do is tell me something and okay I'll believe you.
- 113.Th: Well in that case I mean it's um well I guess you can understand your parents gave you reasons I think, somewhere along the lines that that would help you get into school or something wasn't it, but that um but they still felt wrong to you I think.
- 114.Pt: Well for them it was more about um I, yeah I don't think it was to do with school, I think it was um so mum could work more, so I there a bit of like get them off her back to... hanging around the business. So...
- 115.Th: And how, how did that work out that changing your birthday would make a difference to that?
- 116.Pt: Um because I couldn't enrol in kindergarten for another year if I was my age.
- 117.Th: So it was to get you into school, but it was off her hands as well...
- 118.Pt: Yeah. Yeah, **get me into school sooner**, yeah.
- 119.Th: She had the power to do that I guess..
- 120.Pt: I'm just reading one of Dawkins, Richard Dawkins' books, **the atheist and he's very militant** and he was saying, and as I'm reading it **I'm not quite agreeing with it**, I'm not quite seeing the extent of what he's saying. But he's **saying about how it's almost even evil to call, to put your religion upon children** like to say I have a Christian child or I have a Muslim child, because they haven't um developed the power to be able to make up their own minds. But I read that and **I think well don't parents have to raise their kids somehow, um teach them a belief system. But then I also agree like within that belief system you should teach healthy questioning** and healthy um uh discussion about these topics, not just you're a Christian child, you believe in God, you believe in Jesus. Like at lunch on Sunday **we were all together for dad's birthday and religion came up** and you know *VVV* was talking about going to the place where Mary's burial ground is or whatever, I don't know too much about it, but um I was saying to CCC, "Do you really believe that she gave birth without a partner? Like it was divine conception?" And **they tried to say well it's all symbolic**, and, and **I'm saying do you really believe** that Jesus is the Son of God, is God, is the Holy Spirit? **Like they're a whole gang hanging out together like? And they couldn't understand that I don't believe it you know.**
- 121.Th: Well you just want to be accepted to question and to (Pt: Hm) have your own position, not to be accepting things blindly.
- 122.Pt: Hm. **But I'm also scared to defend myself as an atheist.** Like I said it to a work colleague the other day and I thought god if I'm wrong, can't take it back.
- 123.Th: Yeah, it's a funny thing isn't it uh **it feels a bit like gambling with your life (Pt: Hm) or something.**
- 124.Pt: **Hedging your bets.**
- 125.Th: I mean what, you know what do you mean by being an atheist, I guess... what might be explored there. Because you know I've noticed in, when we've talked before about religion, it does stir up some pretty strong feelings at times. (Pt: Hm) We may come back to it, but it's about time for today.
- 126.Pt: Yeah.
- 127.Th: So we'll finish there.
- 128.Pt: Cool.
- 129.Th: And uh see you next time.

*130. Yeah, sounds good. I'll just strip this off.*





## Appendix 4.2: Linguistic Analysis Pilot 1

### Linguistic analysis Pilot 1

Turn	CC#	Cl#	Text	Trope	
1. TH	A	1.	Alright, we're starting,		
		2.	just xxx according to the computer,	Procedural	1
		3.	so...		
2. PT	B	4.	Okay.	Procedural	2
		5.	Are we live?		
3. TH	C	6.	I think	Procedural	1
		7.	there's [[one more thing I've got to press,]]		
4. PT	D	8.	yep		2
5. TH	E	9.	we are live...		1
		10.	[[pressing the recorder button]] would be a good idea.		
		11.	There we go,		
		12.	we're recording.		
6a. PT	F	13.	Okay, alright.... Okay.	Dual Topics	1/ 2
		14.	Well I was thinking		
		15.	what to talk about		
		16.	and er, two things possibly,		
		17.	one of them is girls		
		18.	and the other one I've been having interesting conversations with XXX and YYY,		
		19.	Primarily YYY,		
		20.	um and maybe I'll just start there.	Dual Topic	1
	G	21.	But um we were all out,	Move	A
		22.	Like YYY and I went with XXX's kids on Monday night,		
		23.	because my cousin VVV,		
		24.	he's selling his ...business,		
		25.	like he has bbb ccc,		
		26.	like a store front,		
		27.	and um so we thought		
		28.	we'd visit him,		
		29.	I've never been before,		
		30.	he's had it for thirteen years,		
		31.	I can't believe		
		32.	we've never been before,		
		33.	but um we thought		
		34.	we'd visit		

		35.	and do a bit of a ceremony		
		36.	just being there and...		
		37.	Anyway like I love XXX's kids	Move	B
		38.	and uh it's a four year old girl and a two year old boy		
		39.	and whenever I see them we play		
		40.	and I tickle		
		41.	and sometimes I tuck them into bed		
		42.	and um we were out the front of the shop [[eating and stuff]]		
INTJTH		43.	hm		
6b. PT		44.	and YYY made [[some comment about you know being dad,]]		
		45.	me being dad		
INTJ TH		46.	hm		
6c. PT		47.	and um and it went a bit further	Dilemma	Ax B
		48.	and I kind of,		
		49.	we moved from the shop to a cafe from		
		50.	– it was in aaaa		
		51.	and we moved to a cafe in bbbb		
		52.	and um I decided		
		53.	to go in a car with YYY		
		54.	to ask him more about that,		
		55.	and he was saying,		
		56.	“you know she's in love with you right?”		
		57.	And “what do you mean?”		
		58.	Um, like I think		
		59.	you know I told		
		60.	there's a,		
		61.	I felt there's a risk of that before		
		62.	and last year [[when we were working together]] and <you know> we went out for drinks before [[I went to Europe     and she went to Europe with her family]]	Addendum to AxB	
		63.	and I felt		
		64.	there was [[sexual tension coming from her.]]		
		65.			
		66.	Um, but you know I think		
		67.	we even talked about it earlier this year		
		68.	XXX and I between each other		
		69.	and she said,		
		70.	“No, there's nothing” um ...		
7. TH	H	71.	So how was that, [[for YYY to talk like that]]?	T. Enquiry to AxB	
8. PT	I	72.	Um, bit scary.		
	J	73.	Like I tried to say		
		74.	you know it's your opinion		
		75.	and tried to get evidence of [[what he saw     that made him		

			think that    and ^WHAT HE^ was saying]]		
		76.	you know the way she looks at you when [[you're with her kids]]		
		77.	and some things that she says about you sometimes		
		78.	and I'm saying		
		79.	that's fine,		
		80.	but that's one possible explanation,		
		81.	another explanation could be [[that she's just left an asshole husband    and this man is treating her kids nicely    and except no she's not with you.]]		
	K	82.	So it's frustrating and scary	Equivocation	A
		83.	if it's true, but...		xB
9. TH	L	84.	Yeah, I guess it's		
		85.	– I mean you know		
		86.	that we talk		
		87.	about, you know, this being in love,	T. seeking	
		88.	don't we?	Elaboration	
	M		And....er, what exactly we mean by [[it isn't always clear]]		
		89.	and <<<( INTJPT: yeah)>>> there's something scary about it,		
		90.	like you're saying I guess.		
10. PT	N	91.	Well I want to be in equal relationship,	Dual Topic	2
		92.	it's scary		
		93.	because <you know> he,	Move	2 A
		94.	like I wanted to clarify this more with him		
		95.	and he was saying		
		96.	that <you know> people can be attracted to you,		
		97.	your personality or spending time with you,		
		98.	not necessarily sexually,		
		99.	but he was saying		
		100.	that she's probably all of those things.		
	O	101.	And I was saying		
		102.	I don't want that with a close friend or a best friend,		
		103.	I –		
		104.	because then it's uneven.		
	P	105.	And <you know> XXX's approached me before	Move	2 B
		106.	and made advances on me		
		107.	and I made it clear		
		108.	it's not [[what I want.]]		
	Q	109.	And so I was saying to him		
		110.	that YYY if the two people I feel closest to,		
		111.	and they have to be [[the ones that identify as closest to,]]		

		112.	if they're both physically attracted to me		
		113.	does that mean [[that I can't have equal relationships?]]		
	R	114.	I can't um have <say> [[heterosexual male friends who I feel just close to?]]		
	S	115.	Can I not attract people unless [[they're attracted to me in all ways?]]	Dilemma 2Ax2B	
	T	116.	I mean –	Equivocation	
				2A vs 2B	
11. TH	U	117.	I guess there's a kind of [[wondering about whether that's [[what keeps them with you or something]]	T. seeks the "I mean"	
		118.	do you think or ...		
12. PT	V	119.	Yeah, <I mean> that's on my mind, for sure.		
	W	120.	We both agreed	Equivocation	2
		121.	it's a bit academic,	Made Explicit	
		122.	it's [[hard to say]]		
		123.	and it's all [[a bit – jumbled up in there]]		
		124.	and it's all grey		
		125.	and that's my fear		
		126.	and YYY,		
		127.	I don't know		
		128.	how much he was getting it		
		129.	because <you know> I was talking directly to him		
		130.	and he was saying,		
		131.	"I want		
		132.	you to be honest",		
		133.	and it was about him as well as her.		
	X	134.	And I was saying		
		135.	to be honest, YYY,		
		136.	you know do you two want to be around me	Equivocation	
		137.	just because I'm a piece of arse basically?	Intensified	
		138.	I just blurted it out and –		
13. TH	Y	139.	Feel [[like you've been treated that way]]	T. Check on Intensity	2 A B
		140.	– like a piece of arse...		
14. PT	Z	141.	Yeah.		
		142.	But saying that		
		143.	I was able to reflect,		
		144.	it's more about me than them		

		145.	because he was saying,		
		146.	"No, not at all",		
		147.	and he went back on the attraction thing		
		148.	and spending time together	Equivocation	
		149.	and being friends	Restated 1	
		150.	and maybe there's more		
		151.	but that's not all of it		
		152.	that's not all the equation.		
	AA	153.	And I just thought		
		154.	well maybe I feel like an object sometimes, you know?		
		155.	And <you know> I thought	Equivocation	
		156.	about the meat hooks in the analogy	Restated	
		157.	and maybe I do feel like a piece of meat a lot of the time	2Ax2B	
		158.	and um...		
15. TH	AB	159.	People expecting things..	T. seeks	
				Elaboration	
16. PT	AC	160.	Yes		
17. TH	AD	161.	..the meat hooks?		
18. PT	AE	162.	Hm.		
	AF	163.	But me expecting	Equivocation	
		164.	that they'll expect	Elaborated	
		165.	something		
		166.	so they can do [[whatever they want]]		
		167.	but if I didn't think		
		168.	of myself as a piece of meat,		
		169.	then maybe I wouldn't care		
		170.	that these two friends are attracted to me physically or sexually or romantically.		
	AG	171.	Um maybe I'd go		
		172.	okay I've put down firm boundaries	Pretence of	
		173.	and they know	Resolution?	
		174.	it's clear,		
		175.	I don't want		
		176.	anything from them		
		177.	and if they still want to be good friends with me		
		178.	then that's their choice.		
19. TH	AH	179.	I mean the fact is [[you're not really attracted to them in either case,]]	T. tests	
		180.	so...	Meaning	

20. PT	AI	181.	Hm, that's right.		
		182.	It's funny I hadn't even thought	Dual Topics	3
		183.	of this		
		184.	but I had... connection within group on Friday night,	Move :	A
		185.	um I was accused	Segue:	
		186.	of being attracted sexually to one of the group members.	Analogy	
		187.	Um year....		
21. TH	AJ	188.	An accusation.	T. Coupling	
				+ Check	
22. PT	AK	189.	Yeah, it felt,		
		190.	well actually I made the statement		
		191.	I feel		
		192.	like I'm being lynched.		
	AL	193.	Yeah.		
	AM	194.	Because <I mean> it's come up in the past,	Move	B
		195.	it's because VVV		
		196.	who I worked with at ddd,		
		197.	[[he was the one who]] um was in the group		
		198.	and invited me into it		
		199.	and I had met him		
		200.	and his girlfriend before		
		201.	because he was an artist,		
		202.	and I met her at um exhibitions.		
	AN	203.	So we're in the group		
		204.	and then earlier this year he attacks me		
		205.	saying		
		206.	you know I don't know		
		207.	if I trust you		
		208.	because I heard that [[last time I wasn't here]] you stayed back late		
		209.	and when everyone else left		
		210.	and that's not okay with me		
		211.	and <you know> why are you on facebook with QQQ		
		212.	and why are you emailing each other		
		213.	and like this went over two different groups,		
		214.	this discussion.		
	AO	215.	And that died down,		
		216.	like I tried to say,		
		217.	"Well I've never actually physically seen her when [[you're not there]]		
		218.	unless in the group,		

		219.	there's always been someone there,		
		220.	I wasn't by myself with her that night".		
		221.	So that died down,		
		222.	they've actually just broken up		
		223.	and then his work		
		224.	– he wasn't there,		
		225.	because he was at a showing in ggggg,		
		226.	and we were doing a lot of relational stuff,		
		227.	the facilitator was saying		
		228.	okay you two		
		229.	how do you feel		
		230.	about what he said,		
		231.	how does she feel		
		232.	about what you said,		
		233.	did you feel supported?		
	AP	234.	And it came around to BBB		
		235.	and I –		
		236.	and the group leader basically was saying	Dilemma 3Ax3B	
		237.	that I think	Set out	
		238.	NNN fancies QQQ.		
	AQ	239.	And <you know> there was a whole lot of discussion.		
23. TH	AR	240.	The group leader was saying	T. Checks again on actual words	
		241.	that?		
24. PT	AS	242.	Yeah. Yeah.		
25. TH	AT	243.	that sort of would add to the authority of it I guess.		
26. PT	AU	244.	That's right,		
		245.	yeah she was leading it.		
	AV	246.	She was trying,		
		247.	I felt she was,		
		248.	look in a group before,		
		249.	she had said		
		250.	I'm not going to let you disappear into the back of the group		
		251.	because you've identified [[that you want to be noticed,     that you want to engage]]		
		252.	and so I'm not going to let you get away with much pretty...		
		253.	that was the message.		
	AW	254.	So I got [[the feeling that [[by doing this]] she was trying to expose [[stuff that I might not be facing or um..]] ]]	Equivocation over Intent	3 Ax

