Personal Memories

Marina Trakas

Department of Cognitive Science, Macquarie University, Sydney, Australia

Institut Jean Nicod, Ecole des Hautes Etudes en Sciences Sociales, Paris, France

This thesis was submitted in conformity with the requirements of the co-tutelle agreement signed by both institutions for the degrees of

Doctor of Philosophy and Cognitive Science
Ecole des Hautes Etudes en Sciences Sociales
Paris, France

and

Doctor of Philosophy in Human Cognition & Brain Science
Department of Cognitive Science
Macquarie University
Sydney, Australia

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Supervisors:

Jérôme Dokic (Ecole des Hautes Etudes en Sciences Sociales)

John Sutton (Macquarie University)

Examiners at the Ecole des Hautes Etudes en Sciences Sociales :

Elizabeth Pacherie (Institut Jean Nicod)

Denis Perrin (Université de Grenoble)

Fabrice Teroni (Universität Bern)

Examiners at Macquarie University :

Jordi Fernandez (University of Adelaide)

Christopher Hoerl (University of Warwick)

Robert Hopkins (New York University)

ACKOWLEDGEMENTS

It is difficult –and maybe impossible– to acknowledge all the people who have made a real contribution to the realization of this thesis. Nonetheless, some names are very present in my mind and are unforgettable. Among them, my supervisor John Sutton deserves a special mention. I probably do not have words to describe all my gratitude for him. His encouragement, help and availability –even in hard times for me and for him– are proofs of his greatness as supervisor but also, and more importantly, as human being. I also thanks Jérôme Dokic for his trust during more than six years of academic life outside Argentina. Without him, I would probably not have started a doctoral program. I would finally like to thank Professor Amanda Barnier and Dr Stef Savanah for their help in the correction of the thesis, as well as all the examiners for their precious time and feedback, especially Professor Jordi Fernandez who wrote incisive and detailed comments.

Australia is far away in space and time, but it is difficult to forget the intellectually stimulating environment of the Department of Cognitive Science and of Macquarie University in general. Interdisciplinarity and work in teams and for the team are the *souvenirs* I have taken from the land of kangaroos and koalas. It is also difficult to forget the treasured friendship and help that Anke Snoek offered to me as well as the encouraging and optimistic character of Doris McIlwain.

This last year spent in France would have been more chaotic than it actually was without Belén Neira, Caroline Masselin, Zina Skandrani and Ramona Horvath who were my ‘logistical support’ in Paris, and the unconditional presence of my ‘adopted’ French family composed by Rémi Pelletier, Marie-Claude Gordi and Anne Pelletier. At the Institut Jean Nicod, Alejandro Murillo, Carlota Serrahima Balius, Coralie Dorsaz, Cornelius Maurer, Brice Bantegnie and Valeria Giardino made my routine days sunnier with shared lunches, philosophical and non-philosophical talks, smiles or just company.

My invaluable gratitude, as always, to the most unconditional beings in this world: my mother Olga Mattiuzzo, to whom I am ruining the holidays to finish this thesis, and my father Antonio Trakas who unfortunately will not be able to see his last wish come true.

And finally, because philosophers cannot live without words but cannot live only of words and ideas, I thank Macquarie University for sponsoring me for three years and covering all my expenses. The Ecole des Hautes Etudes en Sciences Sociales and the Institut Jean Nicod also funded some travels for conferences.

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INTRODUCTION

In this thesis I present an in depth analysis of a mental phenomenon widely neglected in current philosophical discussions: personal memories. Personal memory is the general term I use throughout this thesis to refer in a broad sense to all kinds of memories of our personal past. It is true that this broad notion includes memories that, according to this analysis, will prove to be very different, like the memory of the place where I left the keys yesterday night when I arrived home, the memory of the last wonderful trip to the beach, or the memory of the physical appearance of my dead father. Nonetheless, the indeterminacy of the term *personal memory* does not constitute a problem because it is precisely the aim of this thesis to analyse and determine with more precision the different memory phenomena that are at first sight united in referring to or including the rememberer in a way that is completely absent from the memory knowledge that we have about impersonal facts of the world. From this commonality arose the choice of the term *personal memories*, which was also guided by the intention of avoiding terminology used in the field that already has a strong or well-established connotation, such as episodic memory and autobiographical memory.

The analysis of personal memories that I undertake here constitutes a philosophical analysis. But it has been largely inspired by memory theories and memory concepts coming from cognitive science. So my approach is very interdisciplinary and many arguments are based on the current state of the art of scientific research. I explicitly chose this methodology because I firmly believe that nowadays philosophical debates about the mind are not fruitful if they ignore the research done in other academic fields about the same phenomenon. On the other hand, this eclecticism is also reflected in the kind of philosophy as well as philosophers that I mention and discuss: analytical philosophy, phenomenology, and some unclassified philosophers who have been widely forgotten parade along this thesis. At the origin of this approach there is also a strong belief in the importance of bringing together different philosophical traditions and recovering ideas consigned to oblivion, especially these days where the Anglo-Saxon philosophical way of thinking prevails all around the world.

The thesis is divided into two parts. The first part presents a general framework to better understand what personal memories are, how we access our personal past and what we access about our personal past.

Chapter 1 introduces traditional theories of memory. First, I present the direct realist theories of memory in all their versions: naïve direct realism, presentations, epistemological direct realism and the relational account of memory, as well as some of the objections they cannot account for. I conclude that none of the versions of direct realism can successfully respond to these problems mainly because they omit all reference to the subject's mental activity and are incompatible with the current state of the art in cognitive science. Second, I introduce representationalism in its naïve version and in its sophisticated version. If the naïve version also presents insurmountable problems, the sophisticated version that I defend, which is mainly due to Russell and especially Broad, seems to propose an account that can satisfactorily face the possible objections, especially because it is compatible with a naturalistic and scientific explanation of memory. This particular representationalist account of memory is based on the forgotten distinction between content, intentional object and ontological object of our memories, a distinction that it shows to be useful to better explain personal memory phenomena.

Once this distinction is in place, the next two chapters explore the possible contents of personal memories (chapter 2), and their possible intentional objects (chapter 3). At the beginning of Chapter 2 I take a more historical approach and explain what has been historically considered to be the content of our personal memories. If mental images, that is, picture-like representations, were thought to be the content of memories mostly until the beginning of the 20th century, with the rise of behaviorism and then cognitivism, this privileged role was taken over by propositions. Nonetheless, as I try to show in this chapter, the defence of the idea that there is only one kind of content of personal memory —images or propositions—seems to respond more to certain intellectual traditions than to a deep inquiry into the nature of our personal memory experiences. Current and scientific studies of personal memories point to a multimodal and heterogeneous nature of memory contents: visual imagery, spatial imagery, auditory, olfactory, gustatory and tactile imageries, language, emotion, each conveying a particular kind of information in personal memory, and each differing in neural bases as well as phenomenal and behavioral properties. I pay particular attention to David Rubin's model of personal memory and defend the idea that all non-linguistic content should be better considered as non-conceptual. At the end of the

chapter, I explore two kinds of possible contents of personal memories that are often neglected: embodied content and external content. In what concerns embodied content, I defend the idea that certain bodily movements that are cases of off-line embodied cognition are also examples of embodied memories. On the other hand, photographs and other kinds of records (audio, video and written records) also deserve to be considered as possible contents of our personal memories even though they are fully external and have an existence independent of the rememberer. And this is because of their nature: they are not only icons but also unmediated indexes of our personal past experiences.

Chapter 3 deals with the intentional objects that these heterogeneous contents allow us to remember. Because events are the kind of intentional object that has received most of the attention in the literature in philosophy as well as in cognitive science, I spend most of the chapter on their analysis. I first examine the philosophical discussion about the possibility of remembering events by themselves or just remembering facts about those past events. While philosophical discussions do not seem to provide a satisfactory resolution to this debate, psychological conceptualizations of the way in which we remember past events do, and also present a better account of the complexity that characterizes the past events that we can remember. These psychological conceptualizations correspond to the notion of episodic memory developed by Endel Tulving in its two versions, the contextual definition and the experiential definition, and to the notion of autobiographical memory mainly developed by Martin Conway. While the concept of episodic memory is still too narrow to account for all the ways in which we remember past events, models of autobiographical memory better explain how our personal memories can be directed towards events that have different levels of abstraction and that can go from those that are experience-near to those that are highly abstract and involve a period of our lives. Nonetheless recent empirical data suggest that different kinds of events have special particularities that make it difficult to conceive them only through the notions of episodic memory or autobiographical memory and thus that more philosophical as well as empirical research should be done in this direction. I end this section with a discussion of the dependence and interconnections between events as intentional objects, possible memory contents and their phenomenology. The last part of the chapter examines other possible intentional objects of our personal memories that have been in general neglected in philosophy as well as in cognitive science: memory of thoughts, imaginings, dreams, objects, people and places are briefly considered and analysed.

The second part of the thesis explores an aspect of our personal memories that is omitted in the first part: the senses in which our personal past is apprehended as personal. Thinking about the personal aspect of our memories implies thinking about the way in which the rememberer not only shapes his memories but also is in a certain way present in them. Whereas chapter 4 analyses the first point, chapter 5 and 6 focus on the second point through an analysis of our feelings and emotions.

Chapter 4 briefly examines the way in which the *self*, conceived in a broad sense, intervenes in the construction of our personal memories. Once again, it is probably Martin Conway who best explains how self-configurations and self-structures guided by their goals and search of meaning which are context-dependent determine the content of personal memories, that is, determine which information will be part of the personal memory that is finally remembered by the subject. This self, nonetheless, need not be a present self: past selves and self-structures also configure the content of personal memories, in healthy but also more pathological cases of personal memory. This explains the way in which personal memories are at the same time characterized by identity between the rememberer and the experiencer of what is being remembered but also by a difference. I finish this chapter by considering the senses in which personal memories may be reflexive: they may contain self-referenced information, or they may be memories where the subject can be the object of those memories. I suggest that this reflexivity should be analysed by considering the most subjective aspect of our memories, that is, our feelings and emotions.

In order to carry out this task, I focus in chapter 5 on the analysis of the interactions between personal memories and emotions. First I review the general conceptualization of the relationship between emotions and personal memories predominant in the literature. The general assumption is that because emotions and memory are two different kinds of mental capacities, if there is something of an emotional nature in a personal memory, this emotional component is a real and occurrent emotion and thus an external reaction to the memory. I call this the *natural thought*, not only because of its general acceptance in the literature, but also because it is at first sight highly intuitive. The natural thought is presented in two versions: for the causal version, the emotion experience related to a past event is caused by the memory of this event; whereas for the coexistence version, emotion and memory of the event are causally independent and just coexist at retrieval. I then show that most of the empirical research in cognitive psychology centering on the relationship between emotions and memory implicitly assumes the natural thought. In the second

section of this chapter, I review some different characterizations of the relationship between emotion and personal memories that have been outlined by some authors. The idea of *emotional colouration* outlined by the neuroscientists Joseph Ledoux and Hans Markowitsch, the notion of *affective memory* that was strongly defended especially by French philosophers and psychologists at the beginning of the 20th century, as well as some terms coming from the narrative explanations of memories given by Richard Wollheim and Peter Goldie, all point in the same direction: emotions seem to be intertwined with our personal memories and thus cannot be simply considered as a consequence of retrieval or a parallel and independent mental occurrence.

As I show in chapter 5, the two variants of the natural thought are not exempt from problems: whereas the coexistence thesis is empirically implausible in attempting to explain all the interactions between emotions and memory, the philosophical arguments in favour of the causal thesis are weak. What remains of the natural thought is just a highly intuitive idea, whose presuppositions need to be better explored. I undertake the exploration of the assumptions that lie behind the natural thought and the other different characterizations in chapter 6, in order to decide which one is more plausible. My evaluations lead me to assess that different conceptualizations about the nature of emotions and not about the nature of memories are those ones that explain the divergence between the natural thought and the other characterizations. While the natural thought is based on a conception of emotions as physiological changes, the other different characterizations are based on a conception of emotions as dynamic episodes with heterogeneous components. Nonetheless, the current state of the art in empirical as well as theoretical research in the field of emotions does not support the thesis that emotions are just physiological changes, but instead give a high accord to the idea that emotions have multiple components. This suggests that it is not the natural thought but the other characterizations based on more accurate assumptions about the nature of emotions that should be better explored to better understand the emotional and affective aspect of our personal memories and hence the sense in which our memories are reflexive. I end this chapter with the proposal of a framework to conceptualize the different ways in which a personal memory can have an affective and emotional aspect. For this purpose, I consider that even if emotions have heterogeneous components, the basis of what emotions and affects are is given through the notion of appraisal: emotions and affects are essentially relational because they are always about person-environment relationships, that is, they involve evaluations —that do not necessarily have to be conceptual or disembodied —of whether and how what is happening

in an encounter with the environment is harmful or beneficial for one's well-being or self-image. Taking into consideration this idea and further developments around the notion of appraisal, I conclude first, that sometimes this affective aspect is an occurrent emotion, but sometimes this affective aspect has the mark of the past and thus it is not experienced as an occurrent emotion; and second, that in some cases the emotion or the event-as-appraised is the intentional object of our memories whereas in other cases the affective or emotional component remains in the background of the memory experience. These differences suggests that personal memories are more or less reflexive and reflective, and thus, that they allow us to achieve different degrees of self-awareness.