					3 B
27. TH	AX	255.	What do you make of this though,	T. tests for Intensity	
		256.	it's er,	3Ax3B	
		257.	you say it felt like a lynching....		
28. PT	AY	258.	Yeah		
29. TH	AZ	259.	Some sort of crime that you've been <you know> put to the sword for or something....		
30. PT	BA	260.	Yeah		
31. TH	BB	261.	..it seems.		
32. PT	BC	262.	And I'm being dishonest	Equivocation	
		263.	and I don't know.	Restated as	
				Summary	
33. TH	BD	264.	I mean does it make any sense to you	T. resonates the Equivoc.	
		265.	or is it that just...		
34. PT	BE	266.	Yeah I mean it makes sense	Dual Topics	4
		267.	because I'm saying		
		268.	things like QQQ I like you		
		269.	and I feel	Move 4A	A
		270.	warmth from you		
		271.	and um you know		
		272.	I like how we interact.		
	BF	273.	But I, in the last group before that I said		
		274.	pretty much the same words to a sixty year old woman,		
		275.	so I mean but it makes sense	Move 4B	
		276.	in terms of we're both young,		
		277.	she's about my age,		
		278.	we're both attractive, fairly attractive,		
		279.	um but she's not my type either.		
	BG	280.	And if I'm attracted to her,	Dilemma	
		281.	I don't know	4Ax4B	
		282.	that.		
		283.		Equivocation	
	BH	284.	So I don't think	4A and 4B	



		285.	I am.		
	BI	286.	I'm attracted to her personality,	Dilemma 4	
		287.	I'm attracted to spending time with...	Extended	
		288.	kind of like what JJJ was saying,		
		289.	but I actually said in a group, after [[it got to a point where I thought    okay they're going to throttle me,]]		
		290.	that I said I'm actually,		
		291.	QQQ I'm sorry		
		292.	but I'm not attracted to you,		
		293.	not sexually attracted to you.		
	BJ	294.	I like the friendship		
		295.	but nothing more.		
	BK	296.	And all that sort of stuff happened.		
	BL	297.	And then one of the people in the group said to me		
		298.	that <you know> I get what you're saying,		
		299.	but if you were attracted to her		
		300.	that would be okay,		
		301.	it's not a crime		
		302.	to have feelings.		
	BM	303.	I appreciated that,		
		304.	that's a nice statement	Some support in	
		305.	because it's validating,	Equivocation	
		306.	it's okay		
		307.	to have your feelings,		
		308.	you don't have to be lynched		
		309.	even if you do have your feelings.		
35. TH	BM	310.	Yeah, it's a little bit surprising to me	T. shares the weird in situ	
		311.	that a group leader would say that,		
		312.	but uh the uh there seems to be something here about, <you know>, unruly feelings or, you now,		
		313.	perhaps sometimes feelings in other people's imaginations so to speak um...		
36. PT	BO	314.	Yeah		
37. TH	BP	315.	There's also something about possessiveness	T. Lists Motifs	4
		316.	and um danger as well.....		
		317.	this fellow er, gets quite aggressive with you really		
		318.	it seems <<<( INTJPT: hm)>>> for instance..		

38. PT	BQ	319.	Yeah.		
	BR	320.	And it seems	Equivocation as 'strange'	
		321.	really strange		
		322.	because he and I, <<we're mates you know,>> we're pretty,		
		323.	we have a certain level of respect for each other		
		324.	and he was saying		
		325.	if you wanted to talk to my		
		326.	– it was so, so backward,		
		327.	if you wanted		
		328.	to talk to my girl		
		329.	you could have asked me first,		
		330.	that's what mates do.		
	BS	331.	And I just thought	Equivocation	
		332.	you know you introduced me to her at the show	With	
		333.	like you brought me into the group with her	Indignation	
		334.	like and when you do that,		
		335.	that, my responsibility to you changes		
		336.	because I've not got a different relationship with her.	But no sign of Resolution	
39a. TH	BT	337.	Well there's [[something that seems to go on in these interactions     where <you know> perhaps not surprisingly]]	T. states Common Factor	
		338.	but it's like [[you get put on the back foot]]		
INTJ PT		339.	hm		
39b. TH		340.	um maybe it's not...		
		341.	where you can go or something with it.		
40. PT	BU	342.	Hm.		
				Dual Topic and	5
	BV	343.	I mean I think	Dilemma	
		344.	part of the lynching term for me is [[that my sexuality then becomes out there]]	Move	A
		345.	and it's on display for all,		
		346.	and I feel		
		347.	I have to protect it.		
41. TH	BW	348.	It's quite exposing I guess.	T. Supports	
42. PT	BX	349.	Hm.		
	BY	350.	Yeah.		

	BZ	351.	And like I said in the group	Move	B
		352.	I'm not attracted to her,		
		353.	but then <I mean> I did [go away and think]...		
		354.	I don't think so.		
		355.	And when the group ended		
		356.	like some people stay back		
		357.	and have food that [[everyone brought]]		
		358.	and other people leave		
		359.	and go off,		
		360.	and I said in front of another group member		
		361.	I'm fighting back the urge to flirt with you ....		
		362.	because [[what she was also doing]] was [[she was doing,     she was saying to the group     I'm going to....]]		
		363.	because I don't know		
		364.	why she was saying,		
		365.	um because of what I was saying.		
	CA	366.	So I said...		
		367.	I'm, <you know> I feel		
		368.	like teasing you		
		369.	and flirting with you		
		370.	because well all this stuff that was said,	Dilemma set out by opposing actions, but	5 Ax 5 B
		371.	um I've got a witness here.	Not Explicit	
	CB	372.	Um....		
43. TH	CC	373.	That seems to be quite a topic in the group really.	T. Holds Topic	
44. PT	CD	374.	No		
		375.	and that's funny		
		376.	because it's only ever come up with QQQ; BBB; and me.		
	CE	377.	Sexuality is never discussed,		
		378.	um no-one ever talks		
		379.	about an attraction to another group member,		
		380.	which <in my mind> I thought		
		381.	that would happen in a group		
		382.	like <<<( INTJTH: Hm)>>> you know a couple of people there are quite attractive,		
		383.	um 90 per cent of the group have know each other for years,		
		384.	so....	Equivocation	
				Extended	
45. TH	CF	385.	So it's [[a bit like you've been singled out,     or the three of you have been singled out in this regard?]]	T. confirms the 'weird'	

46. PT	CG	386.	Yeah.		
	CH	387.	I mean the benefit is that {is that} [[we get to do the work when [[everyone else is hiding it maybe,]] ]]	ONLY POSITIVE	+
		388.	I mean it's a good thing.	Summation?	
	CI	389.	But I mean it's probably related as well,	Dual Topics	5
		390.	but like the other day I was leafing through a magazine	Segway:389	
		391.	and I found this picture of an ad, fashion ad	Analogy with Adversative: "But"	
		392.	and I'd seen it on billboards before	Move	A
		393.	and <you know> these two attractive women		
		394.	and I tore it out		
		395.	and thought		
		396.	I'd like to put this on my wall.		
	CJ	397.	Um and I've done that before,		
		398.	like I've had [[posters or pictures that I've wanted to put up,]]		
		399.	but I go through this guilt process	Move	B
		400.	because I think,		
		401.	I project,		
		402.	like I think into the future		
		403.	– what if I brought a partner home	"what if"	
		404.	and I've got these women up on my wall		
		405.	and sometimes it can be quasi sexual		
		406.	and sometimes it's just a fashion ad with beautiful women and..	Dilemma 5Ax5B	
47. TH	CK	407.	Uh if you were to bring someone home	T. states the problem -	
		408.	that would, you know	Directly and	
		409.	if you,	To feelings	
		410.	how would you feel about that...		
48. PT	CL	411.	I feel	Dilemma made Explicit	5
		412.	it would be disrespectful,	On "feel"	
		413.	I feel		
		414.	it would be uncomfortable for them to..		
49a. TH	CM	415.	There seems to be something again in the talk at the moment	T. aligns the motifs from the earlier	
		416.	where there's, this uh boundary or something	problems to the present:	

		417.	where <you know>....talks about sexual shame	boundaries and object status.	
INTJ PT		418.	hm		
49b. TH		419.	or we're talking about earlier		
		420.	about feeling		
		421.	like you're a piece of meat or something, you know		
INTJPT		422.	yeah		
49c. TH		423.	um <you know> a boundary where you sort of shift from being a person to a sexual object or something,		
		424.	it seems..		
50. PT	CN	425.	Yeah.		
	CO	426.	It's just [[sexuality for me is so detached from me as a person.]]	Dilemma 5 stated as a principle	
	CP	427.	And the last few years it's gotten a bit um blurred,		
		428.	like you know with... .. experimentation and fantasy	Dilemma / equivocation as blurred boundaries -	
		429.	and I don't know	knowing and	
		430.	where it lies sometimes.	fantasy	
	CQ	431.	And um..		
51. TH	CR	432.	So you say	T. introduces	
		433.	it's got a bit disconnected,	non-	
		434.	do you say, or...	coherence?	
52. PT	CS	435.	Yeah.		
	CT	436.	Like you know	Dual Topics	6
		437.	we've discussed about my family	Move	A
		438.	and sexuality was non-existent		
		439.	and joked about		
		440.	if spoken about at all.		
	CU	441.	So when [[all this kind of stuff in groups and with friends come up]], I'm <like> at a loss,	Move	B
		442.	what do I do with it, um.		
	CV	443.	I find it [[hard to get in touch with it]] by myself, or with a partner,		
		444.	let alone when it's coming out here, there and everywhere.	Dilemma	
				6Ax6B	
				spatialized?	
53a. TH	CW	445.	Men do,		
		446.	that is the case <I guess> when [[it's here, there and	T. supports spatial and	

			everywhere]]		
		447.	as it is in many ways in a – [[the world we live in]]	actuality	
INTJPT		448.	Hm...	motifs	
53b. TH		449.	um <you know> it often is being separated from actual relationships		
		450.	isn't it, um		
54. PT	CX	451.	That's true...	Support confirmed	
55a. TH	CY	452.	sort of things we get exposed to		
		453.	and um it's not clear		
		454.	where <you know> I am as a person,		
		455.	or you are as a person <<<( INTJ PT: yeah)>>> in relation to that <I guess>		
INTJPT		456.	yeah.		
55b. TH		457.	Feel a bit lost	T. confirms	
		458.	wouldn't you.	at a "loss"	
56. PT	CZ	459.	Yeah.		
	DA	460.	And I've taken on your words about	Second case	
		461.	well it's [[all well and good to think it out in your head]]	of quasi -	
		462.	and <you know> analyse	resolution?	
		463.	and hypothesize,		
		464.	but you need to just take action,		
		465.	you need to figure it out through action.		
	DB	466.	And...		
57. TH	DC	467.	Through connecting really.	T. "only connect"	
58a. PT	DE	468.	Yeah.		
	DF	469.	Yeah connecting		
		470.	and finding [[what comes out of the connection.]]		
	DH	471.	And that' where the topic of girls comes up,	Dual Topic	7
		472.	because <you know> this one girl, woman, <<who's working in another ...service,     ...that she's working with the family that I'm working with,>>	Move	A
		473.	and <you know> we've been having lots of meetings lately		
		474.	and this has been [[the case presentation that I did the last few weeks.]]		

INTJTH		475.	hm, sure		
58b. PT	DI	476.	So we've been working intensively	Move A	
		477.	and on Friday morning I had the case presentation	Context add.	
		478.	and we were putting together a treatment plan		
		479.	and I told her		
		480.	this was happening		
		481.	and she wanted to know		
		482.	because the service is pulling out of the family		
		483.	because whatever reason.		
	DJ	484.	Um so after the meeting I took her out to lunch		
		485.	because my boss had been saying		
		486.	you've got to meet with her		
		487.	and take her to lunch		
		488.	and get [[all the information you can]]		
		489.	because she's worked with them [[longer than I have.]]		
	DK	490.	And <you know> we're talking a bit about work		
		491.	but then we start flirting,		
		492.	like because we've been flirting a little bit lately.		
	DL	493.	And um the conversation was mainly about the personal stuff		
		494.	and we were talking about our backgrounds		
		495.	and talking about drugs		
		496.	and, and a bit sexually flirtatious		
		497.	and she'd said to me the day before, or a couple of days before		
		498.	that on the phone, I'd call her from home		
		499.	because I had [[cheques that she needed to take for something,]]		
		500.	and I'd said		
		501.	I'm still at home,		
		502.	I'm in pppp		
	DM	503.	and her service is in pppp.		
	DN	504.	And she said,		
		505.	"Oh you're a pppp boy		
		506.	because I live there too,		
		507.	um we should go out for a coffee one day."		
INTJTH		508.	Hm		
58c. PT	DO	509.	so she's put it out there, um.	First "horn of the dilemma" completed	
59a. TH	DP	510.	Yeah, well this is something happening		

		511.	isn't it	T. Summary of Move 7A	
INTJPT		512.	Yeah		
59b. TH		513.	as opposed to just in your minds.	Actuality motif	
60. PT	DQ	514.	That's right....		
		515.	it's been [[six months since anything's happened.]]	Move	B
				and	
	DR	516.	But um and of course I've gone	Dilemma 7	
		517.	back and forth with maybe she's just being friendly and neighbourly		
		518.	and maybe she just wants to be friends		
		519.	and I've said to my friends		
		520.	I don't need another female friend,		
		521.	got enough of those thanks.		
	DS	522.	So I thought		
		523.	I'll suss it out.		
	DT	524.	We were having lunch		
		525.	and on the way back to the car I said to her		
		526.	you know I'd like to take you up on that coffee,		
		527.	how about the weekend		
		528.	and she said		
		529.	cool.		
	DU	530.	So we made tentative plans,		
		531.	I messaged her,		
		532.	she said		
		533.	Sunday arvo would be good possibly		
		534.	but she'd got a lot on		
		535.	and it didn't happen,		
		536.	um because she's Chinese		
		537.	and it's been New Year		
		538.	so she had heaps on,		
		539.	um and said		
		540.	she'd call by 4.30 on Sunday afternoon		
		541.	to confirm		
		542.	that she had a 5 o'clock appointment.		
	DV	543.	Um and {I was}, I was a bit impressed with myself		
		544.	because {I was all a bit}, I was a bit flexible		
		545.	and yeah whatever happens		
		546.	and if it doesn't happen		
		547.	it's cool.		
	DW	548.	Um she didn't call by 4.30,		
		549.	she called at 7.30		
		550.	and by then I thought		
		551.	okay it's probably not going to happen,		



		552.	but if we could go for a drink tonight		
		553.	then that would be great		
		554.	but she was with people		
		555.	and she was talking to me,		
		556.	she was in the car,		
		557.	she was driving,		
		558.	she had me on speaker,		
		559.	I was saying hello to everyone,		
		560.	and then she was getting directions		
		561.	– I said EEE why don't,		
		562.	do you want to call me back when [[you don't 48 things happening at once,]] you know.	Recount of second horn of Dilemma	
61. TH	DX	563.	So then further contact this week, or....	T. checks	
62. PT	DY	564.	Yeah, um she messaged Monday morning		
		565.	Saying		
		566.	sorry I didn't get back to you,		
		567.	it was a manic weekend.		
	DZ	568.	And then I saw her for a worker's meeting Tuesday with another service,		
		569.	and a lot of other people were at the bathroom,		
		570.	we were talking outside		
		571.	and <like> again I'm getting these signs,		
		572.	because even at lunch she was, <you know,> giving me a smile		
		573.	and flicking the hair		
		574.	and all this stuff,		
		575.	and while [[everyone's at the toilet]] we were talking		
		576.	and laughing		
		577.	and stuff		
		578.	and getting personal again,		
		579.	and I said		
		580.	um so <you know> have you got more family stuff on tonight?		
	EA	581.	And she was like, yeah, I do.		
	EB	582.	And I was thinking in my head	Dilemma repeated, intensified	
		583.	well because if you weren't		
		584.	I would ask you out for a drink before dinner.		
	EC	585.	And um so anyway later on I reconsidered		
		586.	and thought		
		587.	I should have told her	"should have"	
		588.	that,		
		589.	so I messaged her that		

		590.	and said it's a pity		
		591.	because I would have asked you out for drink.		
	ED	592.	And she wrote back		
		593.	Saying		
		594.	thanks for the invite		
		595.	but then didn't say		
		596.	anything about let's do it another time or um whatever.		
63a. TH	EF	597.	It's a bit tricky	T. notes Equivocation and 'feeling'	
		598.	isn't it,		
		599.	I mean how are you feeling		
		600.	about it at this point in time?		
	EG	601.	You said you felt		
		602.	she was going to put something out there		
INTJPT		603.	Hm		
63b. TH		604.	um and it hasn't quite happened,	T. states the Question	
		605.	um and there's a bit of a question about [[how far to put yourself out <<<( INTJPT: Hm),>>> out there I guess.]]	and the risk	
64. PT	EH	606.	Yeah, and I thought	Dilemma 7	
		607.	we're both kind of towing around it	Elaborated	
		608.	and we're both kind of not taking risks,	and	
		609.	and I thought	Spatialized	
		610.	if I send that message		
		611.	Saying		
		612.	I would have invited you out {if,} for a drink		
		613.	if you weren't busy,		
		614.	I thought		
		615.	I'm trying to make it clearer		
		616.	because, I've never dated before and, well not much,	Dual Topics	8
		617.	and I don't		
		618.	obviously there's no rules		
		619.	but it's such difficult territory [[ to negotiate.]]	see also "middle ground" ->	
65. TH	EI	620.	You've never dated before,	T. taken aback again	
		621.	I mean you've been out with women before	so checks	
		622.	but I mean what, what – what are you thinking of here?		
66. PT	EJ	623.	Uh yeah I see,	Dilemma	8
		624.	I see dating as a milligram between friendship and relationship.	Reverse order:	A

				principle first; Move	
		625.		exempla second	
	EK	626.	So with AAA we were friends at first		
		627.	and very quickly it went into a relationship, sexual and um partnering-up.		
	EL	628.	With DDD we slept together the night I met her,		
		629.	so it felt		
		630.	like we'd dived already in		
		631.	and then like [[the next time we met]] was at a bar		
		632.	and we had dinner and drinks		
		633.	and that was really awkward,		
		634.	but then we, <<having slept together again that night,>>		
		635.	and so I felt		
		636.	there wasn't any inbetween there.	no "in between"	
	EM	637.	And with KKK it was friends for a year		
		638.	and then uh [[once we were finishing Uni]] we got together straight away.		
	EN	639.	So I don't know the middle ground.	Knowing the "middle ground"	
67. TH	EO	640.	Sounds like something you're [[keen to, find out about]]	T. proffers a plan	
		641.	or something		
		642.	or to explore...		
68. PT	EP	643.	Yeah.		
	EQ	644.	When I came back from America that was my plan,	"Two horns of the dilemma"	
		645.	I'm not going to dive into anything,	in one opposition	
		646.	I'm going to date		
		647.	and see		
		648.	what that's like	Dilemma 8	
		649.	to be in the middle ground,		
		650.	to not be too committed		
		651.	but not be a slut too much.		
	ER	652.	And RRR came along		
		653.	and then that moved fairly quickly.		
	ES	654.	So I liked to date		
		655.	and I liked to keep it casual		
		656.	and I don't want to be [[the guy who has three dates in one		

			night,]]		
		657.	but I don't want to be [[the guy who dives into relationships]] either.		
	ET	658.	So but again <you know> it screws with my control issues		
		659.	this whole, this whole um unsure, you know unsure if she likes me		
		660.	or unsure if she wants anything more than a coffee or.		
	EU	661.	And her colleague <<who's on maternity leave>> um the colleagues' partner is my colleague, XXX,	Context of uncertainty	
		662.	and they all went to Uni together.		
	EV	663.	Um and so I've been talking to SSS about it	Revisits	
		664.	and SSS's saying	Equivocation	
		665.	no that's definitely asking you out,		
		666.	asking for a coffee and....		
69. TH	EW	667.	So she's not in the same workplace as you?	T. checks proximity	
70. PT	EX	668.	No.		
	EY	669.	No, she works for another service		
71. TH	EZ	670.	OK,		
72a. PT	FA	671.	yeah and her colleague and XXX are partners		
INTJTH		672.	Hm,		
72b. PT		673.	and they've had a baby together.		
	FB	674.	Um but yeah I mean it screws with my mind	Dilemma	
		675.	because I don't know	Intensified and Rpt.	
		676.	about this stuff		
		677.	and I don't know		
		678.	if a coffee's just a coffee		
		679.	or if it's more than a coffee		
		680.	and I mean heaven knows.		
73. TH	FC	681.	Yeah I mean it's, does seem to be uh fairly marked,	T. reviews	
		682.	a bit of dangerous territory I guess	the	
		683.	or um you know when you did make a suggestion,	Equivocation	
		684.	it's a kind of [[I would have done something    if the circumstances had been different or something you know.]]		
	FD	685.	Um still <you know> waiting <I guess,>		
		686.	and there's a question in my mind about in these situations		

			about um [[whether it's okay to take initiative and.....]]		
74a. PT	FE	687.	Hm.		
				P. reads a	
	FF	688.	Well even that message about <you know>	Rejection	
		689.	I would have asked you for a drink		
		690.	if you weren't busy		
		691.	and then her saying		
		692.	thanks for the invite,		
		693.	but then not suggesting anything else,		
		694.	that for me was rejection.		
		695.			
	FG	696.	Because she's got,		
		697.	this long weekend she's going away the whole weekend,		
		698.	leaving tttt		
INTJTH		699.	hm,		
74b. PT		700.	um and she's,		
		701.	and then we actually talked on the phone yesterday		
		702.	and um we were just chatting about work stuff		
		703.	and then you know she was saying		
		704.	things have been so busy,		
		705.	and I was saying		
		706.	you know have you got another family thing on tonight?		
	FH	707.	And in my mind I wasn't actually asking if she was free,	Cycle 3 of	
		708.	but I heard her do this thing	the same	
		709.	uh no, no but I'm packing to go away	Dilemma 8	
		710.	and that's always a mission.		
	FI	711.	And I'm reading that as	Reading	
		712.	no I'm not free for you.	rejection x 2	
	FJ	713.	But I already had plans with my friends like		
		714.	and I felt like saying I've got something on,	The UNsaid	
		715.	so don't worry,	once again.	
		716.	I'm not cornering you.		
	FK	717.	But yeah <I mean> I want to take the initiative	Admission	
		718.	and I'm attracted to her,		
		719.	like I've been thinking		
		720.	about her a lot.		
	FL	721.	Like that's maybe [[something to focus on,]]		
		722.	I'm attracted to her,		
		723.	she's been in my mind,		
		724.	I'm not totally sure		
		725.	about where I, what I want from it,		
		726.	but I know		
		727.	I want	Resolves his	
				thoughts..?	

		728.	a date.	but NOT the Dilemma	
75a. TH	FM	729.	So that's part of it	T. divides the Dilemma	
		730.	isn't it	into the	
		731.	I mean uh when [[you're aware of being attracted,]] you know	ideational part (clarified) and the	
		732.	when you're wanting	right to act	
		733.	something to happen I guess		
INTJPT		734.	hm,		
75b. TH		735.	um whether that's okay to do that,		
		736.	to act on that.		
76. PT	FN	737.	Hm.		
	FO	738.	I guess if I think to [[the women I've been with,]]	P. isolates permission as issue	
		739.	it's been um with their permission you know		
		740.	it's never really been		
		741.	– well RRR I pursued,		
		742.	like I made it clear		
		743.	that I had the hots for her		
		744.	and but she said		
		745.	let's be friends		
		746.	and it was only [[when she couldn't resist the temptation any more]]		
		747.	that we got into it.	CONTINUES	
				Dilemma 8?	
77. TH	FP	748.	It did take some time	T. checks	
		749.	didn't it	status of event	
		750.	where you had <<<( INTJPT: Yeah)>>> thought		
		751.	that was different from [[what you'd been through before...]]		
78. PT	FQ	752.	Yeah.		
	FR	753.	Yeah it was like at least a month.		
	FS	754.	And so I was pursuing her		
		755.	and she was on the defensive for that time		
		756.	and once I gave up <you know> it just happened.		
	FT	757.	But <I mean> I don't want to put it out there		
		758.	and then have her react		
		759.	as if oh god we're only colleagues		

		760.	like I'd be so embarrassed,		
		761.	I'd be mortified	Sub-part of	
		762.	that I took the cues wrongly.	Cycle 8	
				'Reading cues'	
79. TH	FU	763.	But that's the big concern,	T. confirms	
		764.	that you might have it wrong...		
80. PT	FV	765.	Yeah.		
	FW	766.	And that I'm making much ado about nothing		
		767.	that whole thing about <you know> you live in pppp too,		
		768.	let's get a coffee...	Dilemma 8	
				Reprise	
81. TH	FX	769.	It's a little bit different	T. defines	
		770.	isn't it	Dilemma	
		771.	from <I mean> you mentioned rejection a little while ago as well		
		772.	but this sort of thing		
		773.	and [[just having it completely wrong]] <<<( INTJPT: Hm)>>> is <you know> a bit different...		
82. PT	FY	774.	Part of me doesn't believe	Dual Topics	9
		775.	that normal women would want anything from me...	Move	A
83. TH	FZ	776.	Yeah	T. check	
		777.	– wouldn't want anything...		
84. PT	GA	778.	My friends don't get it,		
		779.	I've talked to them about low self-esteem		
		780.	and they see me		
		781.	and they say		
		782.	it just doesn't compute,		
		783.	You		
		784.	– like they get it for themselves		
		785.	like they're so terrible,		
		786.	but they can't get it for me		
		787.	why I think		
		788.	I'm so terrible.		
	GB	789.	And I have a ..... really bad image of myself,		
		790.	really bad self-esteem.		
85. TH	GC	791.	You wonder	T. tests	
		792.	whether you could be loved.	general pt.	

86. PT	GD	793.	I just look at all the bad parts of myself		
		794.	and think		
		795.	that's what they see,		
		796.	so why would they want that?		
87. TH	GE	797.	This is sort of [[the bad parts we're talking about]]	T. seeks	
		798.	something other than sexual attractiveness maybe....	Focal idea	
88. PT	GF	799.	No, when I say		
		800.	bad parts		
		801.	I think		
		802.	of physicality,		
		803.	I also think		
		804.	of personality as well,		
		805.	stuff I don't like about myself.		
	GG	806.	But yeah <I mean> I definitely think		
		807.	of my physical attractiveness as well.		
89a. TH	GH	808.	Come both ways	T. raises a	
		809.	hasn't it	paradox	
		810.	because <I mean> with XXX for instance you kind of sense		
		811.	that she might be attracted		
		812.	or TTT for that matter		
INTJPT		813.	Hm		
89b. TH		814.	and some of the past relationships that have come.		
	GI	815.	But then it doesn't come the other way necessarily		
		816.	you being attracted to them.		
90. PT	GJ	817.	Hm.		
	GK	818.	So I do value it,	Move A	
		819.	I say	continued	
		820.	I'm just a piece of meat,		
		821.	I can't be attractive physically,		
		822.	I'm just [[a piece of meat that will satisfy their hunger]]		
		823.	and they don't really like me for me.		
	GL	824.	They like me for [[what they can get out of me.]]		
91. TH	GM	825.	So you get to a pretty vulnerable place with this sometimes	T. turns to	
		826.	don't you...	feelings.	
		827.	take things....		