The overall intention of this thesis is twofold. First, I aim to show to the philosophical community that there is still a lot to be said and discussed about memory as a mental phenomenon, not only to better understand memory but also to clarify debates that omit all reference to memory or just refer to it in superficial terms, such as debates about intentionality, phenomenology, mental content and emotions. And second, I intend to emphasize the importance of bringing into the philosophical discussions about the mind ideas coming from different philosophical traditions as well as ideas and empirical data coming from scientific research, especially when philosophy conceives itself as a field that can make real contributions to the understanding of the mind.

PART I: PERSONAL MEMORY REPRESENTATIONS, THEIR CONTENTS AND INTENTIONAL OBJECTS

There have been—and still are—different conceptualizations about the way in which we access our personal past. This first part proposes a specific framework to understand the nature of personal memories. Chapter 1 defends the idea that personal memories can only be conceived as representations of our personal past. Chapter 2 explores the different forms that these representations of our personal past can take in our mind, but also in our body and in the world. Finally, chapter 3 explains what these heterogeneous representations allow us to remember about our past.

CHAPTER 1: THEORIES OF PERSONAL MEMORIES: A DEFENCE OF REPRESENTATIONALISM

This chapter constitutes an introduction to different theories of memories that have been traditionally defended and their problems and possible solutions. First, I present direct realist theories of memory in all its versions: naïve direct realism, presentations, epistemological direct realism and relational account of memory, as well as some of the objections they cannot account for. I conclude that none of the versions of direct realism can successfully face these problems mainly because they omit all reference to the subject's mental activity and are incompatible with the current state of the art in the sciences of memory. Second, I introduce representationalism in its naïve version and in its sophisticated version. While the naïve version also presents insurmountable problems, the sophisticated version that I defend based on the distinction between ontological object, intentional object and content of memory seems to propose an account that can satisfactorily face the possible objections and provide a good theoretical framework to understand memory phenomena, and this is mainly because it is compatible with a naturalistic and scientific explanation of memory.

DIRECT REALISM

Naïve direct realism

The classical thesis of direct realism, a theory of memory which has been defended in its naïve version mostly before the cognitive revolution, is that in a memory, we are directly aware of the past event without the need of any intentional intermediary, that is, without the need of a mental representation of the past event. The main motivation for direct realism is to account for the possibility of gaining knowledge about things and events that are no longer directly experienced (Broad, 1925).

Thomas Reid (1785) was the first to defend a direct realist account of memory. For him, memory is a basic, not derived faculty that gives us immediate knowledge of the past. He distinguishes two aspects of our memories: the act of remembering that is present and

the thing remembered that is something in the past and is the object of memory. In the same vein, Russell (1912) adopted the same theory in *The Problems of Philosophy*: memory gives us knowledge by acquaintance, that is, immediate knowledge that does not require any intermediary, any inference or any knowledge of truths, and because of this it constitutes the foundation of all our inferential knowledge from the past. So for Russell (1912), in this book, images cannot be what constitute memory because "the essence of memory is (…) constituted (…) by having immediately before the mind an object which is recognized as past" (p. 54). Alexander (1916-1918) also defended an immediate acquaintance with the past in this naïve version, as well as Laird (1920): "memory does not mean the existence of present representatives of past things. It is the mind's awareness of past things themselves" (p. 56), a power to return again and again to the same event. Earle (1956) explains that even though memory is a sort of relation between two acts of consciousness, i.e. the present memory act and the past act of awareness, in memory the attention is focused on the content of the past act of awareness and not on the past experience itself, in a way that the past experience of the object becomes invisible leaving to memory the explicit event itself. Therefore, for naïve direct realists, memory is a sort of second perception: if perception allows us to have direct acquaintance with the present, memory allows us to have direct acquaintance with the past and thus to have knowledge about the past, in the same way as perception allows us to have knowledge about the present. The difference between perception and memory becomes thus a difference of degree: "the difference between perception and memory as regards Naïve Realism is surely one of emphasis only. It is not that a perceptual judgment is naïvely realistic, while a memory judgment in itself is not; it is rather that, normally at any rate, the contents of the present impinge on us much more forcibly than the contents of the past, and that the prime function of memory is to play second fiddle to perception" (Woozley, 1949, p. 55).

Objections

Direct realism in this naïve version is problematic. Direct realism has to adopt problematic conceptualizations or about causation or about time. It also implicitly adopts a conservative —and also questionable—conception about the nature of the self and its role played in a memory experience. While these objections have an ontological nature, direct realism also faces significant epistemological objections: they fail to account for fallibility and change in memory as well as to give a criterion to distinguish memory from perceptions

and explain the pastness of this direct apprehension of the past that is memory. I next review each one of these objections and attribute to them a letter and a label, because they will be mentioned again later in the chapter.

a) Nature of causation: Memory implies awareness of something that is commonly considered as having ceased to exist. Except in a few cases like stars where there is a physical explanation of how something that does not exist anymore can continue acting in our perceptual field, for past events or people who are not occurrently present in our perceptual environment, it is necessary to explain how something that is commonly considered as having ceased to exist or as not being occurrently present can still continue acting in a way that makes us aware of it. This question rises an important problem for direct realism and constitutes its standard objection. A direct realist can try to face this problem through two alternatives. The first alternative, which is conceived by the standard version of direct realism, proposes the notion of mnemic causation, that is, the idea that there can be a temporal gap between cause and effect, in this case, between the past event and the memory (Earle, 1956; Sutton, 1998). According to Russell, the activity theory of causation, that is, the conception that a cause is a sort of activity and so it has to be contiguous to the effect, is not necessarily a good explanation of causation or has to be necessarily taken for granted. Nothing forbids that action at a distance can be possible: if two events or things are separated in time and space they need not necessarily remain indifferent to one another. Nonetheless, even if we can agree with Russell that the activity theory of causation need not be simply presupposed, the problem about mnemic causation is the way in which it positively conceives causation. In mnemic causation theory, the connection between the effect and the cause could only be conceived as what Russell—according to Broad (1925)—has called a "regular sequence" and which is defined as: " By saying that C causes E, on this view, we simply mean that C is a set of conditions c1, c2, … cn, such that (a) whenever they are fulfilled E happens, and (b) whenever E happens they have all been fulfilled " (Broad, 1925, p. 452). The condition (a) clearly does not work for the case of memory, except if it is reformulated as "E could happen", but it would be uninteresting and lose its character of necessary condition. On the other side, the main premise (b) could be reformulated in terms of what is nowadays known as a counterfactual causation: "If S had not represented x in the past, he could not represent x in the present". However, a counterfactual explanation of memory does not constitute a causal explanation of memory: counterfactual statements are a broader category that includes causal statements but also includes other kinds of dependence relations that are clearly not causal.

The counterfactual "If the strawberries had not been red at t_1, they would not be red at t_2" differs in meaning from the causal statement "the strawberries are red at t_2 because they were red at t_1", because in fact it does not assert a causal relation but just indicates that nothing has changed from t_1 to t_2 (Squires, 1969; Bernecker, 2008, 2010). Malcolm (1963) has even argued that *because* statements do not even express a causal connection but have an essentially negative function. Therefore, even if I do not pretend to give an exhaustive argument against counterfactuals and mnemic causation, it seems that mnemic causation does not give a satisfactory explanation of how something that is commonly considered as having ceased to exist can still continue acting on us in the present in order for us to be aware of it. A second alternative that direct realists can adopt is to defend the idea that something that does not exist anymore can still have causal power in the present through mental traces, that is, through causal intermediaries, without this denying that in a memory experience we are directly aware of the past event and not of a representation of the past event. Because this second alternative has been more recently developed and had not been considered by classic direct realist authors, I will analyse it when dealing with current versions of direct realism (relational account of memory).

b) Nature of time and existence: Direct realism is also tied to certain conceptions of time and existence. One option is for the direct realist to assume an eternalist conception of time. This is the view that objects from past and future exist as much as do present objects. If direct realists were to adopt this view, they would need to better explore the consequences that result from stating that what we remember is something real in the same way as something that we perceive. Because if they do not, they would be implicitly assuming the counterintuitive and unscientific conceptualization that there is no substantial difference between a perceptual experience and a memory experience. Another option consists of considering, as Earle (1956) does, that there is no single mode of existence but there are different dimensions of being. Because the past is subject to true propositions, Earle concludes that it has to have its own mode of existence. Earle conceives the past as what "it once was and now it is no longer, hence it is not present; it is what once was, a determinate something, hence it is not nothing; it once was but now is gone, hence it is not eternal" (p. 24). Nonetheless, Earle does define the past by its negative attributes without giving any positive account of its mode of existence. Besides, it should still be explained how the particular mode of existence of the past that makes it different from the present and the future—and thus because it is not present causation such as in perception is

dismissed—can produce in us a memory of it, which would lead us to objection (a). That is, it should be explained how something that has a different mode of existence than the present can still be directly apprehended as if it was present.

c) Nature of the self: In direct realist accounts of memory, there are two assumptions about the self. The first is that the self is completely absent in the memory content: we are aware of the past event itself, and so neither the self experiencing it nor the experience itself are part of the object of memory. In Earle's (1956) words, the experience of the event—and I would add: the past experiencer himself—becomes invisible, leaving only in memory the bare event by itself. Stating that in memory we can access the experience of an event would imply assuming that there is a difference between the past event itself, as it is independently of our experience, and our experience of it, which is mediated by sense data. It would thus imply assuming that in memory we access the world events only *indirectly*, through our past experience, that is, through our past sense data. And this is clearly incompatible with a direct realist account of memory which can exclusively be founded on a direct realist account of perception. What is more, the suppression of the experience and the self entails that in memory there is no subjective aspect of the experience of the past event which is part of its content; it is as if the past event would impose itself on the subject, who would have a completely passive and so 'transparent' role in the memory experience. The second assumption, which has a metaphysical character, is that the self has to remain identical through time in order to recognize that the past event that I remember happened to me (Earle, 1956): if the self can change through time, the possibility for the present self to access directly the object of an experience of a former and different self becomes difficult to conceive. Wiggins (1992), discussing the possibility of subtracting the requirement of identity from the notion of experiential memory, states that there is an indissoluble link between the immediacy of memory and the egocentricity, in a way that if the rememberer and the past experiencer are not the same, experiential memory could not retain this direct cognitive link with the past and would not be different from testimony. And this is why direct realism would be incompatible with the notion of q-memory (Shoemaker, 1970), that is, memories that do not presuppose identity between the experiencer and the rememberer. On the one hand, if person A experienced event x and then this memory passed to person B, B would not have a direct contact with event x because he would know his memory of event x would be the memory of how A perceived and was affected by event x. In this case, it is clear that the q-memory could not be different from information received through

testimony. On other hand, if B does not know that his memory of event x was the memory of A and he believes he directly experienced event x, he would have a false memory and thus a direct contact with the past event x would not be at all possible. Thus it seems the identity and unity of the self constitute the basic foundation of direct access to past objects. If these two remarks do not constitute definitive objections, they do constitute strong assumptions about the nature of the self in memory that are quite radical and conservative. As I try to show later in the chapter, but especially in the second part of this thesis, there are other better and more accurate ways of conceiving the complex relations between self and memory.