92. PT	GM	828.	Hm.		
	GO	829.	Yeah and that's interesting		
		830.	because I was saying some of this to YYY,		
		831.	I was able to actually say it		
		832.	and I had to sit with it when [[he was saying     no it's not the case,]]		
		833.	and <you know> he was speaking quite genuinely to me		
		834.	and he was saying		
		835.	that there are [[a lot of great things about you [[that you know     I like about you]],]]		
		836.	and I like spending time with you.		
	GP	837.	And um he sent me a message the next day		
		838.	sarcastically saying		
		839.	I know		
		840.	that at the moment the wedding's off		
		841.	but um, but um what he said next,		
		842.	like I still want to be friends,		
		843.	it doesn't change anything.		
	GQ	844.	And, and I think back in my past	Move	B
		845.	how many heterosexual males have I been good friends with		
		846.	and not many.		
	GR	847.	Because that would confirm they want me for me.		
	GS	848.	I mean you can get emotional stuff out of people	Dilemma	9
		849.	but I can only think of one		
		850.	and that was my room-mate		
		851.	and that didn't go too well.		
93. TH	GT	852.	Something went wrong?		
94. PT	GU	853.	Well we were good friends		
		854.	and we got to a really close level		
		855.	and we were able to talk about stuff,		
		856.	but then [[when we moved in]] it divided us		
		857.	because the different living patterns and disrespect		
		858.	– I really felt		
		859.	he disrespected me		
		860.	and didn't,		
		861.	I don't know,		
		862.	it was just wrong		
		863.	to live together		
		864.	because um the friendship suffered		
		865.	and to this day I still don't think		

		866.	you should move in with friends,		
		867.	close friends, yeah.		
	GV	868.	And so that divided us for quite a while afterwards		
		869.	and [[when I tried to get things back on track]], we made up a couple of times		
		870.	but he could never follow through with it.		
	GW	871.	Um and this year [[when he tried,]] like I found in my facebook		
		872.	and he tried to um get me to come and play squash with him,		
		873.	I was too busy and depressed		
		874.	so I had not energy to follow that up.		
		875.			
	GX	876.	It's just	Dilemma in	9
		877.	I don't know	Generalised	
		878.	if it's all confusing	Summary	
		879.	that's all.		
95. TH	GY	880.	A period of closeness there.	T. Probe or	
				Comment	
96. PT	GZ	881.	Yeah.		
	HA	882.	And I felt		
		883.	really good to finally have [[an equal mate who had a fair degree of emotional intelligence,]]		
		884.	because a lot of guys don't,		
		885.	and I feel		
		886.	I do,		
		887.	and I feel		
		888.	I need [[a guy who's on that track,]]		
		889.	not just talking about sports and been and crap.		
	HB	890.	So yeah it felt really good,		
		891.	I felt		
		892.	like I belonged somewhere,		
		893.	I felt		
		894.	like accepted.		
97. TH	HC	895.	You could talk	T. defines by	
		896.	about things there	reference to	
		897.	that you wouldn't talk about with your family, with your brothers for instance, maybe...	family	
98. PT	HD	898.	Hm, yeah.		

	HE	899.	Talk about relationships.		
				Dual Topics	10
	HF	900.	Like he and I loved talking	Move	A
		901.	about the ins and outs of relationships	hetero vs	
		902.	and how people interact	gay friends	
		903.	and girlfriends and stuff,		
		904.	because we were both in relationships at the time.		
	HG	905.	And now like I'm getting acceptance with this group, with my cousin, and XXX and TTT,		
		906.	but I just don't think		
		907.	and <you know> like one of my best friends from school BBB,		
		908.	you know I thought		
		909.	he was heterosexual for a long time,		
		910.	but he's gay		
		911.	so um, struck him off the list of straight friends.		
	HI	912.	And then there's HHH	Move	B
		913.	who was friends with all of my brothers		
		914.	and now I'm much closer to him,		
		915.	and he's [[the one that just got married a few months ago]]		
		916.	and um we get on really well		
		917.	and he's really deep		
		918.	and really philosophical		
		919.	and loves talking		
		920.	about human interactions um in relationships.		
	HJ	921.	He's [[the one person I can identify at the moment in my life     who's apparently straight,]]		
		922.	and even then my mother <for years> has said		
		923.	he's gay		
		924.	and he doesn't know it.		
99. TH	HK	925.	Well there's ....	T. ameliorates	
		926.	I mean there's confusion	split: HvsG	
		927.	isn't there		
		928.	about perceptions there		
		929.	and uh your mother sees things differently to you		
		930.	but I mean sometimes people will mistake sensitivity or something for <<<( INTJPT: hm)>>> gayness, or....		
100. PT	HL	931.	Yeah.		
	HM	932.	I mean he's got a bit of a lisp		
		933.	and he and I had a conversation one night		
		934.	where he goes		
		935.	I know		
		936.	what people think of me,		

		937.	I know		
		938.	that they assume [[I'm gay]],		
		939.	and I was on the border of [[sharing my sexuality with him,]]		
		940.	but I didn't go that far.	Dilemma	10
				re-stated	
101a. TH	HN	941.	And <you know> you have felt a bit of confusion at times about your own sexuality	T. turns back to P.	
INTJPT		942.	hm-mm....		
101b. TH		943.	a range of fantasies that you, you would have,		
		944.	although <you know> I don't know what you make of, of [[how you're reacting when [[things actually happen]] ]]....	Summary of main exempla	
		945.	a few examples in the group		
		946.	and this woman from another service		
		947.	and um also the way you react when you know		
		948.	someone like TTT approaches you and....		
102. PT	HO	949.	Yeah.	Dual Topics	11
	HP	950.	I mean interaction with woman	Move	A
		951.	I love them	Women and	
		952.	and I know	'Future'	
		953.	that's [[predominantly what I want for my future]].		
				Move	B
	HQ	954.	With men it is more fantasy world	Men and	
		955.	and it is more physical,	'Fantasy'	
		956.	so I don't think		
		957.	there's much emotionality in it at all,		
		958.	I don't think I want an emotional relationship with a man.	Both Irrealis	
	HR	959.	But by the same token like I was er, at [[the cafe where we hang out some times]] on jjjj street	'Actual' case	
		960.	and the waiter there was cracking on to me,		
		961.	a guy,		
		962.	and at the time I didn't feel very sexual about it,		
		963.	but later, like and you know he's come up		
		964.	and given me a back rub and stuff		
		965.	and well it took a few hours before [[I thought     oh that could actually be nice that sexual experience.]]		
	HS	966.	So there was a really delayed reaction,		
		967.	at the time it was a bit dead,		
		968.	it was a bit,		
		969.	it's nice		
		970.	physical touch		
		971.	but it doesn't get me off or anything.		
	HT	972.	Um I keep thinking		
		973.	I'd like to get, <you know>		
		974.	I've been to a female erotic massage,		

		975.	I wouldn't mind		
		976.	going a male erotic massage	Comparison	
		977.	and seeing what that's about and yeah.	A vs B	
	HU	978.	In terms of my reactions to those things I think		
		979.	it's a bit fantasy world,		
		980.	it's a bit [[not really what I want long term.]]		
103a. TH	HV	981.	That's also imagined though	T. focuses on the Irrealis	
INTJPT		982.	Hm..		
103b. TH		983.	something long term.		
104. PT	HW	984.	Well long term I definitely imagine being with a woman,	Imagine and	
		985.	yeah,	definite	
		986.	very little doubt about it.	[very little doubt]	
105. TH	HX	987.	Since TTT was joking about [[you being a father]]....	T. supports	
106. PT	HY	988.	Yeah to XXX's kids.		
	HZ	989.	And definitely I want to have kids one day,	Definite about	
		990.	I love them,	children	
		991.	I've always loved kids		
		992.	and XXX's I feel really close to		
		993.	like I feel like a real uncle.		
	IA	994.	They get really excited when [[they see me]]		
		995.	and I really take an interest in them		
		996.	and they feel comfortable around me.		
107. TH	IB	997.	That's where [[you like to be]] by the sound of it.	T. builds on the warmth of the topic	
108. PT	IC	998.	Hm.		
	ID	999.	Then again is TTT right,	Dual Topics	12
		1000.	am I playing into XXX's fantasy?	Fatherly vs	
				Leading X on	
	IE	1001.	Um because it is, it is very fatherly,	Move	A
		1002.	it is like [[putting them on my back     and throwing them up in the air     and um telling them off when [[they do something wrong]]     and um helping them out]]		

		1003.	and... And they tell their grandparents about me		
		1004.	and um they mention me in front of their father		
		1005.	and he gets really jealous.		
	IF	1006.	He gets jealous about all males with his kids.		
	IG	1007.	And XXX is very vulnerable at the moment,	Move	B
		1008.	She's still going through problems		
		1009.	and she's still going through so much grief		
		1010.	and she's so confused and anxious all the time		
		1011.	and I'm trying to be a good friend,		
		1012.	but am I [you know]		
		1013.	^^ don't think I'm leading her on		
		1014.	but maybe she would be led on whatever I do,	Dilemma	12
		1015.	I don't know.	'maybe'	
109a. TH	IH	1016.	Well you've talked about it	T. confirms the effort to know	
INTJPT		1017.	Hm.		
109b. TH	II	1018.	I mean there's um a lot of [[agonizing that seems to go on a bit when [[these things get raised]] ]]		
		1019.	and ^there's a lot of^ sort of self-doubt.		
110. PT	IJ	1020.	Maybe again a part of it is also [[am I getting it wrong?]]	Dilemma in General	12
	IK	1021.	Like with QQQ am I reading the signals wrong?	Formulation	
	IL	1022.	With XXX is it bleeding obvious that [[I'm reading the signals wrong?]]		
	IM	1023.	I mean I often get bamboozled by [[people who will tell me something]]	Dual Topics Exempla continued	13
		1024.	and then I'll take it to my manager or the team	Move A	
		1025.	and people go		
		1026.	did you believe that?		
	IN	1027.	And I think in my mind		
		1028.	it wasn't even a question of belief,		
		1029.	like yes.		
	IO	1030.	But for them whether it's experience	Move B	
		1031.	or I don't know		
		1032.	what it is		
		1033.	but it's like [[I'm very easily led astray.]]	Dilemma	13
	IP	1034.	If someone says something quite direct in my eyes	Dilemma	

		1035.	and firmly	reiterated	
		1036.	and has a lot of faith in [[what they're saying,]]		
		1037.	I believe it.		
111. TH	IQ	1038.	....dominated by someone's convictions.	T. changes tone to power.	
112. PT	IR	1039.	Hm.		
	IS	1040.	Yeah.	Dual Topics	14
				Return to Fantasy and	
	IT	1041.	And I connect that with my parents	Unreal	
		1042.	and I connect it to um [[the fantasy world that they painted for us]]	Move	A
		1043.	that we're a rich, affluent family,		
		1044.	whereas they've come from very poor backgrounds.		
	IU	1045.	And other fantasy stuff like [[enrolling as a different birthday in <<<( INTJTh: Hm)>>> preschool     and me having to have a fake birthday with other kids for years.]]		
113a. TH	IV	1046.	Yeah that was quite a source of confusion and distress	T. signals	
		1047.	wasn't it	concord and	
INTJPT		1048.	Hm	no doubt	
113b. TH		1049.	for a long time, still is in a way.		
114. PT	IW	1050.	Yeah.		
	IX	1051.	I think back to that stuff		
		1052.	and I feel		
		1053.	like reality <for me> sometimes slips through your fingers	Move	B
		1054.	because [[all someone has to do]] is [[tell me something]]	"reality"	
		1055.	and okay I'll believe you.		
115. TH	IY	1056.	Well in that case <I mean> it's um well	T. makes plausible	
		1057.	I guess you can understand [[your parents gave you reasons]]		
		1058.	I think,		
		1059.	somewhere along the lines that that would help you get into school or something		
		1060.	wasn't it,		
		1061.	but that um		
		1062.	but they still felt wrong to you		
		1063.	I think.		

116. PT	IZ	1064.	Well for them it was more about		
		1065.	um I, yeah I don't think		
		1066.	it was to do with school,		
		1067.	I think		
		1068.	it was um [[so mum could work more,]]		
		1069.	so I		
		1070.	there{'s} a bit of like [[get them off her back]]		
		1071.	to... hanging around the business.		
	JA	1072.	So...		
117. TH	JB	1073.	And how, how did that work out	T. checks	
		1074.	that [[changing your birthday]] would make a difference to that?		
118. PT	JC	1075.	Um because I couldn't enrol in kindergarten for another year		
		1076.	if I was my age.		
119. TH	JD	1077.	So it was [[to get you into school,]]		
		1078.	but it was off her hands as well...		
120. PT	JE	1079.	Yeah.		
	JF	1080.	Yeah, get me into school sooner, yeah.		
121. TH	JG	1081.	She had [[the power to do that]] I guess..	T.-power motif	
122. PT	JH	1082.	I'm just reading one of Dawkins, <Richard Dawkins> books,	Dual Topics	15
		1083.	the atheist	Move	A
		1084.	and he's very militant		
		1085.	and he was saying,		
		1086.	and [[as I'm reading it]] I'm not quite agreeing with it,		
		1087.	I'm not quite seeing the extent of [[what he's saying.]]		
	JI	1088.	But he's saying		
		1089.	about how it's almost even evil [[to call,     to put your religion upon children]]		
		1090.	like to say		
		1091.	I have a Christian child		
		1092.	or I have a Muslim child,		
		1093.	because they haven't um developed [[the power to be able to make up their own minds.]]		
	JJ	1094.	But I read that	Move	B



		1095.	and I think		
		1096.	well don't parents have to raise their kids somehow,		
		1097.	um teach them a belief system.		
	JK	1098.	But then I also agree		
		1099.	like within that belief system you should teach healthy questioning and healthy um uh discussion about these topics,		
		1100.	not just you're a Christian child,		
		1101.	you believe in God,		
		1102.	you believe in Jesus.		
	JL	1103.	Like at lunch on Sunday we were all together for dad's birthday		
		1104.	and religion came up		
		1105.	and <you know> VVV was talking		
		1106.	about going to [[the place where Mary's burial ground is]] or whatever,		
		1107.	I don't know too much about it,		
		1108.	but um I was saying to CCC,		
		1109.	"Do you really believe		
		1110.	that she gave birth without a partner?		
		1111.	Like it was divine conception?"		
	JM	1112.	And they tried to say		
		1113.	well it's all symbolic,		
		1114.	and, and I'm saying		
		1115.	do you really believe		
		1116.	that Jesus is the Son of God,		
		1117.	is God,		
		1118.	is the Holy Spirit?		
	JN	1119.	Like they're [[a whole gang hanging out together like?]]		
	JO	1120.	And they couldn't understand	Dilemma	15
		1121.	that I don't believe it you know.	But more	
				confident on	
				an external debate –less personal	
123. TH	JP	1122.	Well you just want to be accepted		
		1123.	to question		
		1124.	and to <<<( INTJPT: Hm)>>> have your own position,		
		1125.	not to be accepting things blindly.		
124. PT	JQ	1126.	Hm.		
	JR	1127.	But I'm also scared		
		1128.	to defend myself as an atheist.	Dilemma personalised	15

	JS	1129.	Like I said it to a work colleagues the other day		
		1130.	and I thought		
		1131.	god if I'm wrong,		
		1132.	^^ can't take it back.		
125. TH	JT	1133.	Yeah, it's a funny thing	T. confirms the depth of the feeling	
		1134.	isn't		
		1135.	it uh it feels [[a bit like gambling with your life <<<(INTJPT:Hm)>>> or something.]]		
126. PT	JU	1136.	Hedging your bets.		
127a. TH	JV	1137.	I mean what, you know what do you mean by [[being an atheist]], I guess...	T. and Pandora's box	
		1138.	what might be explored there.		
	JW	1139.	Because <you know> I've noticed in, [[when we've talked before about religion,]] it does stir up some pretty strong feelings at times.	Close on an externalised debate rather than on a personal issue, ie. one unique to P	
INTJPT		1140.	Hm		
127b. TH	JX	1141.	We may come back to it,		
		1142.	but it's about time for today.		
128. PT	JY	1143.	Yeah.		
129. TH	JZ	1144.	So we'll finish there.		
130. PT	KA	1145.	Cool.		
131. TH	KB	1146.	And uh see you next time.		
132. PT	KC	1147.	Yeah, sounds good.		
133. TH	KD	1148.	I'll just strip this off.		