d) Fallibility and change of memory: Direct realism presents serious problems explaining why an event can be differently but accurately remembered in distinct occasions, why our overall accurate memories can present inaccurate details and why we can have completely false memories that are similar to truthful ones. First, there seems to be qualitative differences between a mind-independent event (in this case a past event) and the event as remembered; an event as remembered can change its intrinsic qualities through time, for example, it can lose details but it can also acquire new qualities, whereas it would be odd to conceive that the past event itself can suffer the same sort of changes (1925, Broad). It is difficult to explain why having direct access to past events we do not always remember past events in exactly the same way. Secondly, an event as remembered can also acquire inaccurate properties, that is, properties that do not belong to the past event itself. However, direct realism not only cannot explain how it is possible to remember the same past event differently on different occasions, but also how it is possible to inaccurately remember a past event if we always have an immediate access to it. Third, it also has problems explaining cases of completely false memories. This objection is the counterpart for memory of the famous arguments from illusion and hallucination that trouble perceptual theories. A direct realist could endorse a disjunctive theory of memory and argue that accurate memories and memory hallucinations and illusions are occurrences of very different kinds. He could argue that memory hallucinations and inaccurate memories have no object at all, or that their objects are fictional mental entities, products of our imagination, combined with the erroneous judgment that what is imagined is in fact an event of my past (Earle, 1956). However, a direct realist would have two major issues. On one hand, he should explain how false memories—that would differ in nature from truthful memories—have the same or very similar phenomenology to true memories. On the other

hand, he should justify why intentional intermediaries play an explanatory role to account for our awareness of fictional entities while it plays no role at all in our awareness of past events. I will come back again to the problems presented by disjunctivism when dealing with current versions of direct realism (relational account of memory). In any case, the same two problems would be applicable for the case of partially inaccurate memories. First, inaccurate memories can have a similar phenomenology than completely accurate memories. And second, when we remember something partially inaccurate, it is evident that we are not immediately aware of the past event and its properties but neither are we aware of just a fictional entity or have an experience with no object. The two responses to this last objection that have been outlined are that we are always in contact with original objects but sometimes we muddle them (Woozley, 1949), or that sometimes a core of genuine memory is overladen with additions from other memories or from imagination (Earle, 1956). These responses clearly make reference to processes carried out by the subject's mind. This again leads us to ask why the mind does not play any explanatory role in the case of accurate memories but needs to be invoked to explain changes, inaccuracies and falseness in memory.

e) Distinction with perception: Direct realism fails to give a criterion to distinguish between immediate acquaintance in perception and immediate acquaintance in memory, rendering indistinguishable the ways in which we gain knowledge through perception and through memory, and ultimately, between perception and memory. The only possible difference that a direct realist can enunciate is that memory is a fainter perception of the object, in the sense of being less intense and determinate or more vague and less detailed. Therefore, direct realism would lead us to the conclusion that there is at the most a difference of degree between memory and perception, but not a difference in kind. Unless we want to accept and assert this counterintuitive and unscientific position, the direct realist needs to give us more explanations about the way in which the direct contact with reality differs in the case of memory and perception.

f) Memory marker: Direct realism has two options to explain how the object bears the mark of the past. It can presuppose that the pastness of the object is an intrinsic property of the object, so it is possible to recognize it in the same way we recognize the redness of a sensum. The problem is that the idea that the pastness is an intrinsic feature of the object implies that memory does not have access to the same object as perception, because the memory's object has an additional characteristic that was not present in the perceptual

object. This clearly calls into question the same basis of direct realism and the sense in which memory has a direct access to an object that is different from the original one. Another possibility consists on defending that the pastness is extrinsic to the past object or event. It could be a characteristic of the mode remembering, as Earle (1956) considers, or even an independent and additional belief. For Earle, for example, memory includes two acts of awareness: the direct awareness of the object of the past experience and a lateral or implicit awareness that this object is an object once experienced. But an explanation of this sort risks being at odds with direct realism: in this case, the access to the past object in fact seems to be mediated by this second act of awareness. Without this second act of awareness or an additional belief about the pastness of the object, the object accessed could not be a past object; it could be the object of an imaginative act, for example. The idea that a second act of awareness or an additional belief is necessary in order to be aware of an object as a *past* object clearly questions the idea that in memory we are in immediate contact with the past object in a single act.

While the first three objections (a-c) show that direct realism makes strong assumptions that are controversial and need further justification, and the next three (d-f) cast real doubts on the explanatory power of a direct realist account of memory, direct realism presents a more general problem as an overall project to account for memory. Direct realism in fact only *states* that we can have knowledge of past events through a direct contact with the past but does not *explain* how it is possible for us to have a mental disposition or a capacity that allows us to directly apprehend past events. And this is because it offers an account of memory which considers as irrelevant any explanation which appeals to the mental and to the activity of the subject's mind. Criticizing Price, Wright (in Price, Laird & Wright, 1936) already remarked that "this conveniently waives every problem about the nature, the apparatus of retaining and reviving, and how what is retained, and why what is retained, so completely changes its nature and yet can be read as a direction sign by the mind which is using it" (p. 58). In conclusion, direct realism does not really explain memory, because it only conceptualizes memory in negative terms: as a rejection of its representational character. Without any positive characterization, memory from a direct realist point of view is conceived as Bernecker states (2008, p. 35) as a sort of magical process, that would not be different from telepathy and clairvoyance. I will refer to this last general objection pointing to the main failure of the direct realist project as (g): the omission of all reference to the subject's mind and current cognitive activity and

processes, such that no real explanation of memory as a mental phenomenon is offered. I will examine later, when developing more recent direct realist accounts of memory such as the relational theory of memory, whether direct realism is compatible with a cognitive explanation about the way in which our mind remembers.

Other non- naïve forms of direct realism

If the basic form of direct realism can be called *naïve* in the sense that it simply states that we have immediate access to a determinate past without giving any other explanation, there have been some other less naïve and more sophisticated direct realist accounts of memory.

Presentations:

Although in *A Manual of Philosophy* Stout (1924) conceived memory as a mere reproduction of the past event that does not involved any sort of transformation, in a collection of articles published in 1930 he admitted that the retained content need not to be identical with the original content (1927), because what really unites original and retained content is their connection within a single identity: both are in fact successive stages in the history of the same thing. So for Stout, in memory we are aware not of the past event itself but of presentations of the past event. This conceptualization had been developed more in depth in another article of the same collection (1911) which is focused on the analysis of knowledge in general. For Stout, in all relation of knowledge there is not only an *object* and an *act*, that is, a mode in which we are conscious of an object, but also a particular *presentation* of the object[1]. If the object constitutes the reference of the memory but is never actually experienced, a presentation of the object is a modification of the subject's experience that is a product of the manifestation of the object to the subject's consciousness. Therefore, for Stout objects can only be known in their relation to presentations. These presentations, that are always fragmentary and incomplete, can be images or propositions. However, these images and propositions are not conceived as representations of the object but as real presentations of the object: this means that not only the presentation, the object

[1] And it is precisely the absence of distinction between object and presentation about which Stout (1911) criticizes Brentano (p. 355).

and their relatedness are known immediately, in only one apprehension, but also that this apprehension of the presented object is in some variable degree an apprehension of the intrinsic nature of the object. Woozley (1949) is of the same opinion: even though he recognizes that the contents of memory are images, images do not have to be conceived as things with existence numerically distinct from the thing remembered, but as a particular way in which the object appears and presents to the subject when it enters into a memory situation. Laird (in Price, Laird & Wright, 1936) synthesizes this conception as follows: the memory-data are not conceived as fainter versions of the sense-data, but both of them are part of the past event itself without the need of being identical: "the event sensed at time t_1 by a subject S could be remembered at a later time t_2 by that same subject S, although the total event was not exhausted in either apprehension" (p. 39). More recently, Wilcox & Katz (1981) defended a similar conception but without invoking any sort of presentation. For them, memory is a sort of perception or apprehension of an event, because events are considered as sequential structures whose parts deploy or reveal in time: "memory is not the resurrection of a stored mental representation; it is rather the name we give to the apprehension of sequential structure. What exists is no longer confined to the present, but extends backward as part of a structure whose unique characteristic is that it is revealed in sequence. In essence, memory may be understood as the apprehension of an unfolding environment in which the past affects the present and the present affects the past" (p. 235).

This conceptualization of direct realism is clearly more sophisticated than the naïve version; what is more, it inverts the relation between the rememberer and the past: it is not the rememberer who directly accesses the past but it is the past which presents itself to the rememberer. It also draws on a metaphysical idea (assumption a) about the existence of past things: objects and events seem to have different modes of being according to their temporal properties (similar to Earle, 1956) or to unfold in time (Wilcox & Katz, 1981). But what differentiates this conceptualization from the naïve form, it is that the way in which it is formulated permits a conception of the past not as a definite reality prior to memory but as a reality with a certain degree of indeterminacy (similar to Hacking's, 1995). This is what allows us to consider the different apprehensions of the past as real presentations or sequences of the past event or object, without the requirement of identity between the original presentation and the memory ones—which in a certain way anticipates a defence of memory as a generative epistemic source (particularly Martin 1992; Lackey,

2005)[2]. And this is also what allows Stout to state that in remembering, our knowledge of the past is always immediate—in the sense of being non-inferential and non-representative—without being actually and immediately experienced, as happens in perception.

Although the emphasis on the indeterminacy of the past is a promising idea to explain the change and transformation of our episodic and autobiographical memories, Stout's emphasis on the non-representational aspect of these presentations makes his account susceptible to the same objections that the naïve direct realism faces. Despite his acknowledgement that in memory the past occurrence is presented to the subject through images and propositions, in these images and propositions there is nothing subjective (assumption c): it is the past object or event which imposes itself to the subject in a different mode of being from a present object or event, but it is not certainly the particular way or form in which the subject accesses the object which defines memory. That is why Stout's account cannot explain how these presentations can sometimes be inaccurate and sometimes be taken as presentations when they are not (objection d); what characterizes the presentations of objects and events as past that allow us to recognize these images and propositions as presentations of a past occurrence (objection f); or in which sense it is possible for the past to causally affect us and thus present itself in our consciousness if it is not occurrent (assumption a). Concerning objection e, Stout would reply that even if both perception and memory are directly acquainted with their objects, in memory the object is not immediately experienced as it happens in perception. However, the idea of not being immediately experienced would need further explanation, because in memory there is certainly an experience of something that the subject is undergoing and, if there is no representation of the object, it seems difficult to conceive the sense in which the experience would be *mediated*. What is more, in Stout's account, the idea that in only a single act we apprehend the presentation, the object and their relatedness seems to be in tension with the idea that we are directly acquainted with the object.

[2] It is worth noting that Laird (in Price, Laird & Wright, 1936) already mentioned the famous example about memory that Martin (1992) used to argue against perceptual conceptualism and conceptual intentionality: "what is usually held to be a requirement of memory, viz., that we can remember that only which we have formerly observed is a general statement that cannot accurately be applied to every point of detail. There are numerous instances (…) in which it would seem that we can remember more accurately than we originally perceived. We noticed, e.g., that Brown was wearing a dark suit with a faint stripe. With an effort we may be able to remember more about the stripe and the colour and the cut of the suit than there is any reason to suppose that we noticed at the time" (1936, p. 40)

In synthesis, Stout's direct realist theory of memory leaves space for the possibility of having a memory that does not necessarily have to be identical to the past perception and for the possibility of having different accurate memories of the same object that does not necessarily have to be identical between them. Nonetheless, Stout does not provide a good account of memory phenomena for the same reason that direct realism fails as a general project: the omission of any sort of explanation that appeals to the subject's mind and cognitive activity (objection g).

Epistemological direct realism

As I mentioned at the beginning of this section, one of the main reasons for the debate between direct realists and representationalists is probably an epistemological concern: the explanation of our knowledge about the past. While the metaphysical version of direct realism justifies knowledge of our past by stating that we are immediately in contact with past events and objects, it is also possible to defend a lighter version of direct realism that avoids the objections regarding problematic metaphysical assumptions. Such is the case with the epistemological version of direct realism, which only states that memory provides us with epistemologically basic beliefs about the past, that is, with beliefs whose justification is automatic and does not require any other proposition as warrant or any inference because they are directly based on the past experience of the subject. Stout (1927) argued that concerning memory knowledge, the notion of *immediate* could only be understood when the evidence, in this case the past event, supports the memory directly and not through supporting some other memory premises from which the memory in question would be inferred. This is what properly deserves to be called memory knowledge and what constitutes the source for verifying and refuting memory beliefs, and this is what finally makes our memory reliable. For Price (in Price, Laird and Wright, 1936)[3] the unmediated character of these memories entails their infallibility, whereas for more contemporary authors it certainly does not (like Wiggins, 1992).

[3] For Price the fact that some memory judgments do not have to be verified is finally an assumption we are forced to make based on their recency, vividness and consistency. This assumption is considered by Price necessary because in fact even the more basic memories rely on generalizations about how our mind and world works that are finally only knowable by memory, so it constitutes the only way to guarantee the possibility to have knowledge about the past and so to trust memory.

However, even though it is clear that this version is more viable and does not face the objections that arise from the metaphysical assumptions about causation, time and existence (a-b), it implicitly assumes a conservative notion of the self in relation to memory (c), and faces the other epistemological objections: it does not explain how we can have partially or completely inaccurate memory beliefs (d); in which sense these beliefs about the past differ from perceptual beliefs (e); how we know that we are aware of a belief about the past that is automatically justified and not just a product of our imagination, or a result of an inference (f); and finally, it does not explain either how we form these memory-beliefs, that is, how we have the capacity to be directly acquainted with the same past event or object time and time again (g). What is more, an epistemological version of direct realism would be committed to an epistemic theory of memory, that is, to the idea that remembering a past event consists of occupying a state of knowledge and that this knowledge constitutes just the preservation of knowledge previously acquired through perception. Therefore, it would not only face the standard epistemological objections of direct realism but it would also need to give an additional answer to the counterexamples that try to show that memory cannot be reduced to knowledge: either as preservation of past knowledge or as knowledge about the past. Bernecker (2010) has presented different and convincing counterexamples to show that (i) memory does not imply past or present justification; (ii) that it does not imply either past belief (cases of negative memory and inattentive remembering, this last one similar to Lackey's lack of belief example, 2005) or even present belief (ignorant remembering: remembering without believing being remembering, similar to Martin & Deutscher's ignorant painter's example, 1966) and (iii) that it does not even a past true representation.

Finally, these objections apply because as is the case for a metaphysical direct realism, the account of memory that an epistemological version of direct realism can provide is clearly not a naturalistic account, in the sense that they omit any explanation that refers to the mind and cognitive activity of the subject. In principle it would be possible to argue that an epistemological direct realist account of memory would only focus on the characterization of memory knowledge and memory beliefs. But in fact not only it does not give a good explanation of memory beliefs and memory knowledge, as the objections d-e show, but even if it did, it would not constitute a good account to explain memory when the focus is on its characterization as cognitive capability.

Relational account of memory

Relational theories of memory constitute a recent and more sophisticated version of direct realism that tries to account for the epistemological authority of memory and echoes disjunctivist theories of perception. The basic premise of this account are that the rememberer is in a special kind of relation with the past event, that is, a recollective relation, and because of this special relation, the past event is part of the memory itself and of the conscious experience, and that is why the past event is direct and immediately available to the rememberer. Debus (2008) defended this view in a recent paper, and also Noordhof (2013) analysed it at a recent conference. Debus (2008) formulated the relational account of memory as follows:

> (a) A subject who recollectively remembers (or 'R-remembers') a past object or event stands in an experiential relation (namely, a 'recollective relation') to the relevant past object or event.
>
> (b) The R-remembered object or event itself is a part of the R-memory; that is, the subject's present R-memory is partly constituted by the relevant past object or event.
>
> (c) When a subject R-remembers a past object, the past object is a constitutive part of the conscious experience itself; that is, the object is immediately available to the subject in conscious experience.

The recollective relation to the past object is defined by Debus as the relation that supervenes on other complex relations that the rememberer holds with the past event. These relations are temporal, spatial and causal: the event must have happened before its being remembered; there must be a continuous path through space traced by the subject from the time he experienced the event and the time he remembers it; the neurophysiological events that occur when the subject remembers the event must be ultimately caused by the very event now remembered. I do not aim to examine in detail Debus' account but only to examine whether her general formulation can deal with all the objections that other versions of direct realism cannot, and if it is internally consistent.

Concerning the objections enumerated earlier, it is evident that the introduction of a causal relation between the past event and the memory of the event guaranteed by causal intermediaries, that is, by physiological memory traces avoids the adoption of problematic conceptions of causation and existence, and thus, avoids the objections that arises from assumptions (a) and (b). It also avoids the general objection (g) because this causal relation

offers an explanation of the memory phenomena in terms of the cognitive activity of the subject.

However, it seems that the adoption of a causal and physiological explanation of the connection between the memory of the event and the event itself is at odds with a relational account of memory and more broadly with direct realism. If the awareness of the past event is *mediated* by memory traces, the past event is not *immediate* and *directly* available to the rememberer. It is only available through the mediation of some occurrent neurophysiological events whose ultimate cause is the past event. Debus could possibly counter-argue that causal intermediaries are not manifested intermediaries, that is, intermediaries one is aware of. In fact, perception is also mediated by neurophysiological events whose cause is the occurrent event without this implying that the event is not immediately available to the perceiver. Debus could continue arguing that the difference of causation between perception and memory is not a difference of nature: they are both direct apprehensions of the object, but a difference of degree: whereas in perception the event is the immediate cause, in memory the past event is the ultimate cause and so a causal history needs to be invoked to explain the memory of it. However, this possible response is also problematic. The only way to defend a sort of *directness* that could be conserved through causal intermediaries, in this case, neurophysiological memory traces, would be to state that this memory trace does not change through time and that—except for some external cue that can act as a trigger—it is the only material cause of the memory.

Nonetheless, the view that memory traces left by a past event remain always stable and that they are the only cause of our memory of that event is in fact incompatible with the state of the art in cognitive science: the memory trace is not conceived as a fixed entity; it changes during the encoding and consolidation processes and also can change during retrieval. As Alba and Hasher (1983) noticed, only some selected incoming stimuli is encoded in long-term memory; during the process of consolidation of this information, the meaning is abstracted and interpreted with the help of relevant prior knowledge and all this information is integrated in a holistic representation. This is in accordance with recent studies of sleep which show that the final goal of sleep-dependent memory processing may not be the enhancement of individual memories in isolation, but the extraction of meaning and development of associational links with existing information, in order to integrate the recently acquired information with past experiences and knowledge (Stickgold & Walker, 2005; Walker, 2009; Diekelmann & Born, 2010). On the other side, recent studies in reconsolidation show that the transformation of memory traces also takes place at the

moment of retrieval: "each time a memory is retrieved, it is integrated into ongoing perceptual and emotional experiences and becomes part of a new memory" (Sara, 2007, p. 188) or the old memory trace is updated, which suggests that the overall context of retrieval—present goals, interests, expectations, emotions of the rememberer—also contributes to the determination of the content of memory (Campbell, 2004). This transformation has even been confirmed at the molecular level by Nader, Schafe & LeDoux (2000) who have shown that during retrieval, a consolidated memory can return into a labile state where the memory trace can be strengthened but also modified, changed and even erased (Nader 2003). This thesis has supported the Multiple Trace Theory (MTT) developed by Nadel and Moscovitch (1997) to account for episodic memories, which proposes that each time a consolidated memory trace is retrieved, it re-enters into hippocampal circuits and is re-encoded, constituting a new encoding episode or an update of the old trace. In conclusion, the concept of reconsolidation "reflects the fact that is important for traces of prior experience to be left open to modification by future events. Such traces are not only subject to passive processes such decay and the active but indirect process of interference. They are also subject to meaningful transformation as a function of new experience" (Nadel, 2007, p. 180). Therefore, because memory traces are changeable and they are not the only material cause of the memory at retrieval, it is difficult to maintain that the past object itself is immediately available to the subject and there is no representational intermediary that would result in the interaction between these changeable traces and other psychophysiological events.

Coming back to Debus' relational theory of memory, if the state of the art in cognitive science is taken into consideration, the only kind of—already questionable—conceptualization in which directness in memory could be conceived needs to be dismissed. This points to the fact that relationalism as well as all the other variants of direct realism that advocate for a direct and immediate contact between memory and the past event are incompatible with a causal explanation of memory that seeks to take into account the current scientific research about the way in which memory works. In conclusion, the acceptance of memory traces, that is, of causal intermediaries, seems to be incompatible with any direct realist conceptualization of memory and thus with the denial of representational intermediaries.

But what is more, in the particular case of relational accounts, like Debus', there are also other objections that cannot be avoided: objections (d) and (e). Following Debus' original formulation, it is not easy to see in which sense perceptual and memory experience

would differ if in both situations the subject is directly aware of the event (objection e). In fact, the phenomenal experience of perception and memory are different, even for memories which are experience-near, like particular visual memories (Noordhof, 2013), so the directness cannot be understood in the same sense. As I already explained, arguing that memory has a particular historical causal relation with the past event only casts doubt about the sense in which directness could be applied to memory. On the other side, it is not easy to see either how the relational claim could explain cases of memory distortions and memory hallucinations (objection d). According to Debus, this is not necessary, because the relational account of memory presupposes a disjunctive theory of memory, which implies that accurate memories are occurrences of different kind and thus are explained differently from distorted memories or memory hallucinations (2008, p. 414-415). Nonetheless, disjunctivism in memory is not really tenable from an empirical standpoint: there is a lot of evidence in favor of a core network of multiple interacting brain subsystems—the default network—which is engaged when subjects are not focused on the external environment but on internally focused tasks like remembering the past and imagining the future (Schacter & Addis, 2007; Buckner & Carroll, 2007; Buckner & al., 2008). This system which flexibly extracts and recombines elements of previous experiences is responsible for the construction of our episodic memories and our future simulations, but because of this flexibility it is also responsible for some types of memory distortions and false memories, like imagination inflation, gist-based and associative memory errors, and post-event misinformation (Schacter & al., 2011). So the default network suggests that at least some false memories and some memory distortions are formed from the same mechanisms as accurate memories, and thus memories –accurate or not—are not completely different in kind, as disjunctivism considers. The same happens with imagery, especially visual imagery; as I explain with more detail later: the same neural processes are responsible for memory imagery as for fictional imagery (Holmes & Matthews, 2010)

To sum up, direct realism, in any of its versions—naïve, presentational, epistemological or relational—does not seem to be a viable option to explain the memory phenomenon. First, it does not give satisfactory answers to some important objections. Second, if some of its versions, like Debus' relational account of memory, take into consideration the cognitive activity of the subject, its internal consistency becomes doubtful, principally because direct realism turns out to be incompatible with the current

state of the art about memory in cognitive science. It is true that a naturalistic account of memory was not especially the purpose of philosophers before the cognitive revolution, when any clear and widely-accepted scientific account of memory was developed and when there was not a general consensus in philosophy of mind in favour of naturalism. Nonetheless, it is also true that nowadays the defence of a philosophical account of memory which not only ignores scientific research on memory but also shows itself to be incompatible with it does not seem to be advantageous or beneficial to progress towards a better understanding of memory phenomena. I do not intend here to defend the need of a naturalistic methodological approach in philosophy of mind, but I do intend to give an account of the memory phenomena that is based on current research on memory, especially because this research has been very fruitful for the past couple of decades but has been quite ignored in many philosophical accounts of memory and the mind. That is finally one of the main reasons to dismiss direct realism in this project.

REPRESENTATIONALISM

Representationalism is probably the theory of memory which best fits with research in cognitive science. In fact, it is difficult—if not impossible—to find theoretical as well empirical studies which do not suppose that memory is a visual, or linguistic or social representation of the past. If the naïve representationalist version does not seem to offer better solutions to the objections that direct realism cannot face, more sophisticated versions of representationalism propose a conceptualization of memory that can better deal with these objections and seems empirically plausible, as I will try to show in subsequent chapters.

Naïve representationalism

Whereas the main motivation of the first direct realist explanations of memory was to account for the knowledge about the past that we gain through memory, the motivation of representationalism is not only to account for veridical memories but also for fallible ones (Earle, 1956).

Representationalism in memory has been advocated since Antiquity, as I explain in the next chapter when I deal with the different kinds of representational content that have been attributed to memory. There is a naïve version of representationalism prevalent before the 1960s (Sutton, 2010a) that, similar to the naïve version of direct realism, considers memory as a dyadic relation: while for naïve direct realists memory is a relation between a rememberer and a past event, for naïve representationalists memory is a relation between a rememberer and a representation: memory would be a sort of internal perception not of the past event but of a representation. For example, Locke considered memory to be a sort of second perception because it allows us to *view* again something past by viewing again the ideas left by past impressions that are lodged in our minds (Locke, 1690, 2.10). In general, it has been conceived that memory representations are characterized by their resemblance with the past event—or rather its perception—and their less vividness and force than the perception of the past event (Hume, 1732). The problem with this naïve version of representationalism is that it falls foul of objections (e) and (f). First of all, it seems that the difference between memory and perception cannot be fully explained by a difference in the vividness and force of the representation (objection e). On the other side, it is also difficult to see how the memory representation relates to the past event in order to be distinguished from imagination (objection f). Most critics have pointed out that if the representation has to be similar to the past event in order to be a memory representation, it would be necessary to be in direct acquaintance with the past to be able to compare it (Laird, 1920; Price, 1936; Woozley, 1949). Furthermore, if there is something interposed between the rememberer and the past event only what is interposed—that is the representation—could be known (Stout, 1927).

In fact, the main problem with naïve representationalism is the conception of memory as a dyadic relation when in fact representationalism needs to be conceived as a triadic relation. This was already noticed by Russell (1921) and Broad (1925) both of whom proposed a different and more sophisticated account of memory representations, based on a certain sense in the analysis of intentionality made by Brentano and his disciples, especially Twardowski (1894) but also Meinong (1899).