## Appendix 4.3 Pilot 1.2

### 4.3 Transcript of session: Pilot 1.2 (clauses in bold type discussed in Part 6).

(Names and places are de-identified)

1. TH (Start – 00:24) OK
2. PT **Good to go?**
3. TH Good to go.
4. PT Great I've just come from supervision and before I went there the private practice ideas, about starting my own private practice and that's taking more shape and I wrote my supervisor an email earlier in the week saying when I meet with you I want to discuss, you know get some feedback and discuss options and get some ideas on what you think might be good, because I'm seeing him once every four weeks but if I go into private practice I want to see him every fortnight, get more support. So I went into that session with him my mind a bit a heap of ideas and things trying to take shape and we pretty much covered all my questions in that session. So, um, it felt good actually. He's given me some people to ring to ask about renting rooms off them and yeah it's good to get advice off someone who's also a psychologist and he's supervising me in the same framework and...
5. TH Yeah, well you're doing some serious research here.
6. PT Yeah, yeah definitely. So you know I thought I'd come in here today a bit haywire but feeling better, just had something to eat and going to let those ideas settle.
7. TH What felt a bit haywire?
8. PT Well one of the big things was that yesterday um, the Institute of Yyyyyy at XXX where I teach, contacted me and um, said we hope it's not too late but we want to offer you work for next semester. And that's three weeks from tonight. And my idea was that that's not on, haven't offered it to me and that's not going to play part of the next six months. And now I'm actually thinking well, actually yesterday when I got it I just wrote it off, I thought no, sorry, I'm moving on, but now I'm actually thinking well if I drop a day in private practice at XXX, I'm doing uni and that's a substantial amount of money to help me get through the next few months, so it actually could work out. I've emailed the uni and I said to them this is quite late notice and I have thought about going in a different direction, but if you can give me the dates and the semester break, then **maybe I can make it all work**. Because I, I make, even though I made it clear I want some time off in September and when we started first semester this year I was on annual leave from XXX and going in Thursday nights, and that wasn't cool because you know I was working on my holidays. So yeah, I've let that idea settle a bit and I've sent them an email and I'll see if they contact me today, they're closed tomorrow and they might get back to me Saturday or Monday and I've said I'll let you know my decision by early next week.
9. TH Okay. So it looked a bit different after you slept on it or something by the sound of it.
10. PT Yeah. Yeah actually I don't know what clicked over. I had a lunch with a friend today or brunch and um, like I think I told you my car was written off a few weeks ago, it was flooded, yeah, so I'm looking to buying a new car and I was thinking about getting the cheque back from the insurance and trying to add a bit more money in for myself and maybe borrowing some money off my brother or maybe getting a small loan, and thinking I'd spend \$15,000. And then I was talking to this friend and he was saying well why don't you get a loan for the whole amount and pay it off, and the case I've got from the cheque, I can pay off credit cards and just restructure my debt kind of situation. And that helped a lot just in terms of going well there's a different way to do things and I was going to settle on a very just cheap standard old car and maybe you know I'm only going up to \$20,000, I'm not going to go a \$40,000 car, but **I'm thinking well I could get something decent**, something actually quite nice.
11. TH You know are you feeling it would be worth committing to, to get something nice?
12. PT Mmm. Well it was also through another friend earlier in the week who had said well I've got X amount of thousands of dollars in credit cards and I'm already paying \$250 interest every month, so why not put it into a loan and where I'm not going to keep using the same amount of money in credit and the interest will keep being the amount it is – I'll pay off the loan and the interest will reduce over time. Sounds good.
13. TH Hmm. Looks like you've talked to people that have, that have been there before.

14. PT Yes, yeah people have had these ideas and, and I think sometimes I, just now that I'm talking about it, I take on a bit of my parents' way of doing things that they've had big business, they've had good cash flow and that's all I've seen, I haven't seen really people on a smaller income, budgeting and doing things slowly – where they've just had the money to spend whatever they want, whenever they want.
15. TH Well, it's a different situation but I guess the, the thing has been to get your head around your situation doesn't it and you know it's been quite important in relation to this car matter to be figuring a way that didn't depend on your parents simply forking out I think.
16. PT Mmm. And there's, and yeah I mean I thank them for that offer because they did offer, and now dad's come straight back and said I found out that you know there's this place in Vvvvv, this dealership that we know someone who knows someone and they can get you a good price and we'll go along with you and I said thanks for the suggestion but I've also got to do that myself, I may pursue that person, but I don't want dad to come along with me to the yard and see all the finances and know how much I spend and yeah. I mean **they tend to come over the top of me, so if I slow down** and say appreciate your help and this is the amount of help I'll accept off you if that's okay with you, then **that's good**.
17. TH Yeah, I guess it's you know it's **sort of creating a space for yourself** isn't it in a way and as opposed to getting overridden or bulldozed or something. It's not always easy to resist you know, there's a temptation to go down that path I guess, so in a way it would be an easy road to a new car or something perhaps.
18. PT Definitely. I was telling my aunty about it over dinner the other night and she was saying you know your parents will help you out, and I said I don't want that. And she said but look at your brother, he gets everything he wants through them. And I was saying well that's exactly it, that's where he ends up in problems because he doesn't do it for himself – you learn nothing when you don't do it by yourself. I mean yeah and it may be just a different system of doing things if their relationship works like that and he milks the cash cow and it works for him and it works for his future then fine, but yeah it doesn't work for me. So I guess it's interesting you know talking to a few different people, getting some bounce back, some maybe extra suggestions or guidance or whatever, it's actually allowing me to form my own ideas and both on the car and on private practice. Taking what I want from what they're giving me rather than doing what they say, hmm.
19. TH It seems to sort of you're bringing it closer to reality or something, I don't know the experience but you know the more you know the more you're prepared.
20. PT Well that model's much more directed at my position, my needs and fit in to what I want to do rather than found a model, my needs are less important and it's, this is how it looks and this is how it will be and this is what you will do.
21. TH Trying to fashion your model.
22. PT Mmm. Yeah and the **....rule has been**, go to Xxxx(island), **invest in a resort and have it go under** you know, I can still aim high but..
23. TH That was a big blow up for the family wasn't it.
24. PT And you know what maybe that would've been fine as a model but it was the fall out afterwards that they reacted, they reacted to that and they felt like they were drowning and they had to work even, they had to redouble their efforts to come back from it. XXX asked me last night whether I would've preferred my family to have failed at business and been able to be home and be more emotionally available versus them being financially secure and sacrificing the family's needs. I mean I think the first one was a bit extreme but I probably would've preferred less emphasis on success and like financial aspirations and because I think you know if you've got a core of a family operating well and people are, relationships are being built and secure and are warm, within appropriate limits then I think financial success can come after that, it can grow from that.
25. TH Mmm, it doesn't have to be one or the other maybe. But as you speak about that time though and there were doubled efforts and so on, it must have been a huge effort I guess. I wonder **whether that whole sense of things collapsing a bit** for everyone in the family it's a –
26. PT Yeah I think it did, I **think it was like weathering a storm, we all just battened down the hatches and went to battle stations** kind of thing. They you know went into **survival mode** which wasn't about grouping as a family; **it was about every man for themselves**.

27. *TH And in, you know in that sort of moment I guess you can feel that's the way things are sometimes and I don't know whether there's still that process going on of gradually relaxing or letting go of that survival mode.*
28. *PT Yeah, I think there is. Yeah and I mean there is a bit of a tendency for that like after I spoke to my friend at brunch today I called my accountant and this friend was also saying you know, try and do it through a business mode, whether it's photography or the private practice and lease the car and get tax deductions. And so afterwards I called my accountant and tried to get an appointment with her on Saturday and tried to have that help me form my decision about whether I go into the institute and keep working Thursday nights. And she wasn't available on Saturday, she said let's make next Thursday. So I couldn't rush her through. And I may have to make this decision about the Institute without having seen the accountant and without you know doing my own thinking really, doing my own structuring a little bit.*
29. *TH I think it's all of this sort of structuring and you know this, on the one hand the emphasis on doing it yourself and in your own way and getting help you know getting advice, but not really relying on someone else. The decision you know I guess it's also coming in the context of us coming up to a break as well and no I guess a sense of well sort of determination at the moment, to make a go of things or something.*
30. *PT I think what I like about it is that it no longer allows me to just sit back and have unnecessary anxiety or get depressed or definitely and giving myself space, but I'm not sinking into a space that's unhelpful. And I was thinking today or last night I feel like **I'm coming out of some sort of haze** that I've been in for a while. And maybe it's not so much about the haze just clears by itself but things are happening in my life to bring me out of the haze.*
31. *TH Things kind of emerge from a haze sometimes, don't they?*
32. *PT Yeah. Because it excites me that I'm having these very practical ideas and it's a bit scary because I wonder well you know am I going to overload myself again or am I going to underload myself, am I going to leave myself in a financial position that I can't quite carry through with, not having enough work, but having too many debts but –*
33. *TH That's a different thought isn't it, I mean you know I guess commonly there's this thought about overloading but I guess under-loading is a possibility isn't it, you know one reason why sometimes we don't do all we could or something.*
34. *PT Well and in a kind of way I did that last year when I started at XXX, I was working there three days a week and I had a photography business and that's all I was doing, and had my XXth birthday party and I spent a lot of money on that and I brought a \$5,000 camera at the end of last year and just don't think I had enough funds to support all of that. Had some relationship problems and low and behold I got to the end of the year and things crashed, things fell apart.*
35. *TH Well the kind of overloading in a way of maybe of spending, I don't know whether they're all things that at the time you valued quite a lot.*
36. *PT I think it's a case of too rapid expansion – like the camera could've kept going, my old camera, for another six months at least. So yeah, I mean I valued it but I had a camera already and like another example is I've got a guitar at the moment and I was planning to buy a new guitar, but with the car I won't put \$2,000 into an instrument when I've already got one. Maybe twelve months ago I would've gone yeah I can handle a new guitar and I handle a new car and a private practice and you can't know these things until you do them either. It's all about slow growth as well which is the opposite of too rapid expansion. With uni finishing last week and with no photography jobs on recently, I'm feeling a bit more relaxed and I, through the film festival and the world cup I'd not even thought about XXXX and dating and stuff but this week I thought okay I'll see what else is happening there and there's been a couple of contacts and one that looks okay, so I may email them when I get home tonight and say do you want to meet up on the weekend or...*
37. *TH There is a sense I think you know of building up to some of these things or you know maybe it's feeling like the right time or something like that.*
38. *PT But no-one could have told me it was the right time either which was the funny thing like – feel like the right time, I see it's the right time.*
39. *TH Yeah it'd be quite powerful that sense of you know now's the time for something to happen.*

40. *PT It's kind of like strike while the iron's hot but the striker has to be ready as well, it's not just about the iron.*
41. *TH .....when you say irons and strikers like the first image that came into my mind was of an iron, but I'm not sure that's what you meant at that time.*
42. *PT No. No, a much more violent iron. Whenever I picture strike when the iron's hot, I picture like one of those old fire stokers and it's got the pointy end on it and it's getting red hot and –*
43. *TH Ouch*
44. *PT Ouch, yeah. That's actually funny because I never actually thought about what is the iron, because I don't think it's a fire stoker anyway.*
45. *TH Well it seems to come up in relation to this, you know this possibility of connecting with someone and yet it's quite a hot image isn't it and let's just say in that image it's, when you say the striker would have to be ready too, again I'm not sure how ready one can be for something that hot necessarily.*
46. *PT Exactly. Yeah well I think for me it's just it's, and I've heard so much about the heat but it's almost like that you know and you refer to this dream about the weapons and the guns and stuff, and you know you can have a loaded weapon and it's dangerous but in the hands of the right person it's used properly.*
47. *TH Mmm maybe that's something to do with it here that you know in a sense the striker is the person holding the iron and you know I wonder if, as you say it's a bit like having a sense that you know having a loaded weapon in the sense of having your own power.*
48. *PT Hmm I'm just smiling because there are so many you know phallic parallels and shooting blanks versus shooting a loaded weapon and maybe it's the same thing, it's about being potent.*
49. *TH Are you know recognizing these things within you perhaps? I don't know that it's necessarily recognizing anything that wasn't already there, but it's like coming out of the haze.*
50. *Yeah it's kind of like every step of my career, if I waited for anyone to tell me you're ready for the next step, then wouldn't have come, but look at each stage, I kind of identify I need to move to the next thing and private practice is the next step for me.*
51. *TH It seems to be becoming much clearer.*
52. *PT Mmm. Yeah and I mean you can have these fantastical images or just these imagined images of what it all looks like but sitting down with a supervisor it's just like we'll start with four clients half a day a week like very simple. Who knows you might get one client at a time, you might get four all at once, but it's just about doing something small and measured and slow, one step at a time.*
53. *TH You can grow into something that moves at a liveable sort of pace.*
54. *PT Learning to walk before you can run.*
55. *TH Also the image that comes into my mind anyway when you were saying learn to walk before you can run, it's not just the walking and the running, it's maybe another thing that's important is the sense of moving towards something as opposed to walking away from something – experience both of those things but maybe more feeling we're in a sort of growth mode I think when we're moving towards something.*
56. *PT I just think of Danny Boy again, you know the hills are calling.*
57. *TH Are calling*
58. *PT To find your calling. I kind of never understood that term fully until now like when I found my calling.*
59. *TH It means something doesn't it, it's not, I think for a lot of people it would be hard to relate to as a young person, like not too many people are clear about their calling early in life and don't.. but um*
60. *PT Yeah and it doesn't have to be heroic or majestic, it can be what it is for you..*
61. *TH Absolutely. (Silence for about 2 mins)*
62. *PT .... to settle but nothing particular in my mind you know.*
63. *TH Well you know there's a sort of element of preparation in various ways you know in your life and making your own way as opposed to the family. Also as I said in terms of you know this is a significant break for us too and you know I imagine there's some mixed feelings but there seems to be some confidence as well it seems to me anyway.*
64. *PT Mmm. It doesn't seem to be going anywhere anytime soon.*
65. *TH Seems to be something that you're in touch with a bit more consistently.*

66. PT Mmm. Pre at least the last three months maybe if not more. I mean you know I think about the break and I think about the changes coming in my life. I do feel like the confidence will go there but I just **still have that fear** well it's almost **like a ship on the seas that's forging ahead, will a storm come along and divert it off course or hit it too hard** or, or what if it goes under or. They're not major fears but they're there.
67. TH There was a, **your comments remind of an image which is a Leunig image, you know Leunig, they've got the, it was a kind of sine wave you know. Look not too extreme, just a fairly sort of undulating you know he has one of his little figures placed at each peak and each trough and you know the really sort of sunny expression when they're at the peak and the expression at the trough. But you know it sort of seemed to be saying to me something about you know even with ups and downs you can kind of live within containable limits.** You know the kind of upheaval that you mentioned where your parents might have felt they were going under is you know more on the extreme sort of slope isn't it but uh mostly life isn't like that.
68. PT I think the fears of it being extreme, the childhood fears, so the younger fears, they don't mean to predominate I guess. Because I remember that you know the sine wave is my adult beliefs, I believe in that, I believe in ups and downs and weathering storms and coming back around, but yeah there's a fear that goes well no it can't be like that, always something has to go terribly wrong or you'll have .... or you know like.
69. TH Yeah, I mean the, then it's when the fear's sort of taking over a bit isn't it and yet often and not for any good reason, something from your childhood that you can let go of a little perhaps.
70. PT Well it's hard because that I know it's me doing this to me, but keeping myself in the family dynamic, the fear, and when I said whether the ship's going to get off course or go under, it's actually **the first thing that comes to mind is parents coming in and rocking the boat.**
71. TH You're working on that aren't you but I mean it's, as I've heard you say today, you know it's not as if you're alienating yourself from your parents, saying that you appreciate their gestures, but you want to do something for yourself and even the fact that your father comes back and has some further suggestions, you know suggests that he's not alienated I think.
72. PT Mmm. My fear is that though even if I do gentle separation, that they could come back and like I said redouble their efforts in terms of coming over me like.
73. TH So even though you know it's a bit like there's a kind of image that you carry there you know of you being little and the parents being big broadly speaking. Although I think there's another image there as well coming out of the haze perhaps but sort of what I call standing tall or something like that. Being big enough.
74. PT Maybe being big enough to see the storm coming and avert it as well. Because **I used to be defenceless**, even in my twenties, and **they would come over the top and I'd be wiped out** but it doesn't have to, I don't have to wait to that point where I get wiped out to intervene.
75. TH Mmm. **Defenceless – that's a vulnerable place to be** isn't it.
76. PT Mmm, well again I do that to myself if I overload myself with work and business ventures and my head will be spinning and I will be vulnerable to storms attacks. Maybe....with all of this is with starting my own private practice, I'll have to drop a day in where I am at the moment and I've got worries about well you know the boss and my supervisor who are a married couple, who run the business, how they'll react, how to try and make it go smoothly. Make it not feel like I'm jumping ship. I mean steal their business, steal business off them. But you know they're not my parents and they haven't ever reacted harshly, they've pretty much been wholeheartedly supportive.
77. TH And I imagine there would be normal sort of professional courtesies involved like not setting up next door or something.
78. PT Yeah and not stealing clients.
79. TH You know on the face of it, it doesn't sound like something there would be any real need to be defensive about, that is the wish to start your own practice.....nothing to do isn't it.
80. PT Yeah. Well yeah I thought that, I thought that you know my fears aside they might be quite happy for me. There's been a few of us psychologists talking about this potentiality in the last few months, so definitely have to feel like **they don't feel like we're all jumping ship** and we're all turning backs on them, we're going to pull the rug out from under their practice.
81. TH **Sort of image coming to me of navigating like this, navigating in a way.**

82. *PT So many oceanic metaphors today – boats and storms and jumping ships and navigating storms.*
83. *TH Even sure as storms have to be survived or got through, but even without storms you might still, might have to navigate.*
84. *PT Mmm, yeah. It's funny, I just had an image of the practice saw XXX being the big boat and little tug boats behind them following in their wake and, but then you know and it's also like mother duck and little ducklings and eventually you have to go off away from the pack, navigate away.*
85. *TH There's room.*
86. *PT Yeah it's a vast ocean, there's room for everyone (2 min silence). What's been helpful lately is that the people close to me like my cousin XXX and XXX, I mean XXX has always been this way, but people taking responsibility for their lives as well, not seeming to depend on me and you know drawing on me and my strength and my support to ....*
87. *TH Are we seeing a shift there?*
88. *PT Yeah, and XXX has been seeing a therapist for quite a while but only in the last months I've actually only felt like he's been able to release a bit of a grasp and if I haven't been able to do something, he's okay or even in conversations you know not having to be there wholeheartedly for him, because he can go on quite a bit my cousin, XXX. And then, XXX he's been couple counselling with his wife and the counsellor referred them, referred XXX to his own therapist and he's been seeing quite unhelpful therapists for quite a while so this person seems to be quite good. So that takes also a bit of pressure off our relationship.*
89. *TH So some hooks are loosening a bit.*
90. *PT Mmm, yeah.*
91. *TH Most of the images today of you know calling, a call to life in some way you think. Making it a space where XXX connects and believes in himself. Which, it's the calling on the one hand but also the letting go.*
92. *PT I don't know how long we've got left, have you got a few minutes because there's...*
93. *TH Got a few minutes, yeah.*
94. *PT Just thinking about letting go – XXX has come back onto the scene lately and we've been trying to communicate through emails and trying to mend our friendship a bit and she sent me this quite angry email at one point accusing me of a few different things and just sent me to a point where I'm like okay we're now in two totally different places, and I'm not going to wear that and it's time to let go you know. It's been nine months since she and I stopped talking and stopped really being friends and when I didn't invite her to my birthday party and we tried a number of different ways to reconvene and mend things, but anyway she texted me on the weekend and said I think we need to talk and I texted back and said well I don't think we need to talk, I think we should leave it there and she said fair enough and then the next day she texted again and said actually no I do think we need to talk and you know she eventually called me and I thought it was going to be to try and amend things, but she was pretty much like you know thanks for being there when you were in case we're not going to talk again. And I was, on that phone call I tried to go well why can't we mend things you know, we've been good friends before and anyway it just seemed to me she's not an emotionally available person and she was saying that herself so she's got other things on so ....*
95. *TH I mean it's confusing sometimes isn't it, I mean you've had feedback from other people that you know that they felt her interest in you was romantic and you didn't quite know where you stood. I mean these things are not even clear to ourselves necessarily..... but you were fairly clear that you didn't want it to be a romantic relationship.*
96. *PT Hm-mm. One of the things she accused me of is that she said XXX you've got this thought in your head that everyone either wants to screw you or fuck you. Yeah, I mean this person that she's totally projects everything I think and is very dissociative even from her own feelings, so. I mean I guess the main thing though is that when we said goodbye I didn't really have much to say, she was saying you know I've missed you and all the best and this kind of stuff. And I think I gave her a token I've missed you too but I haven't really missed her that much. And it's like the car, when the car got flooded, a loss, but not such a loss, not a big loss.*
97. *TH That was maybe what you needed or were looking for. You know in contrast when you talk as you did about meeting someone new, you know there is a sense of being ready for something but it's you know maybe not with XXX.*



98. *PT It was very funny, she, one of her comments during the phone call was that I'm able to talk with her about girly stuff more than her female friends. And she made a sarcastic comment about, not sarcastic, just humorous about you know being the best girlfriend I've ever had. And I hung up the phone thinking, I think she was saying you know implying she needs a girlfriend, she needs certainly a female friend who's at the same level and all this kind of stuff. And I went away thinking I need a girlfriend, thinking female friend first, but then I thought actually that's quite funny because I was probably looking for a girlfriend type thing with XXX without the sex, without the romance, but yeah I do need a girlfriend.*
99. *TH Well it sort of feels a bit like winding down at the moment and we'll need to finish in a couple of minutes so back the week beginning the 20<sup>th</sup> September, so the Thursday of that week would be 23<sup>rd</sup> I think.*
100. *PT Hmm-mm. I'm still, I probably won't know about my holidays in September until after you guys so ... to contact these guys.*
101. *TH Alright. Well I'll ring and check as to whether you're going to be there, we will be meeting over again next week as well just as the follow-up from today. So we agreed that be about 6 didn't we, just the normal time.*
102. *PT Hmm-mm, yeah that's fine. You know all the mixed feelings and feelings aside, it would be nice to have Thursdays a bit, a bit more open too....*
103. *TH Well I can see there's a kind of anticipation but it really doesn't seem to be too anxiety-laden so I'm looking forward here.*
104. *PT Mmm. And I guess....means that next week it won't be too much about therapy.*
105. *TH No, it'll be more just the follow-up from today.*
106. *PT Yeah, cool.*
107. *TH Alright XXX well we'll finish there and if you're okay to you know take the belt off and we'll stop now.*
108. *PT Yeah. Okay.*



## Appendix 5: Full transcript, Control 5

INT Hello [name].

SUB Hello [name].

INT Right, it's nice to see you today.

SUB Yes?

INT Yes and I'd suddenly like to get to know a little bit about you. (Hm) And I guess I already am aware that you're a psychologist and I wonder how you feel about your work nowadays?

SUB Mmm. Well I really enjoy what I do (Uh-huh) and I think I've been lucky to create where I am now in my work.

INT Hm. Hm.

SUB I sort of have been able to do pretty much everything that I think I wanted to do in my career. Really in many ways, yeah, so I feel very satisfied.

INT So - right, you consider yourself lucky?

SUB Pretty much.

INT Pretty much? Okay, okay.

SUB Yeah.

INT Right. So it sounds like the work kind of gives you a lot of meaning?

SUB Yeah it does (Hm-mm) it does, (Hm-mm) yes.

INT Right. And you've got future plans I gather?

SUB Well um, I, I guess I see myself as continuing with the current balance of things probably being as they are at least for another couple of years, I'm not sure beyond that. (Hm-mm). I guess one of the things that's interesting too about my time, at the moment, (Hm-mm) is I wonder sometimes if I'm saying no to things (Hm-mm) that in the past I would've done prematurely.

SUB Because sometimes I think, like the other night I was marking theses (Yes) and my husband came in and said, "Gee I hope that's the last theses you'll ever mark!" and I was thinking well it could be the last theses that I ever mark, I don't really have to do this anymore, I could just say no. And then I go through this thing of, you know am I saying no to things that might be hard to say yes to again or kind of thinking about later life sort of issues in your career you know? (Yes). And you begin to say no and hand things over to younger colleagues or whatever.

INT Right. Right, right. I guess sometimes we kind of feel a little bit in- of two minds isn't it. To say yes or no to something (Yeah) depending upon the time or what's happening around, what else you've got to do.

SUB Yeah, yeah.

INT But it sounds like you pretty much would like to sort of manage things yourself.

SUB Yeah and I actually like saying no [laugh] (Ah) because probably in the past I would've said a lot more yes's (Oh) than really I needed to.

INT Oh, right and you're happy about that? I gather.

SUB Mmm.

INT Okay. Okay.

SUB Yeah.

INT I wonder if you could tell me a little bit about your family.

SUB Okay.

INT Like you know what, did you have brothers and sisters and?

SUB I'm an only child. I grew up in rural Queensland.