Sophisticated representationalism

Kazimierz Twardowski (1894), a student of Franz Brentano, explicitly distinguished in his book *On the Content and Object of Presentations* between the object of a mental act and its content, a distinction that was lately endorsed by Meinong (1899):

> "One says that the painter paints a picture, but also he pains a landscape. (…) To the verb 'to present' there correspond –in a similar fashion as to the verb 'to paint'—first of all two things: an object which is presented and a content which is presented. The content is the picture; the object, the landscape" (Twardowski, 1894, p. 12-13)
>
> "In presenting to himself an object, a person presents to himself at the same time a content which is related to this object (…) What is presented *in* a presentation is its content; what is presented *through* a presentation is its object" (ibid., p. 16)

This tripartite distinction between mental act, object and content was adopted by Bertrand Russell (1921) and Broad (1925) to give a specific account of the *mental act* that we are dealing with: memory. Because this distinction will prove to be useful, as I will try to show next, I here develop both accounts in more detail.

Russell's account of memory

Whereas in 1912 Russell defended a direct realist conception of memory, in *The Analysis of the Mind* (1921) he changed his mind and adopted representationalism to account for memory based on a tripartite distinction similar to Twardowski's but renamed as: *belief-feeling*, *content* and *object* or *objective reference*.

So for Russell in a memory, there is first a particular *belief-feeling* that characterizes memory which contains the time-determination, that is, the reference to the past. This particular belief-feeling that characterizes memory is a belief-feeling that something was real as opposed to imaginary, and it can be expressed in the words *this existed* (1921, chapter IX). This belief-feeling is related to the *content*, and the relation between the two is a relation of *reference*: it expresses that this belief-feeling about the past existence of something refers to the content. Unfortunately Russell does not specify anything more about the nature of this particular belief-feeling; he even states that "I do not wish to commit myself to any special analysis of the belief-feeling" (chapter IX). Concerning the two other

elements of the relation, Russell considers that the content of a memory can be represented by the words *the existence of this*, that is, it refers to the images, propositions and other kinds of representations that *exist* in the mind of the rememberer while he is remembering. The content, nonetheless, is quite different from the *object* of the memory: "there must be a difference between the content of a thought and what it is about, since the thought is here and now, whereas what it is about may not be"; and this is very clear in the case of memory, whose objects are past objects. So the relation between content and object is a relation of meaning: the content of a memory means the past object. There are different possible contents that can mean the same object, that is, the same object can be represented through different kinds of contents:

> "Suppose you are thinking of some familiar room. You may call up an image of it, and in your image the window may be to the left of the door. Without any intrusion of words, you may believe in the correctness of your image. You then have a belief, consisting wholly of images, which becomes, when put into words, 'the window is to the left of the door'. You may yourself use these words and proceed to believe them. You thus pass from an image-content to the corresponding word-content. The content is different in the two cases, but its objective reference is the same. This shows the relation of image-beliefs to word-beliefs in a very simple case. In more elaborate cases the relation becomes much less simple" (chapter XII).

By "less simple" Russell means, as I show in the next chapter, that in general there are different contents—images, words, etc.—that simultaneously mean the same past object. Finally, Russell considers a third relation, the relation of the belief-feeling about a particular content to its object: because the object lies outside of the memory, this relation makes true or false the particular belief-feeling that in this case is a memory. Russell calls this relation *objective reference*. This tripartite analysis of memory makes it easier to appreciate that while naïve representationalism tends to suppress this last relation, because it suppresses the object, direct realism tends to suppress the content, as I showed in the last section.

Broad's account of memory

Charlie Dunbar Broad also adopted a distinction between content and object to explain memory phenomena but slightly different from that defended by Russell. While for Russell the objective reference is something that exists independently of the subject's mind, Broad, more in accordance with Twardowski (1894, chapter 7), considers that the object of our representations must be distinguished from the object that affects our senses and exists independently of our mind. Broad (1925) thus analyses memory in terms of the distinction between (i) *content*, (ii) the *epistemological object* of a memory and (iii) the *ontological object*, that would be the external object to the memory act which exists independently of the mind.

Whereas Russell uses the term *content* for the propositions, images and other kind of representations that mean the past event, Broad uses the term *objective constituent*. For Broad, the objective constituent of a memory is always private and personal. On the other side, the relation between *epistemological object* and *ontological object* varies according to the nature of the epistemological object. In the case where the epistemological object of a memory is a feeling or a thought, because their intrinsic nature is to be private and personal, the epistemological object of the memory is identical with the ontological object. The distinction nonetheless becomes relevant for memories of physical events and things that are in principle public and neutral. There are two extreme positions for explaining these cases: one of them is to consider as Russell does that the epistemological object is identical to the ontological object regardless of the nature of the object remembered. So even in cases of memories of physical events and things, the epistemological object of the memory would directly be the physical event or thing. Bernecker (2010) endorses a similar view while distinguishing introversive memories, that is, memories about thoughts, feelings, etc., that are a kind of delayed self-knowledge, and extroversive memories that are a kind of delayed perception (p. 22). The other extreme position consists in defending the opposite view, that is, that we always remember private and personal objects, even in the case of physical events and things. This would be the case because we cannot directly remember a past event or thing but only a representation of a past event or thing; therefore our memories-beliefs about physical events and objects are always secondary and derived from our perceptual experiences. Fernandez (2006) has recently defended this position. According to this view, all the epistemological objects of our memories, independently of their nature, are always private and personal. As Fernandez explains, although in the popular picture memory

differs from both perception—because it can be directed at one's own mental states—and introspection—because it can be directed at the world—in fact memory does not provide two different sorts of cognitive access to the past, one reaching our past mental life and other reaching the past world. For him, the only access that we have to our past is access to our own past perceptual experiences that are presented to us as veridical. Broad however does not adopt either of these extreme cases. For him, the epistemological object of a memory is not the past event, which would be public and neutral, nor a representation of a the past event, which would be exclusively private and personal. The third possibility, which Broad considers as the most plausible, consists in considering that memories of physical events and things always have a complex epistemological object which always has a private and personal component as well as something public and neutral. The private and personal component of the memory does not mean that from an ontological point of view physical events and things are derived from the representation of them. But it means, first, that from an epistemological point of view the memory of the physical events and things cannot exist without my past representation of them: I can remember only those things and events that I have perceived, and thus the perceptual situation is always part of the content of the memory. Second, it also means that "the class of objects perceived or remembered is determined by factors which are personal to the experient" (Broad, 1925, p. 228), which can be interpreted as meaning that the categories applied to things and events or—to make a less strong claim—some properties of the things and events are subjectively determined. The public and neutral component of memory of physical events and things refers to the fact that "each of the individual members of the class may still be of such a nature that a number of experients could perceive or remember it" (p. 228), that is, that physical events and things have some properties that could be perceived and remembered by most subjects, and that is why part of the content of memories of physical events and things is public and neutral.

In synthesis, whereas Russell's analysis of memory is focused on the distinction between the content and the object, Broad concentrates on a distinction that is absent from Russell's account: between the intentional objects of our memories and the objects existing independently of our mind. These two distinctions are important distinctions that permit us to build a representationalist framework that proves to be useful, as I argue next but also try show all along this thesis, to comprehend the memory phenomena.

About the usefulness of distinguishing contents, intentional objects and ontological objects of our memories

I propose to summarize the terminology introduced by Twardowski, Russell and Broad in the following way: *content*; *intentional object*, which refers to Broad's epistemological object; *ontological object*; and *remembering mode*, which refers to the particular mental act of remembering. So in the remembering mode, there is a content which is presented to the subject and has some sort of existence in the mind (but sometimes it can also exist independently of the mind, as I explain in chapter 2). The contents are the heterogeneous representations through which an object is presented to the subject. It is equivalent to the notion of representational vehicles that is commonly used in the recent literature since at least Dennett (1978). The object is the intentional object of the memory, conceived in the traditional sense outlined by the philosophical literature since Brentano (1874). I propose to use the terms *express* or *mean* to signify to the relation between the content and the intentional object: *the content means or express the intentional object*. I use the notion of *reference* to signify the relation between the intentional object and the ontological object: 'the intentional object refers to the ontological object'.

Having clarified the terminology that I will use from now on, I consider now the following questions. First, whether there is an advantage in conceiving a difference between content and object on one side, and intentional object and ontological object, on the other side, always in relation to memory. Second, whether a representationalist account of memory based on these distinctions can satisfactorily face the objections that direct realism and more naïve versions of representationalism cannot.

First, I consider briefly the distinction between content and object. Naïve representationalists consider that what is presented to the mind is the intentional object, so if a rememberer has a visual image of his childhood house, it is not the childhood house which is the object of the memory but its image. Naïve representationalism makes no distinction between content and object. This lead first to a sort of solipsism that does not explain why that particular image refers to the childhood house and not to, for example, to an imagined house, so it does not allow us to distinguish memory from imagination, as I already explained. It does not allow either to conceive that the same object can be remembered in different ways, that is, that different kinds of representations can refer to the same object: images, cognitive maps, language, but also external representations like

photographs can all be different means to represent the same thing. Making the distinction between content and object thus not only allows us to explore the nature of possible contents of memories but it also allows us to explain one difference between memory and imagination: if both can have the same content, which is completely plausible because both seem to be the result of the same brain default network, they have nonetheless different objects that are determined by the specific mode—remembering versus imagining—: in the memory mode, the content refers to something existent in the past, whereas in the imagination mode, the content refers to something not existent.

Secondly, the difference between the intentional object and the ontological object is clearly necessary because some mental states, like imagination, have objects that do not exist. The question that arises is then if this distinction is useful for memories, where most of their intentional objects do seem to exist, like physical events, things and people. I propose to analyse this usefulness considering the intentional object in Broad's terms, that is, as a complex object which has something public and neutral and something private and personal. I think that there are three advantages of maintaining this distinction and analysing the intentional object in this way. First, it allows us to explain cases where the intentional object refers to something that took place in the external world but does not correspond to any single ontological object. Second, it allows us to explain cases where the intentional object refers partially to something that took place in the external world and thus does not entirely correspond to any single ontological object. Third, it allows us to explain cases where different intentional objects can refer to the same ontological object. I now exemplify these three cases:

a) Intentional object – No single ontological object: Someone remembers a general event such as his holiday trip to Malaysia. This memory clearly does not refer to some mental event, but to something that happened in the external world. However, there is no single physical event that corresponds to this intentional object and that can validate its existence. A holiday trip to Malaysia is not an event that can refer to a physical event in the world, but only to a succession or sequence of physical events that are experience-near, like taking a flight to Kuala Lumpur, arriving to Kuala Lumpur, taking a taxi, going to a hotel, going to the beach, etc. Only because a determinate succession of physical events happened in the world can I remember now my holiday trip to Malaysia. So this is a case of a single intentional object which refers to many ontological objects. This is a case where the

distinction between intentional object and ontological object proves to be useful to analyse memory.

b) Intentional object – Partial ontological object: Someone remembers how amusing the party he went to last Friday was. This memory, even if it clearly refers to a specific party that took place last Friday, also refers to something more than that party. It refers to the way in which that party affected the subject, that is, to the personal meaning and significance that the subject attributes to that party. This means that it does not completely refer to an external event and it does not completely refer to a mental event, but it does refer to a person-environment relationship, and so it has an objective component as well as a subjective component, a reference to the world as well as a reference to the self. In Broad's terminology, this memory has a complex intentional object with a private and personal component as well as a public and neutral component. Once more, the distinction between intentional object and ontological object as well as Broad's conceptualization of the intentional object proves to be useful. In this memory, the intentional object would be an object-subject relation. It could be argued nonetheless that in fact in this memory the intentional object is the party, that is, the ontological object, and that what distinguishes this memory from other memories of the party—for example the memory of the building in which the party took place—is only the way in which the object on which the mind is directed is presented. The difference would be not in the intentional object but on the mode of presentation of the object or aspectual shape. Nevertheless, I do not think this explanation, even if viable, constitutes a good explanation. A position like this gives more relevance to the external world in detriment to the self which would only become the object of our memories when we explicitly remember naked mental events like thoughts and emotions. A position like this presupposes a sort of discontinuity between the self and the world: our memories are about mental events or they are about physical events and things. A position like the one I defend here presupposes a continuity between the world and the self, and allows us to explain that sometimes our memories can be directed to something that existed in the external world, sometimes they can be directed to the relationship between the external world and mental events, and sometimes it can be directed exclusively to those mental events. The focus of certain memories on the self, on the self-world relation or on the external world is more a matter of degree, but because of this difference in the focus of our memories, the nature of the intentional object also differs.

c) Different intentional objects – Single ontological object: Rememberer A remembers that a man C was manually pumping water into the cistern of the house.

Rememberer B remembers that the man C was poisoning the men who were in the house. C was actually poisoning the men who were in the house while pumping poisoned water into the cistern of the house, but A does not know that. A just saw that C was manually pumping water into the cistern of the house. Both rememberers however are remembering the same series of physical events and both memories are accurate descriptions of those series of physical events. It seems thus that while the ontological object of these two memories is exactly the same, the intentional object is not: A remembers C pumping water while B remembers C poisoning the men in the house. This happens, according to Anscombe (1957) and Hacking (1995), because some intentional human actions have a certain degree of indeterminacy and can be described in different ways, all of which may be accurate. Hacking writes that "with the new forms of description, new kinds of intentional action come into being, intentional actions that were not open to an agent lacking something like those descriptions" (1995, p. 237). A typical example is one of child abuse: when historically the notion of child abuse became broader, or after someone acquires the concept of "abusive behavior", some types of past events that were maybe considered as tender come to be seen as abusive (Hacking, 1995, p. 238). This conceptualization of a certain indeterminacy of the past clearly echoes Stout's (1911) notion of different presentations of the same object, but avoids stating that is the object which presents itself to the subject and instead explains the indeterminacy in terms of the conceptual baggage of the subject. Coming back to our theme under discussion, it seems that in order to explain these cases the distinction between ontological object and intentional object shows itself to be adequate. Considering that these cases could be analysed as cases of a similar intentional object under different modes of presentation or aspectual shapes would imply to admit that rememberers A and B are remembering the same thing and thus their memories are similar and the only difference could be given in the content: images, propositions, etc. It would also imply that a person remembering the tenderness with which his uncle used to fondle him would have the same object in mind than a subsequent memory of the sexually abusive behavior of his uncle towards him, and therefore that the person would be remembering the same object under different aspects. I think that these cases are explained with more justice when it is said that the person is remembering different things and has different objects in mind, even if the ontological object of his memories is the same.

These considerations support the idea that the distinction between content, intentional object and ontological object is a useful distinction to analyse and understand memory. Therefore, the adoption of this representationalist framework to give an account of memory implies first, that the content of a memory is not synonymous with the object of a memory, which is presented through them; second, that some memories can have an intentional object which refers to multiple ontological objects; third, that some memories can have a complex intentional object which only refers partially to an external ontological object; and finally, that some other memories whose intentional objects differ can refer to a single ontological object.

I now analyse if this form of representationalism gives a better account than the other accounts of memory, which means considering if this form of representationalism can face the objections that direct realism and naïve versions of representationalism cannot face.

Representationalism in all its versions avoids the ontological objections about causation (a) and existence (b) because it presupposes widely accepted and intuitive notions of causation and existence. As I argued in criticizing Debus' relational account of memory, only representationalism and not direct realism is compatible with the causal explanation in terms of neurophysiological traces and the current state of the art in science. Representationalism—and the specific kind of representationalism that I defended—does not ignore the importance of the self in memory: the self does not have a transparent role in the memory because even in some memories which are directed to the external world there can be a subjective component, and because there are even memories that are directed towards the relation between the external world and the self. The self is also enhanced because the contents of memory, that is, the different kinds of representations that can express or mean the intentional object of the memory, depends in principle of the cognitive system of the subject. What is more, this version of representationalism leaves open the possibility of exploring in depth the relationship between self and memories, especially through the affective aspect of memories, tasks that will be tackled in chapters 4, 5 and 6.

This sophisticated version of representationalism can easily account for fallibility and change in memory (d) because it is compatible with explanations coming from science which unanimously defend the reconstructive nature of memory, and thus it enables a naturalistic account of memory. As I already explained, a reconstructive and thus flexible

system that extracts and recombines elements of previous experiences is responsible for the construction of our accurate personal memories but it is also responsible for some types of memory distortions and false memories (Schacter & al., 2011). A source monitoring problem (Johnson & al., 1993), that is a problem about the attribution of the conditions under which a memory was acquired (spatial, temporal, social context; the media and modalities through which it was perceived), can also explain some of our distorted and false memories in a representationalist account. Therefore, as we can see, representationalism can explain why our memories are fallible and why our memories change through a naturalistic account of the mechanisms underlying the retrieval and reconstruction of our memories. These same mechanisms could be invoked to distinguish memory from perception (e). It also could be added that perception and memory differ in the mode (or act); but possibly also in some kinds of content: shape, colors, texture for perception vs. images, cognitive maps, propositions for memory, for example; and in the kind of intentional objects: I cannot clearly perceive a trip to Malaysia but I can remember it. To this it could be added that the causation also differs. I only summarize here possible ways of distinguishing perception from memory in a representationalist account; this distinction evidently needs further development, but this sketch at least shows the way in which my version of representationalism could successfully account for this distinction.

The objection of the memory marker and the distinction between memory and imagination could also be solved (f). If memory and imagination can have similar contents and intentional objects, the difference would be in the specific mode (Recanati, 2007) which would confer upon the intentional object of a memory a reference to a past ontological object—a reference that can be partial or multiple—whereas in the imaginative mode the intentional object would have no reference. The similitude between imagination and memory would be compatible with the overlapping of brain networks involved in memory and imagination (Schacter & Addis, 2007; Buckner & Carroll, 2006; Buckner & al., 2008; Holmes & Matthews, 2010). The existence of specific mechanisms of the memory systems that are responsible for binding information at encoding and retrieval—explicit memory system and search and retrieval system in Rubin's (2006) terminology—would be one possibility to explain the difference in the mode and the 'memory marker' that is absent of our imaginations. At the personal level, other kinds of cues, such as consistency with other knowledge, or recall of the processes involved, such as whether a mental image was voluntarily created or not, could help the subject to distinguish between a memory from an imaginative occurrence. Again, these ways of distinguishing memory

and imagination need to be more developed, but at least this sketch shows that this version of representationalism could potentially account for this distinction.

The last general objection which refers to the explanation of our knowledge about the past (g) can also be addressed by this representationalist account of memory. In fact, any version of representationalism that makes the distinction between object and content can explain how we retain knowledge from our past, mainly because it is compatible with a causal explanation of memory based on neurophysiological traces. We can have personal knowledge about our past because something of our experiences is encoded in memory traces that are—at least partially—responsible for our memory experiences. I mentioned before that these memory traces are not static entities and that similar mechanisms that extract, organize and recombine these memory traces are responsible for the accuracy of memories but also for its distortions and even for imaginations. So one question that can arise is how this reconstructive nature of the memory system is compatible with having knowledge about our past. A simple answer is that our memory system has been empirically shown to be reliable under non-pathological circumstances—and probably its reliability explains the reason of its phylogenetic evolution. While a certain dose of forgetting is normal for memory to perform well (Michaelian, 2011b), our memory distortions and our errors in source monitoring are in general minimal in comparison with the amount of distortions and source problems that a non-reliable system could produce. What is more, because the past always leave traces in other people and in the world, our false memories can easily be corrected or dismissed. Probably the other people and the world are finally those who enhance our already reliable individual memory system—even if it is also true that sometimes they are the origin of our distortions.

FINAL THOUGHTS

In this chapter I have presented and analysed different versions of direct realism in memory. I have shown that they face a series of objections that they cannot solve, most of which are ultimately based on the omission of the subject's mental activity and incompatibility with the state of the art in sciences of memory. I have also presented different versions of representationalism in memory and have defended a particular version that has the potential to successfully deal with all the objections because it is compatible with a naturalist approach of memory. This particular representationalist account of

memory is based in the distinction between content, intentional object and ontological object. In the next two chapters, I will explore what would be the possible contents of personal memories (Chapter 2) as well as their possible intentional objects (Chapter 3). From now on, I will explicitly use the term *personal memory* mentioned in the introduction all along my argument to avoid any confusion with the semantic knowledge that we have about the world.

CHAPTER 2: CONTENTS OF PERSONAL MEMORIES

This chapter explores the possible contents of personal memories. The first two sections take an historical approach and examine the two kinds of contents that have been historically considered as the content of personal memories in philosophy as well as in cognitive psychology: mental images and propositions. The third section focuses on more contemporary analyses of personal memories, especially the one proposed by psychologist David Rubin, who defends the idea that personal memories can have heterogeneous contents; linguistic representations, emotions and an array of different kinds of sensory imagery can be part of the acts of remembering our past. Whereas some of these contents seem to be non-conceptual, personal memories can also be recalled through contents that are embodied by the rememberer and contents that exist independently of him in his external environment, as I explain in the last sections of this chapter.

IMAGES

Historically, personal memories were considered as mental images, that is, as mental copies of the real, picture-likes representations that reduplicate in the mind past perceptions and sensations. This pictorial theory of memory goes back to Plato and Aristotle and continued expanding through the theories proposed by the British Empiricists. Plato introduced the notion of imprints in the mind that were left by past perceptions and conceptions (369 BC, 191c,d), and Aristotle (350 BC, 449 b 5 —451 a 15) then considered that these imprints were mental images (*fantasmata*) that were the object and content of memories. For Aristotle, mental images were the primary material of thought: not only memory but thought in general was not possible without images. Because images can be perceived from different aspects: by itself, as an image, or as a representation of something else, the act of remembering was conceived by Aristotle as an act of contemplation of an image considered as a representation of some past perception or sensation. A similar conceptualization of memory images was held by the British Empiricists, such as Hume and Locke, who introduced the notion of *ideas*—central to modern philosophy—to refer to mental representations. As Thomas (2010) says, “even if some authors did not themselves

take ideas to be images, it is likely that many of their readers would have taken them to be doing so" (2.3). In Hume it is possible to identify *ideas* with *mental images*. Locke who did not explicitly refer to mental images, conceived memory in accordance with the notion of memory as a picture: memory is a sort of second perception because it allows us to *view* again something past through the ideas left in our minds by past impressions (Locke, 1690, 2.10)[4]. So two characteristics generally attributed to images were that they resemble the past event to which they refer but are less vivid or have less force than the perception of the past event (Hume, 1739).

The concept of memory image continued in some of the studies of the first experimental psychologists until the 1920s. Even if the notion of image was explicitly extended to other senses than vision—Peillaube (1910) distinguishes between visual, auditory, olfactory, tasting, motor, kinesthetic and affective memory images—it continued having a particularly strong connection with vision because of its analogy with a pictorial representation. To mention some examples, Madison Bentley (1899) gives an explanation of the choice to study visual imagery that invokes its nature and importance, and points out that it is easier to empirically study visual images than other sorts of images (p. 25-26). Also Schaub (1911) before presenting her study on auditory memory images does a survey about previous experimental studies on memory images which are mostly focused on visual imagery.

In 20th century philosophy, before the decline of the notion of mental images, Russell (1921) defended the primacy of the imagistic content over the propositional one. In his book *The analysis of mind*, where he adopted a representationalist account of memory which differs from the direct realism defended in 1912, Russell states that the true, genuine and pure memory is a picture of a past occurrence, that is, a memory-image. Memory-images, however, are not exact copies of a past event because they cannot have a fine degree of definiteness; that is why they are vague and could be in principle related to different particulars; and that is why their reference and meaning needs to be determined not only by resemblance with the particular event but also by the similitude of their associations (with other beliefs and ideas) and their effects (such as the emotional ones) with those of the past event, that is, by the similitude of their causal efficacy. In those cases, the memory image means the past event, which constitutes the objective reference. However, even if

[4] Although Locke clarified his view in the 2nd edition of the *Essay* stating that ideas stored in memory are actually no-where; there is only a mental ability that allows us to revive them again (see Sutton, 1998).

images are pure cases of memory, Russell acknowledges that in most of our memory occurrences, images come mixed with words, and both constitute the content of the memory: in some cases words are used to describe the memory image; while in other cases words that are known to be descriptive of a past experience become a memory habit and replace the memory image, so the memory of the past event becomes purely linguistic. But Russell also recognized that some forms of memory, especially those concerned with beliefs, are mainly linguistic, and even if they may come with images, those images do not constitute part of the content. For example, the belief that the planets revolve around the sun in elliptical orbits could be accompanied by images of the sun during an eclipse, images of Saturn rings, but those images would not be part of the content of the memory. Therefore, even though for Russell pure cases of memory have an imagistic content, in some cases words replace memory-images, in other cases the content is only expressed through language, and even in those cases where the content is imagistic, it would be possible to express it through language because the meaning of the images, due to its vague and fragmentary character, could be exhausted with a finite number of words. So even if for Russell the more primitive and true content of a memory is imagistic, and all memory beliefs need to be based on memory images, all memories can finally be expressed through language (but not the opposite). And this is when Russell (1921) introduced the notion of *proposition* to talk in general about the content of memories and beliefs: "The content of a belief, when expressed in words, is the same thing as what in logic is called a 'proposition'. A proposition is a series of words expressing the kind of thing that can be asserted or denied" (p. 168), that is, it has have truth value. And it is possible to "extend the term 'proposition' so as to cover the image-contents of beliefs consisting of images", which in fact confers on images the property of being true or false.