- INT *Okay.*
- SUB *And I don't really have many peers in terms of my - you know cohort of people that I grew up with who are like me or that would reside in Sydney.*
- SUB *So a lot of my experience, which is interesting about being an only child, has always been to be different. So -*
- INT *Hm-mm, different?*
- SUB *To be different like growing up in a small country town it was very common to go to school and discover that other girls no longer were attending school, and when you asked why it was because they weren't allowed to (Okay) because they were going to get married one day (Oh) and had to work on a farm (Okay). It was like I think I was five when I told my parents I was going to university (Okay) and I just did.*
- INT *An education was obviously very important?*
- SUB *Mmm, mmm but very different at that time in my home town (yes) because almost to access anything, as was the case in rural XXXXX at that point in time and is still in some rural areas of Australia (Yes, yes), it's like everything is, can be enormously difficult.*
- INT *Yes. I think I understand because you're, what you're saying is that most other girls were earmarked to get married and they were eligible. SUB That's right.*
- INT *And so you were different and you pursued an education.*
- SUB *I was very different, I was very different.*
- INT *So that meant you had to travel? (Er-) or did you do home schooling or?*
- SUB *Well in effect it coincided with some family changes which were okay, but yes for a lot of my community really the going to university was part of a big dislocation*
- INT *Yes.*
- SUB *And what's curious is that that community at that point in time, like I, when I would've been growing up, would've been very much the community that one left. Whereas now it's a growing town, it's sort of like a cross between the Blue Mountains and the Hunter Valley (okay), so it's very vibrant, it's very alive, you can't find accommodation there on the weekend, there's festivals all the time, it's a very exciting placeand...*
- INT *Right.*
- SUB *Which would you know be very different to my memory of it and I have this story about a friend that I saw once, who sort of exemplifies this just needing to leave really, to have a life. And she told me once, you know I thought I was quite friendly with this girl and knew quite a lot about her growing up, that one day she just decided maybe she was about seventeen, she had to leave. She took the first bus that was coming out of town and it went to Melbourne. [Hm-mm] And I said to her, "Oh you know how come you decided you had to leave?" so in that, in that way? And then she told me this whole story of like alcoholism in her family and quite serious issues which growing up with her I had absolutely no idea of (Hm-mm) except I do recall that she used to go and spend a lot of time with this other friend.*
- INT *Hmm*
- SUB *And then I understood about that because probably at the time I used to be a bit jealous, but then I had a total other appreciation where I guess I thought I was pretty lucky I didn't have to leave like that.*
- INT *Yes, yes of course. (Hm) But when you talk about the vibrancy of the town now, I kind of get a sense of perhaps, and correct me if I'm wrong, but a sense of you know, 'I wish I didn't have to leave kind of thing?'*
- SUB *Yeah well it's, yeah which is really, really interesting that you should comment on that (Uh-huh) because I, when you speak of it that way it reminds me of my first visit to Italy when I visited where my grandparents and great-grandparents came from in the 1920s they left, and it was exactly that feeling. It was so beautiful (Okay). And it was the same kind of feeling.*
- SUB *And that might be a little bit of a theme in my life, now you know how you manage (yes, yes) these sorts of splits that happened from circumstantial reasons.*

INT *Yes, so it sounds like you take away the memory of the feeling and the vibrancy (mm) and the whole atmosphere.*

SUB *Mmm.*

INT *Mmm, would you go back and visit?]*

SUB *My home town?*

INT *Your home town.*

SUB *Well I have lots of relatives (Okay) and until last year my grandmother lived there. She died last year.*

INT *Oh I'm sorry to hear that.*

SUB *Yes. But um, she's the last of that generation who actually came from Italy (Uh-huh) um, so my parents were born in Australia and the remaining relatives were all born here. But I have you know my aunts and uncles and cousins, so a big family and plus lots of people that I went to school with who – yeah.*

INT *And your memories of your grandmother?*

SUB *My grandmother was very special to me.*

INT *Was she.*

SUB *Yeah, because I was the only grandchild for a long, long time (Okay). And the way in which we lived, the area that I'm talking about is very close to the border with New South Wales (yes) and a significant part was a railway line, like life seemed to revolve around the railway line because fruit and vegetables and things would be despatched to the market.*

INT *Yes.*

SUB *And I remember I used to live in one property and my grandmother used to live in another property, maybe half an hour walk, and we used to have to walk across a railway line, and what would happen is I'd go off with my mum and somewhere around the railway line we'd have a handover (okay) and my grandmother would meet me and then we'd walk through the paddocks and the fields.*

INT *They're very happy memories for you.*

SUB *And it was just, it was a very, very happy time, yeah, it was very, very, the sense of community, the sense of place and being part of something.*

SUB *It was very much a part of my upbringing.*

INT *Mmm, so from a very early age you decided that you were going to graduate, did you have any particular thoughts as to why you chose psychology?*

SUB *It's really quite weird (is it) in the sense that I was always reading sort of way ahead of really what my peers would read, but when I was about fifteen I used to read these English sort of magazines that used to somehow arrive in Australia, I don't even know why but my parents would let me buy them, and suddenly they did this series on psychology and I thought that was it (okay).*

SUB *But at the same time my parents really wanted me to do pharmacy (okay) and what's fascinating about that is that chemistry is the only exam I have ever failed. And it was just like I don't know, some message to them or some message to me that I was not going to do this.*

INT *Okay. And pharmacy, why pharmacy, was there -?*

SUB *They thought it was a good profession for a woman.*

INT *Okay, okay, hm-mm.*

SUB *Yeah, they thought that I would be happy doing that.*

INT *And where did you start psychology?*

SUB *At the University of Queensland.*

INT *Of Queensland, okay. And what are your memories of that time?*

- SUB *That was really, really tough - really, really tough because it was kind of, I had no peers, I had gone on from sort of being in the community where my place was really very clear and I was known because I could do this and I came from a family who was known for that, to suddenly just be you know in these lectures with a thousand other people (yes, yes) in a big city.*
- INT *Yes, yes. And you kind of think you're the only one who's feeling out of place and there may be*
- SUB *Of course, which everybody probably was but you know.*
- INT *But you just don't know about it.*
- SUB *Yeah. And you think well this is just how it's going to be.*
- INT *And were there any hobbies in particular that you pursued or?*
- SUB *Growing up?*
- INT *Yes growing up.*
- SUB *Um my main hobbies were around music and singing, that was really, really important in my life (Okay). And I had a very interesting music teacher and happened to be that my godfather had five children, three of whom, probably at that time would've been like amongst the most accomplished musicians for their age in Queensland.*
- SUB *So if you can imagine this group of children playing in the orchestra – we used to have all different kinds of performances, we used to sing at church, we used to sing at funerals – so it became like this group of largely girls, who would do all these things (okay), and I absolutely loved all that. I played the piano, I played - what else did I play – the double-bass (okay) in the orchestra (right, okay). And it was, like you can imagine in a country town where there's nothing, this kind of filled a lot for me.*
- INT *Right, so it must have been quite entertaining, sounds like you were quite accomplished.*
- SUB *It was entertaining and we'd have, yeah and we'd have like a sequence of different things that would happen each year.*
- INT *Right, did you have a name for your group?*
- SUB *Not, no I think we probably just had the school name, yeah, and sometimes we would enter in competitions and things like this, yeah.*
- INT *Okay. So it sounds like there was a lot of encouragement.*
- SUB *Yes, yes and I actually remember the first encouragement that I encountered at school which was once again I think part of being in this small country town thing – there was this teacher, her name was Mrs Phillips, and somehow she knew all of my family because she actually wrote a book, she wrote like a sort of a novel that was partly based on reality, but in it she described my different family members and so on, and I thought this was so amazing. But she was always wonderful, and I remember meeting her probably about twenty years afterwards when she was quite elderly, for a school reunion.*
- SUB *And I remember I was so excited because I was telling her you know I'm doing my PhD – that was kind of like, I don't know why I thought it was so important for her to know this. Yes, but she was always very, very good to me, yeah.*
- INT *Yeah. So she was an important person in your life.*
- SUB *Extremely important, yeah.*
- INT *Yes, yes and so letting her know that you know you'd accomplished things and you were looking forward to your PhD was very important.*
- SUB *Yeah, yeah.*
- INT *But sounds like even at home you had a lot of encouragement, you kind of–?*
- SUB *Well, I, yeah – I mean I think my parents are really quite exceptional people who appreciate my education through you know very particular experiences. My father's education was disrupted by the internment of his father and all of the male relatives of his side of the family during the Second World War.*
- SUB *So, basically he was the eldest and he had, he was no longer able to go to school. And these family members were basically in Cowra for three years until there was some agreement to*

*release them. So this was enormously disruptive to him and I think he, you know different things would have happened with his life, has this not happened.*

INT *Yes, yes.*

SUB *And really the same for my mum too, it's - there's a lot of trauma associated with these experiences that it's kind of a bit like an unwritten part of Australia's history, not much has been documented about it, largely all these people are now dead (Yes, yes). I know it's a very sensitive topic if I bring it up with my parents.*

INT *Yes, yes as it would be for that generation in quite a few families isn't it.*

SUB *Yeah. Well it's like you asked me about my grandmother and there's this defining moment in my grandmother's life when she had her fourth child, born while her husband was in the camp, so she was pregnant when she left. (Right) And there was no social security and she describes going to the police station with all of her children and saying we've got no money, we've got no food, what can you do?*

INT *Mmm, yes, so there were some very harsh times.*

SUB *Very harsh times.*

INT *Very hard times physically and mentally.*

SUB *Which I kind of referred to, do you know that book, 'Looking for Alibrandi'?*

INT *Yes. There's a movie made.*

SUB *That's right. Well the author's mother actually went to school with my mother.*

INT *Okay.*

SUB *And in that book she describes some of this time because she would've been part of this generation.*

INT *Of that experience, okay.*

SUB *So that's really you know one of the few places that I know this is kind of documented in any way even though that's a novel.*

INT *Mmm, yes, mmm. And what about your adult life – can you tell me a little bit about...*

SUB *Adult life, well now I think I'm so amazingly lucky to have two children who, as much as they're in their twenties and they're struggling with whatever they're struggling with, they're basically doing fine. And they are involved with pursuing fairly unusual things really for people of their age I think. My older son was selected to be a volunteer journalist - he's done journalism and worked with the ABC and SBS – on an ocean liner that is associated with a Japanese non-government organisation committed to peace and community work.*

SUB *And so he's on this journey of a hundred days around the world, going to twenty-six ports, starting in Yokohama, circumnavigating the world (Okay) and reporting on all of the activities. So they've been to a refugee camp in Jordan, they've worked on some kind of sustainable community in Poland, they've been to Russia you know (right). So that's what he's doing.*

INT *You're very proud of him.*

SUB *I'm very proud of him.*

INT *Yes, yes.*

SUB *And my younger son, when he was eighteen, he's into languages, so he speaks Italian, did Spanish for the HSC and came second in the State never having studied Spanish. He decided he wanted to learn Portuguese.*

SUB *So he went to work in an orphanage in the jungle in Brazil to learn Portuguese. So when we went to see him we were just kind of like shocked you know about where he had lived for nine months, because he would tell us about people twice his age who'd come for 24 hours after months, even years of preparation, couldn't hack it and had to leave. So he's currently completed his studies at a university in XXXXX and thinking about opening a school associated with the orphanage in YYYYY (okay). So it's this kind of emotional tug-of-war of them coming and going and airports and (yes, yes, true, which is true) which is quite hard.*

INT *It is, it would be quite hard.*

- SUB *Yeah. But you know this is kind of –*
- INT *This is I guess letting him go initially to the forests of YYYYY, work in an orphanage, yeah.*
- SUB *Absolutely, absolutely. But we went to visit and that was good. But one of the things that's interesting, I've sort of said no to, is continuing to meet them where they are in the world. And I've just decided for the moment I don't really want to. So they do invite me but I feel like it's actually quite disruptive to my life and that's just been something I kind of decided this year. Because I was almost going to go to ZZZZZ and VVVVV to be with my younger son (okay), but for various reasons and then also I just thought well you know I might travel with them or visit them, but it's not going to be at the moment.*
- INT *It sounds quite nice after your mothering days are over that you can kind of sit back and you know look after yourself and hear from them.*
- SUB *I know that they're basically (yes), it's really quite remarkable, they seem to be able to weave a cocoon of safety and protection, even though they can be in the most outlandish places. Like my son goes to Mexico, he only tells me when he comes back that I think two weeks after he arrived, two students were shot at the gate of the university, and that this resulted in the closure of a lot of programmes. He never said that to me. But he has this wonderful network of people in XXXXX that let him live in like luxury houses, barely knowing him and you know and now he's visiting people that he met at the university who aren't from XXXXX in different parts of the world. So they seem to have this capacity, like even this boat thing – my son being on the boat – like I said to him 'Okay what about the WWWW pirates?' And he goes oh mum, it's not going to happen. It really did happen.*
- SUB *The WWWW pirates did try and overpower the boat and then he described to me how organised the United Nations is, they were there in fifteen minutes, these people were you know in custody within half an hour.*
- INT *Yes. Well I guess you know this confidence has kind of been passed down, that he feels quite confident and he doesn't want to disrupt you, so he tells you after the fact. [Laugh] (Hm) Right, right, so both of them kind of keep you looking out for emails or the post or the telephone or-?*
- SUB *All.*
- INT *All of the-*
- SUB *I get these phone calls from my older son, because I don't know what's been your experience, but you know they can go through this phase where you know parents are over there somewhere and they're a bit irrelevant.*
- INT *Yes.*
- SUB *Whereas now we seem to be going through the phase of oh yes, I should ring mum, I'll ring my grandparents, I'll ring this one, that one. So you know it's funny sometimes because I'll just pick up the phone and it's like you know I'm in Le Havre in France and I go, "Okay." Another time I think that's right he was in Bergen in Norway the last phone call, and you know he usually chats to me for about half an hour, so it's really quite pleasant to pick up the phone, it just, he's at the other end.*
- INT *Yes, yes hearing about all his activities and pursuits and yes, yes. And when it comes in the middle of you you know writing your thesis or doing something you know really important?*
- SUB *How do I manage that – look I think at some level my sons do understand about that mum isn't always available.*
- INT *Okay.*
- SUB *And er, you know they're kind of, they're quite respectful of this (Are they) and I mean I'll often just have to say you know because I guess what was interesting about being a mum to my sons was that for a while I kind of just didn't recognise or really understand how bright they were or their capacities you know. And I suppose you know you kind of feel a bit guilty when you realise that their educational needs aren't being met through their school. So how their lives transformed once they met you know they got their challenge and kind of being secretly proud that they were in this other category, even though I just thought they were just average kids.*
- SUB *So yeah it's, it's been interesting because I'm just remembering this one time, because you're talking about disruption, I can't remember exactly where I was but I know I was at work, and I*



get this phone call from my son while he's doing his HSC year, but it's like he's having a panic attack, the only time I've seen him like this, and he's written the fifteenth version of his history assignment and he just said, "I have to go to SSSS University library and I have to go now." And I said, "That's it, fine, I'm coming, we're going." So I do remember that time (okay) and seeing him pacing up and down and oh he was in a really, really bad way. So I suppose they do know that when the going's really tough, they are number one, mmm, that's right.

INT And I guess having gone through exams yourself also that you can kind of put yourself in their shoes?