Like Russell, the famous psychologist of memory Frederick Bartlett (1932) also defended the primacy of images over words but from an evolutionary point of view. Whereas both are considered as signs that point to something past, words have the advantage not only of being social and allowing the communication of meaning but also of representing the general and the abstract. Images, in contrast, need words to be communicated and can only represent the individuality and singularity of past experiences. But because both are commonly combined, they complement each other. However, while for Russell the meaning of images by itself is vague and blurred and so can be exhausted through the use of language, Bartlett (1932) considers the opposite: even if images can be described linguistically, images have an intrinsic affective quality that defies our capacity

to express it, and that is why the meaning of images "is left to tacit understanding, and it almost seems as if they merely provide a kind of aesthetic luxury" (p. 223) as well as a certain vivacity that is lost when described through language.

Nonetheless, at the beginning of the 20th century, the *iconophobic era* (Thomas, 2010) started and the criticisms of mental imagery multiplied. Some of the critics questioned the explanatory role awarded to mental images in order to account for memory.

One of the criticisms points to the impossibility of distinguishing memory images from imaginings. The mark of vividness and force, defended by Hume (1732) as an internal characteristic of the image, has been strongly criticized because it does not constitute a mark of pastness at all (Woozley, 1949; Earle, 1956): it is possible to have very vivid imaginings as well as very faint memory images. The possibility of comparing between the image and the past event is dismissed as absurd (Price, 1936; Woozley, 1949; Earle, 1956) because it supposes we have access to the past event itself in order to make the comparison. But there is a way to avoid this objection, and it consists in supposing that in an act of remembering there is some external element to the image that attributes pastness to it; and that is precisely what Russell (1921)—probably inspired in James (1890)—does: for an image to mean a past event, the image has to come with a feeling of belief that something was real, and this feeling has to refer to the image in order to confer on it meaning and turn it into a sign of a past event. So for Russell, the time determination is not intrinsic to the content of the image but lies in the nature of the special kind of belief-feeling that characterizes memory and that accompanies—and relates to—the image. Rephrasing this idea in new terminology, it could be said, as I already sketched in the first chapter, that the time determination and the reference to a past ontological object is metarepresentational, and thus it is not an element of the content of the memory but it is given by the particular *remembering* mode (Recanati, 2007) of the specific mechanisms of the memory systems that are responsible for binding information at encoding and retrieval (Rubin, 2006). This seems to be a possible optimal solution that would permit us to explain the difference between memory and imagination. So it seems that the idea of memory images could avoid this objection and still be considered as a content of personal memories.

Some other critics pointed rightly to the problems raised by the assumption that mental images are the only content of our memories. If the content of our memories is exclusively considered as mental images it would be impossible to explain how individuals who report not having mental imagery could still be able to remember (Wright, 1936; Ayer, 1956). It would also make impossible to explain cases of negative memory—where it is

denied that some quality fits the object: “I remember that is not red but I do not remember what colour it was”. These cases cannot have any analogues in imagery or contain an image as a constituent (Broad, 1925).

Nonetheless, stating that memory images cannot be considered as the only content of personal memories is different from stating that memory images cannot be considered at all as a suitable content of memory. And this is what it is implied in most of the critics that memory images, and imagery in general, have received in the first half of the 20th century.

Berkeley (1734) had already remarked that images failed to express certain concepts, such as general and categorical concepts. As I already explained, Russell (1921) finally acknowledges that images are vague and do not have a high degree of definiteness and for this reason, words are in general used to describe their meaning and even sometimes words finally replace them. Also Ayer (1956) states that images can only play an auxiliary role because whatever qualities and degree of fidelity they may have, images can only refer to a past occurrence as long as they are interpreted. But probably it is Fodor (1975) who is the most rigorous critic of mental images. He explicitly argued that mental images constitute neither the contents of our thoughts, nor (consequently) the contents of our memories. His main thesis is that images cannot by themselves convey any meaning. Fodor puts forward two arguments: the first one, based on Wittgenstein (1953, p. 60), points out that images cannot be identical with *thinking that p* because images are insufficiently abstract and determinate to be vehicles of thought: they fail to specify which property is assigned to an object and so they cannot have truth value, as in the case of sentences. Inspired by Wittgenstein’s example, Fodor gives the following one: a picture of John does not distinguish between “John is tall” and “John is fat”, so “a picture of fat John is also a picture of tall John. But the sentence John is fat abstracts from all of John’s properties but one: it is true if he’s fat and only if he is” (Fodor, 1975, p. 189). The second argument attacks the possibility that is left: that images are at least identical to *thinking of x*. This argument is clearly more radical and undermines all possibility that images carry meaning: for Fodor, resemblance is not a mechanism of reference, so images can only refer and thus have meaning when they are embedded in certain propositional descriptions.

In synthesis, while for Russell the vague nature of memory images in general requires them to be complemented by propositions, for Fodor memory images are meaningless and thus should not be considered at all as the content of our thoughts and memories, which is exclusively propositional. In Fodor’s argumentation mental images

cannot carry any meaning because they seem to be incapable of determining the intentional object of our thoughts.

I will come back to the discussion about the reference of imagistic content, and more in general about non-propositional content, later in this chapter (section 3). In any case, imagery studies disappeared from psychology from the beginning of the 20th century until the 1960's. This was due first, to the rise of behaviorism which banished imagery from psychology for not being sufficiently scientific (Watson, 1913), and second, to the emergence of cognitivism and computational theories of the mind in the 1950's that did not reintroduce the notion of image in psychology. This omission of imagery can be mainly explained by the fascination of cognitivism with a kind of representation inspired by major developments in logic, linguistics, statistics and computer science (Barsalou, 2008). This kind of representation—or content in my terminology—was of semantic and propositional nature. That is how the privilege role that mental images occupied earlier in the explanation of memory and mind was taken over by the notion of propositional content.

PROPOSITIONS

Propositionalism in memory consists of defending the idea that remembering is essentially propositional, that is, that the content of memory is or can be expressed through a proposition. The form that a memory takes under this analysis is thus "I remember that *p*", where *p* stands for a past-tense proposition that has a truth value. So a second characteristics of propositionalism, is that remembering involves a particular act of mind: an act of judging if a proposition is true or false.

Propositionalism in memory is just a case of a more general adoption of propositionalism to explain cognition. The origins of both views lie in the emergence of cognitivism and computational models of mental processes in the 1950's, as well as in the Language of Thought hypothesis that emerged in the philosophical field (Fodor, 1975), both of which went hand in hand in the defence of a mental language. For both of them, our mind functions as a symbolic system with syntactic procedures that operate over semantic representations and so, because of this syntactic and semantic structure, our mental states are similar to sentences of a language. Even if some theorists do not assume that words and language constitute the content of mental representations, they assume that symbolic and amodal thoughts analogous to language do constitute the content of our

mental representations: “Rather than extracting a subset of a perceptual state and storing it for later use as a symbol, an amodal symbol system transduces a subset of a perceptual state into a completely new representation language that is inherently nonperceptual (…). These structures in turn constitute a fully functional symbolic system with a combinatorial syntax and semantics, which supports all of the higher cognitive functions, including memory, knowledge, language and thought” (Barsalou, 1999, p. 578). In psychology, Barsalou explains that the idea of a mental language was mainly adopted because it provided elegant and powerful formalisms for representing knowledge and it could be easily implemented in artificial intelligence (2008, p. 620).

In philosophy, propositional analysis of mental states, that is, the idea that they can be analysed in terms of attitudes—such as remembering—towards propositions, also became the mainstream position in analytical philosophy and still continues to be. Rowlands (1999) considers that the conceptualization of cognition as the manipulation of internal syntactically structured representations that have truth value has its roots first on formal logic and second in Chomsky’s program of generative grammar. In fact, Ryle (1949) already noticed that philosophers tended to understand all the mental in terms of theoretical operations whose goal is the knowledge of true propositions and facts. As a consequence, the capacity to attain knowledge of truths is conceived as the essential property of the mind: “other human powers could be classed as mental only if they could be shown to be somehow piloted by the intellectual grasp of true propositions” (Ryle, 1949, p. 27). Along the same lines, Montague (2007) noticed that one of the reasons that would explain propositionalism in philosophy would be the consideration of believing and thinking—which are paired with propositions—as the paradigmatic cases of intentional attitudes and thus mental states. Also Montague (2007) mentions that in order to give an adequate theory of reasoning, the equation between mental states and propositions facilitates the capture of the entailments and the analysis of the formal inference procedures that preserve truth. What is more, the lack of distinction between the content of memories and their intentional object—the latter easily expressible in linguistic terms—that predominates in philosophical explanations of mental states is also a factor that leads to content propositionalism. One explicit example of this assumption is Fernandez (2006): “The purpose of this essay is to determine how we should construe the content of memories or, in other words, to determine what the intentional objects of memory are. I shall use the following locutions equivalently: ‘S is about p’, ‘the fact that p is the object of S’, and ‘the content of S is that p’ where ‘S’ stands for an intentional state and ‘p’ for an event” (p. 39).

In the specific case of memory, there are probably other specific reasons derived from this more general intellectual environment that contributed to a propositional conception of memory in general and also personal memory.

In the psychological field, this tendency is shown first, in the conceptualization of episodic memory as a kind of declarative memory that shares with semantic memory the property of being symbolically represented and representable and is opposed to procedural memory which consists of skills. Tulving (1983), the father of *episodic memory*, instead of using the currently more employed term *declarative memory* named it originally in his seminal book *propositional memory* because it consists of "a huge variety of knowledge that can be represented and expressed symbolically" (p. 8) in the form of propositions (p. 33). In the model he presents, the General Abstract Processing System (GAPS), he left intentionally unspecified the nature of the episodic information stored: "I will assume that stored engrams are collections of more elementary characteristics, features, or attributes, but I will make minimal assumptions about the nature of these characteristics" (p. 131). But further on he assumes a preference for propositions: "I am partial to the idea that the engram of an event is a bundle of features, or a collection of some other kind of more primitive element" (p. 160) and "my preference for the feature-language rather than some other comparable language is just that, a preference; it is by no means an essential part of the GAPS framework" (p. 161). Second, another possible factor influencing the propositional conceptualization of memory is the kind of experiments done before the 1980's that were almost exclusively focused on memory performance, which is usually measured as the amount of information that is stored, and not on the rememberer's recollective experience (Tulving, 1983, p. 178). To understand how people remember personal experiences it is necessary to construct concepts that correspond to the phenomenal experience of remembering: this was clearly absent for a long period not only from experimental psychology but also from cognitive theories of memory (p. 125). Third, earlier computational models of memory were also based on a single representational code: propositions. This is the case in the Human Associative Memory (HAM) model developed by Anderson and Bower (1973) and the first version of the Adaptative Control of Thought (ACT) theory (Anderson, 1976), both of which aimed to account for the acquisition and organization of episodic information. Also the model for long-term memory conceived by Rumelhart, Lindsay & Norman (1972) considered that the three kinds of information: concepts, events and episodes, are all propositional in nature, including concepts, which are defined by class membership and property relations expressed through the verbs *is* and

has. It is the same for Kolodner (1983, 1984) who proposed a computational theory to account for event organization in memory based on event types that, because of its origins in computational theory of language comprehension, understands events as propositional information.

In the philosophical field, epistemic theories that defended the idea that memory is retained knowledge (for example Malcolm, 1963; Squires 1969) or implies belief, and equated the analysis of remembering with *knowing that* or *believing that*, clearly reinforced the tendency to conceived memory as a proposition. Conceiving that memory is retained knowledge is not a necessary condition for conceiving memory in propositional terms—and Bernecker's theory (2008, 2010) would be a good example—but it clearly reinforces it. Munsat (1967) is a good example of a philosopher who defended propositionalism in memory: according to his view, "to remember is either to be able to or actually to make memory claims" (p. 73) and the basic form of memory claims are *remembering that* statements (p. 83). More recently, Matthen (2010), Michaelian (2011a), Naylor (2011) are also other authors who analyse personal memory exclusively in propositional terms. But probably the best example is given again by Fernandez (2006): "A pre-theoretic intuition that we share about memory is that memories have content. A subject represents the world in a certain way in virtue of having a memory, in the minimal sense that memory is the kind of state that can be evaluated as true or false. For each memory, there are conditions under which it is true and conditions under which it is false. Thus, it is natural to think that, if you want to know what the content of a given memory is, you should ask yourself what it would take for that memory to be true. For the purpose of this discussion, it would be convenient to represent the truth-conditions of memories by means of certain abstract objects, namely, propositions" (2006, p. 41).