SUB Absolutely, absolutely, yeah.

INT So now it's not all just PhD is it, writing your PhD and focussing on your PhD?

SUB Not anymore, no, no because completing that was, was a huge sort of a saga (okay) that had many different points along the saga, but the last part that was very disruptive, because there was other things that happened as always happens, was a fire in our home.

INT Oh gosh.

SUB Hm. Which kind of meant I didn't really work on my PhD possibly for as long as maybe a year, because we were out of our home for four months and then this coincided with both the children going overseas – (name) going to the orphanage and (name) going to study in Bologna.

SUB So all of these things kind of had to be attended to and I felt like, (name) left in such traumatic circumstances because during that four months we lived in seven different houses, and didn't have access to our possessions for much of that time.

INT Must have been a very hard time.

SUB It was unbelievably difficult, but it was difficult for him because he just wanted to have his things so he could pack up to go overseas. So I think we moved back to our home something like two days before Christmas and he had to leave about the 20<sup>th</sup> of January. And we went to visit them I suppose as a kind of way of cheering ourselves up after all this tough time. So that was an unexpected turn of events.

INT Yes, yes surely you just don't expect something like that to happen, but sounds like you gave yourselves a treat afterwards.

SUB Yeah, yeah.

INT And in some ways recovered from it.

SUB Yeah and I think it's pretty much, it's kind of, it's gone now because for a long, long time – well we still have possessions in boxes because our entire world became probably this room full of boxes. And worse than the boxes is just like, especially my PhD papers that I would pick up and they'd be, they'd have all smoke damage around the edge and that was like the continual really awful stuff about this. Because actually what happened was my older son thought we were in the home and he drove home to find all the smoke billowing and it was a Monday night. But what had actually happened quite by you know unusual circumstance, we were invited to go to a charity film screening, so normally we would be at out on ...

SUB So yes we weren't there and so he was attempting to break into the home because he thought we'd become overpowered by the smoke. But he's very good with emergency situations, so I think the fire brigade was there like ten minutes after he arrived and they basically said the flames were just starting to lap up into the roof, and if somebody hadn't intervened at that point you know the whole house would've burned because once it goes to the rafters, that's pretty, there's not much they can do. So it was all very lucky and I think I can't even remember the last time when I picked up papers or even you know books that have got this signals of the fire.

SUB So we've probably thrown them all away or moved on or-

INT ... reminders, yes, yes.

SUB Yeah which is pretty good

SUB Oh that's right, because I remember it was my son's 21<sup>st</sup> birthday the week of the fire – so he didn't have his birthday, his party was actually his leaving to go to Italy party.

- INT *Okay. Right. So I wonder how you kind of spend your time – are there hobbies, interests that you have now?*
- SUB *Oh okay, well the fire created a series of cascading events around our home (okay). So we ended up with part of our home being renovated, which we didn't really plan but it only happened because of the fire. And the final stages of that have been to renovate the garden (okay).*
- SUB *So I do a lot of stuff in the garden, it's a huge kind of enterprise that's been going on for a long, long time, but at the moment it involves moving quite heavy broken up tiles and things that have to be put in the skip. So last weekend I would've spent about four hours doing this, so it's like aerobic exercise but not in a gym.*
- INT *And weight-lifting.*
- SUB *That's right, yeah, so and I absolutely, I love how our, how we can appreciate our garden now because it's very bright and sunny and for the first time really in many years I've got a veggie garden, and it reminds me of like how I grew up (yes you were talking about it, yes), yeah, we were always surrounded by things growing and it's an important link with my dad because my dad you know has all this incredible knowledge about how to make things grow, and my children appreciate the garden.*
- SUB *So we often just sit there even though it looks like a mess and our friends will say have you planted anything yet, and we'll go not really. And they'll say so what's happened, so look I don't think anybody else would notice, but we know that something's happened and you know we're really happy that we've done that.*
- INT *Yes, yes so you're not at all impatient?*
- SUB *I don't think, I think I've given up when I'm being impatient, I mean it's like what life brings around fire and whatever and you're at the mercy of what others will provide and how quickly they will work and. So we've had a lot of workmen helping, so we're kind of doing the final touches, but it's like the final touches have been going on since about March this year, yeah.*
- INT *I guess at times when there are other things that you know kind of take precedence.*
- SUB *Absolutely, like my son he came home for one month (okay), the younger one, so that was actually why I wasn't around here much because he was just home for a month after he had left last year in July. So doing things with him like going to Brazilian concerts and things like this, it was like going into this surreal life that lasted for a month and now he's gone and we go back to the rocks in the garden.*
- INT *Okay. So that's the sort of thing when you've got nothing else to do huh?*
- SUB *Mmm, yeah.*
- INT *You feel you need a little bit of exercise or fresh air.*
- SUB *Yep, yep, yep so our new goal really is to try and have something that might be noticeable to our older son who's going to come back in August (okay). So I think we will start planting soon, yes.*
- INT *Have the garden ready for him.*
- SUB *Bits of it, yeah, yeah.*
- INT *Well I guess each one has to have a little part to play isn't it.*
- SUB *Well that's right, that's right and that's just how it needs to be, how it needs to be. Sometimes I say this thing to my husband, it's like we've got so many things we could do, it's like we've got enough things to fill three life-times and you know we've only got so many years left, whatever they are, so it's kind of like just do what you could do because you can make lists and pages and pages of stuff and you know.*
- INT *So what's your pet subject now?*
- SUB *My pet subject in relation to -?*
- INT *Just in general what is it you like you know reading about or doing?*
- SUB *Oh okay – well reading has become important and I actually have a colleague who, she's somebody that I used to work with sort of from a distance but we'd collaborate on different*

projects and things. And last year she formed a reading group, like a book club. So I haven't, as a child I would often go out to people's houses and take like a pile of books like this and just read and read and read, which is pretty anti-social but I don't know why I'd do that, but anyway. So reading has come back into my life and I really enjoy the book club. And I had a very good conversation – because in the meantime I invited my sister-in-law who lived with us while she was looking for a place to buy for herself, to join. So we were having a very good discussion about some little things that have happened to the book club that we are finding different this year and I think it's really quite positive, because last year there was like a core, and this year there seems to be, at every meeting there's somebody new that we don't know. And just talking about how maybe now that it's almost halfway through the year, we should have a little conversation about consolidating how the second part of the year should be. So I suppose apart from the reading, thinking about relationships and friendships that will carry me through the next stage of my life, is what I devote energy to. And the lady who has organised this book club, she actually lives quite close by and we've started to form like a social relationship, and my husband really likes her which is you know and her husband. So it's actually quite a nice thing now (that's nice, yes) that we have these, this other couple that we can relate to and I figure the older you get, the more people you just want to play with (yes, yes). So I feel like I'm gathering the play friends again and you know people in the reading group are quite nice.

- INT Yes, yes. So I guess the reading group is also a nice way of meeting other people isn't it.
- SUB It is (yes), it is and kind of yeah like my sister-in-law, her close friend comes from Queensland, I don't exactly what part, but at the last book we were, the book that we read was about Arakoon which is a community, Aboriginal community near Weipa in Far North Queensland.
- SUB And her reading of that reminded her of when she was a country teacher in rural Queensland in the general area where I lived but even further west. So that was a really interesting connection because she was raising that and then it made me remember about how in my home town we'd have like these other species of people who were the teachers, apart from this one teacher because she was a resident of the town, and most of them would just come in –
- INT They were outsiders.
- SUB Yeah, been there for a while, we'd see them as very exotic and you know she was describing her experience of what it was like for her to do that from about the age of nineteen, how hard it was. So it was very interesting, it was quite a nice sharing.
- INT Yes, yes. So how do you all arrive at a decision as to what book you're going to read each time?
- SUB Oh okay well we've had, this is the book club's second year of existence, so I can't remember how we decided in the first year, but in December we actually had a meeting at my home and everybody submitted a few titles and then we put them in a hat and we drew out the names in the hat. And what was so interesting was that my choice was chosen for the first book to be read and that was 'Dreams of my Father,' Barack Obama. And I found that really very interesting, I don't know if you know that book?
- INT Yes, hm-mm.
- SUB Particularly the part where he describes his kind of cultural challenges and you know and kind of, I thought he had really quite an insightful analysis of black/white dynamics and kind of what goes on in people's minds, how to survive and dealing with patronising attitudes or yeah. So that was nice. And my son, told my son if you want to buy me a Christmas present that could be included and he did, yeah.
- INT Okay. I sense that you've got an interest in cultures?
- SUB Well yes because –
- INT You talked about Arakoon and Barak Obama and you mentioned a few things about your experiences.
- SUB Yeah it's really quite interesting because I mean growing up in my home town it was like a place of, a kind of an Anglo-Saxon community and then like this Italian community super-imposed upon it, which at that point in time would've probably been massive, whereas now it's kind of you know in the multi-cultural kind of way of Australia ... and it's neither here nor there. And when I first moved to New South Wales I probably never really encountered any other sort of significant cultural experiences. But I was so sort of overwhelmed by just being

*in Sydney, compared with my small town experiences, because you know there's a part of me that I still see as very much, I'm much better, a small town person (yes, yes). That's like go to the shop and there's a white dress and a red dress and that's enough choice thank you very much, not you know there's a level of clothes of that level and then there's another of whatever. And I think I would've looked pretty spaced out most of the time I was here, like in culture shock. And for the first time in my life people relate to me as if I didn't speak English and that was just such an interesting experience you know ... whoa. And Sydney being very multi-cultural, I don't know how long you've lived in Sydney, but at that time my work took me to you know experiences. I worked in community health in BBBB and I worked in community health in CCCC, which were you know BBBB was like please don't come and study us, you're the nineteenth study this year, we're over it, just do something for us.*

INT *So there was a certain amount of hostility about just studying and ...*

SUB *Yeah, yeah the researchers coming in and doing nothing. But I absolutely used to love being in BBBB because the community health centre was right in the down-town part and I can remember I could look out to the, I think it might've been roughly Yugoslav fish shop and see how long the queue was and time you know and then I would go out to buy my fish. Yeah, it was just, it was just lovely, I really liked it. And in CCCC that was just another really interesting experience because it was like that was my first encounter with Italians who had migrated here like thirty, forty years after my family. And I actually met a woman who has become like my closest friend, who one day sort of was talking to me and was asking me about myself or something, and she said I can't imagine that like when I arrived – because she was born in Italy and maybe came here when she was three – that when I arrived in Australia your family had already been here for thirty years.*

SUB *You know it's kind of like that's pretty out there for me.*

INT *... ancient.*

SUB *Yeah, it just was like you know 'how do you make sense of that?'*

INT *Okay, yes.*

SUB *And so I guess and coming into health at the time when multi-cultural policies first came into existence, and like that was very multi-cultural at that point in time you know, it was very different to what it is now. So it kind of propelled me to work in certain areas, and then I developed an association with the trans-cultural mental health service which went on for many, many years and I actually worked there for a while. But what's fascinating is that my children have this interest in culture, it's kind of like never forcing anything, you know that my son has enjoyed working at SBS and you know the other one well he's into languages and you know very comfortable moving across cultures. And almost it's like he's on Latin time – he comes back home and he says mum how come in Sydney when you say to people like let's go out, meaning in the next hour, they go I've got to go to work tomorrow, there's going to be this much traffic, you know ... organise this he says how can people be like that? You know well that's down-town Sydney life. So yeah, so kind of thinking about things in terms of the powerful influences that experiences from across the world and across the globe, and you know the fascinating people that I've met in my work. You know like the first time I met Jewish people from Scotland, the first time I met Catholic people from Scotland and thought this is really weird you know it's kind of because your stereotype is they're all going to be like this or whatever and you know, and it's about learning about yourself.*

INT *Certainly, yes. And I guess you learn a lot from people isn't it.*

SUB *Well it's interesting what you see because my husband's family is basically Scottish and English. And when I met his relatives I said do you know (name) your relatives just, they don't seem to be like, what I would expect Scottish to be. And it was actually only in say the last ten years that it was revealed that a particular line of his family, which we're the closest to, actually had an Italian grandfather who had to be kind of denounced and he had to agree to certain things to marry into the family, because he came into the family at the time of the second world war, and it just would have been (just not right) not right. And the implications now, because they've actually discovered where that family came from in Italy and some members of, are sort of in contact and another person's actually gone to visit the small town. And it kind of made sense to me because I thought these people are just so warm and so you know inter-personal space is very close and I just thought mmm there's got to be more to this and that's what it was.*

INT *Okay, so it was in the genes was it?*

SUB *It was in the genes, yeah, literally.*

INT *To some extent.*

SUB *But you know I'd known.*

INT *But now tell me what was your initial idea if you don't mind, your initial idea of what Scots – yeah, yeah?*

SUB *Scottish people might be like –*

INT *Or English people.*

SUB *Look because then I went to travel and I thought Scottish people were pretty friendly anyway you know the ones we met. I expected them to be a little bit more like the English but actually I don't think as a ?[49:33] they don't have that reserve really, they don't have that reserve. You know my son, my oldest son had an English girlfriend, her parents were from England, and I would have to say he probably went out with that girl for three years, and I could not upset the father more than if he could come to the door and I would say now [2nd son's name] would you like to come in. So we had three years of him never came in you know and it was always like the life was very circumscribed for that family, yes, so very kind of official and yeah.*

INT *Very reserved.*

SUB *Very reserved.*

INT *Yes, yes, mmm. Right. So I gather we've kind of covered quite number of areas of your life.*

SUB *We have.*

INT *Yes, yes. Does politics ever get talked about in the family?*

SUB *Well yes it does because I think having a son in journalism, and then the younger son, his actual area of study apart from languages, has been international relations and government and he's very interested in that kind of thing. So it can come up and one of the most shocking experiences for my sons was this particular occasion when we, because they're so interested in all these overseas things and coming backwards and forwards, we actually have, we were a part of a network with children who would you know live-in families in Australia.*

SUB *And we had this girl from a small place in MMMM.*

[INTERRUPTION]

INT *Okay, so sounds like we have to conclude our conversation.*

SUB *Yeah.*

INT *Thank you [name].*

SUB *Thank you [name].*

[END OF RECORDING – 51.45]



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