If all these factors enumerated earlier refer mostly to the historical reasons that lead to the conceptualization of personal memory as propositional memory, some philosophers have given arguments for considering that the contents of personal memories are exclusively propositions.

a) Ontological argument: To arrive at the conclusion that the primary contents of memory are propositions, Broad (1925) not only takes seriously the criticisms aimed at the notion of memory image but principally bases his argument on the ontological primacy of events over things. Because of this ontological primacy, our memories of things depend on our memory of events: "to remember a thing or a person simply means to remember certain

past events and to regard them as incidents in the history of that thing or person" (p.224). Things and persons can only be remembered as far as they are known as the common subject of a group of remembered propositions. The image of things and persons can only supervene on these remembered propositions, but the opposite is not possible. Nonetheless, there is nothing in the metaphysical priority of events over things that implies that the content of our memories of events is necessary or uniquely propositional. Events could perfectly take an imagistic form and its metaphysical priority could be expressed by stating that images of things and persons supervene on these more basic images of events or scenes.

b) Reductionist argument: The basic idea that lies behind the second kind of argument is that almost all memories—if not all of them—can ultimately be reduced and analysed in terms of propositions. I already mentioned that even though for Russell (1921) images are the pure and primary content of memory, he ultimately acknowledges that propositions can replace images without any loss of meaning and, what is more, confer on them the extra property of being true or false which makes it possible to determine the truth value of a memory. Also Malcolm (1963) defended the logical priority and centrality of propositional memory, although later in his book *Memory and Mind* (1977) he took back this idea (p. 16). In the 1963 paper, Malcolm adopts the term *factual memory* to refer to all the memories that take the form *that p* where p is conceived as a sentence expressing a proposition. In addition to factual memory, he distinguishes two other forms of memory: perceptual memories, whose content is an image, and personal memory, which corresponds to memories wholly or partially based on a previous experience. Malcolm defended the idea that all forms of memories are related somehow to factual memory. On the one hand, perceptual memories are logically dependent on factual memories because, along the same lines as Wittgenstein (1953), he argues that images alone—even if they exactly correspond to a past perception—do not have a reference by themselves and need an explanation of what they are of, and this explanation can only be given by a factual memory. Personal memory, on the other hand, is not logically dependent on factual memory but always entails some factual memories, whereas factual memory does not entail personal memory. Therefore, for Malcolm factual memory has a centrality that the other forms lack: even if he recognizes that personal memory is also indispensable, the main importance of factual memory is based on the fact that all the other forms of memory entail factual memory. Predictably, Malcolm (1963) conceives factual memory as present knowledge that is completely based on past knowledge: "A person B remembers that *p* if and only if B knows that p because he knew that *p*" (p. 223). Nonetheless, although it is plausible that most of

our personal memories can entail some factual memories, that is, some propositional memories, this possibility does not imply that the content of personal memories can be completely exhausted by the propositional content. Further analysis should be carried out to determine if all the content representable in non-propositional terms can or cannot be reduced to propositions.

c) Clarity argument: More recently, Bernecker (2010) dedicated a book to the analysis of propositional memory. Propositional memory is considered as the memory whose content has the form of a tensed that-complement cause (p. 17): S remembers that *p*, where *p* stands for a proposition with truth value. Propositional memory covers not only semantic memories but also personal ones; the only requirement is to be expressible under a that-clause format. The argument that Bernecker uses in order to dismiss other kind of possible content and thus memories is that qualia and imagery vary greatly from one person to another, and that there are people who do not seem to have imagery at all, so the better way to analyse memory consists on sticking to a grammatical taxonomy. I will analyse in chapter 3 the utility of classifying memory according to a grammatical criterion. Concerning the reasons Bernecker gives to discard all non-propositional content, it is possible to answer that variability does not imply absence, and absence in some cases does not imply inexistence of memory imagery and other possible kinds of non-propositional content.

In conclusion, philosophical arguments to defend the exclusivity of propositional content in memory are not strong enough. It is more likely that the reduction of the content of memories to their propositional content responds to a certain intellectual tradition that in Malcolm's (1977) terms overintellectualizes memory and cognition (p. 66). In some specific cases, this reductionism could be explained by the specificity of certain theoretical purposes, as would be the case for an epistemological but non-naturalistic analysis of memory. Someone interested in non-naturalistic epistemology could in principle reduce personal memories to memory beliefs that are expressible as a that-clause sentence, that is, as a proposition that is assessable as true or false. However, my purposes here are different: I aim to analyse personal memories as mental acts or occurrences, that is, as experiences that the subject who remembers goes through, and not as memory beliefs. What is more, I aim to analyse the content of personal memories, that is, the ways in which subjects represent their personal past, from a methodological naturalistic perspective and through a theoretical framework that stresses the distinction between content and intentional object

of memories. A deeper inquiry into current science seems thus to be necessary to have better grounds to determine if personal memories have a single kind of content, namely a propositional and conceptual content, or heterogeneous kinds of contents.

HETEROGENOUS PERSONAL MEMORY CONTENTS

Whereas Tulving in 1983 preferred to conceive episodic memory as propositional, in a later schematic model (2001), the serial-parallel-independent (SPI) model, he considers that there are three memory systems: perceptual, episodic and semantic, each of which encode serially different information about the same event or stimulus that is in general integrated in a given act of retrieval. Whereas the perceptual system stores perceptual features of the input, the semantic system stores its conceptual and semantic aspects and the episodic system information about the involvement of the self in the experiencing of the input. This progressive inclusion of other kinds of non-propositional contents also appears in computational models of memory: while early models of memories of events considered that information was coded in a single mode, other models, like the subsequent developments of the original ACT theory, distinguish different kinds of representations. To give an example, the ACT* theory (Anderson, 1983) is based on three different codes or representational types: a temporal string, which encodes the order of a set of items; a spatial image, which encodes spatial configuration; and an abstract proposition, which encodes meaning. (p. 45). These examples suggest that although earlier models of memory in psychology conceived personal memory and memory in general as a computation in language-like symbols in a modular (episodic) memory system, some subsequent models showed a preference for the idea that experience is encoded in different representational kinds and even systems, and thus that the recollection of personal memories can have different contents.

In the 1970's, the reintroduction of images as a particular kind of representation different from the linguistic one is probably due to Allan Paivio. He postulated the dual code theory of memory, which considers that visual and verbal information are encoded in two systems that interact but are functionally independent. According to dual coding theory, the episodic memory trace is not amodal or propositional information but is a conglomerate of modality-specific and relatively detailed information (Paivio, 1986). This idea of multimodal traces and simulations of previous experiences in recollection has been

more recently defended by David Rubin (2006). Because of its uniqueness and its utility for my purpose of exploring the contents of personal memories, I explain his theory next in some detail.

David Rubin's basic-system model of episodic memory

Based on current behavioral, neuropsychological and neuroimaging data, Rubin (2006) proposed a multimodal and multi-system model of episodic memory. His theory is also directed against the notion of homogenous information: "information that is either the same for the whole mind or is used to integrate the output of more specialized modules, that is usually abstract and propositional, and that does not depend on the unique functions and properties of each basic system" (p. 277). For Rubin, it is necessary to change the model of the mind as a computing machine with a single code in order to, first, account for complex real-world situations that involve information from different sources, such as multiple senses, language and emotions; and second, better integrate the behavioral and neural data that from the second half of the 20th century show that there are different learning systems.

Therefore, because different aspects of episodic memories are stored not in an abstract format but in different systems, in Rubin's model episodic memories are always formed by the mutual coordination of independent systems. These basic systems are independent because each one uses different structures and processes for fundamentally different kinds of information. Each one has also its own functions, neural substrates and types of errors that affect memory. These basic memory systems that provide different kinds of information are generally coordinated by the explicit memory system and the search and retrieval system, both of which are considered as the behavioral and neural basis of episodic memory. The explicit memory system binds together everything that occurs at the same time into an event at encoding and also later at retrieval. The areas mainly involved are the medial temporal lobes, but especially the hippocampus and the surrounding structures and, as it is already known since patient HM, damage to this area produces the classical cases of amnesia: the encoding of new episodic memories (anterograde amnesia) and also the retrieval of memories (retrograde amnesia) can be impaired, except for some old memories whose retrieval is independent of hippocampal involvement. The search and retrieval system is similar to Baddeley's notion (1986) of

working memory. These processes, needed to find, select and hold information temporarily in order to construct and maintain episodic memories, mainly involve the frontal lobes. Damage to this system is more subtle than damage to the explicit memory system: it results in a lack of responding when asked to remember something (Watson & al., 1999) and in the formation of confabulations constructed from parts of memories that themselves may be plausible and accurate (Moscovitch & Melo, 1997; Turner & al., 2008).

Concerning the basic memory systems that are not memory-specific but provide different kinds of information to the explicit memory and the search and retrieval systems, Rubin distinguishes the sensory systems, the language and narrative systems and the emotion system.

In relation to the sensory systems, Rubin (2006) considers that each one provides different kinds of information to the episodic memory: "different senses process information about different properties of the environment (e.g. electromagnetic radiation, vibration, pressure, chemicals that contact the sensory surface), using different transducer mechanisms and neural networks that have different short- and long-term relevance to different aspects of the individual's behavior" (p. 282). Rubin argues that neuroimaging but also behavioral and phenomenal data have largely shown that episodic memories involve the basic sensory systems relevant to the sensory content of what is remembered.

One of the central sensory system for memory is vision. As I already explained earlier, imagery was only reintroduced in psychological science during the 1970's. While there has been some debates about its existence and its nature, nowadays imagery is widely accepted as a basic cognitive mechanism (Kosslyn et al, 2006). In fact, there is a strong agreement that imagery occurs during the recollection of personal memories, and that visual imagery appears as the most important: although there is certainly variability in people's ability to generate visual images and use them to solve tasks, people who report to not have visual imagery are extremely rare (Brewer, 1995; Holmes & Matthews, 2010; Greenberg & Knowlton, 2014). It has been shown that opposite to earlier models that assumed that visual long-term memory representations lack details and were gist-like and semantic in nature, visual memories contain significant details (Luck & Hollingworth, 2008, Brady & al., 2011), which suggests that visual stimuli leave traces that include more perceptual information than semantic one. In fact, empirical studies demonstrate that visual imagery is in certain aspects analogous to perception: both draw on similar neural machinery (Ganis & al., 2004), they interfere with one another under a dual task condition (Baddeley & Andrade, 2000) and represent similar kinds of properties as shape, size, same steps in

rotation, etc. (Shepard, 1978; Paivio, 1975). In other respects, visual imagery has unique properties that differentiate it from other systems: images are manipulated more rapidly than linguistic information; association of words or propositions with images enhances memory, etc. (Paivio, 1986; Engelkamp & al., 2001). On the other hand, whereas optic blindness does not produce any significant memory impairment outside of visual information, the amnesia of people with long-term visual memory loss extends beyond the visual deficit and includes more aspects of episodic memories but has particularities that differ from those of more common amnesias (Greenberg & Rubin, 2003; Greenberg & al., 2005). These particularities are that while patients are able to copy line drawings, they are unable to recognize objects by sight, to draw objects from memory, describe objects' visual properties from memory or have a visual image of objects upon introspection (Farah, 1984). On the other side, phenomenal studies of memories also provide evidence for the existence of visual memories in three lines of research: flashbulb memories (Brown & Kulik, 1977), that refers to memories for which one's mind seems to have taken a sort of accurate picture of some past event, even if it is not actually accurate; the distinction between field and observer perspectives, that is, if one sees oneself in the memory or sees the memory from the original observer's viewpoint (Nigro & Neisser, 1983); and emotional disorders, especially in PTSD but also depression and grief, which are associated with reports of involuntary mental images of aversive events that intrude into the mind when cued by appropriate situations (Holmes & Matthews, 2010). There are even a large range of imagery techniques that are used in therapy to treat these disorders (Edwards, 2007). There is also a growing interest in research analysing the relation between vividness and degree of details of visual memories on one hand and the sense of reliving and believability of memories on the other (d'Argembeau & Van der Linden, 2006; Holmes & Matthews, 2010; Greenberg & Knowlton, 2014).

Spatial imagery must be distinguished from visual imagery: there are several studies of different kinds (neuroimaging, neurophysiological damage and dual-task behavioral paradigms) that point to the fact that visual and spatial information are dependent on different systems. The main argument is that information that is encoded spatially need not to be visual or be presented as a visual layout: location can be known by auditory and tactile means; spatial models of the information in the text that people construct when read are not visual at all; what is more, the ability to navigate the world seems to be different from visual abilities, like the rotation of objects (Rubin, 2006, p. 282). Spatial navigation and spatial knowledge seem to be mentally represented in the form of cognitive maps (O'Keefe &

Nadel, 1978; Burgess & al., 2002), which is believed to be one of the functions of the hippocampus. Because of this overlapping of the brain region with the explicit memory system, it is difficult to find cases of spatial memory loss similar to those found for visual memory loss.

Nonetheless, cases of auditory memory loss were reported by Greenberg & Rubin (2003) from an analysis of verbal auditory and nonverbal auditory agnosic patients: the first case refers to patients who without being deaf cannot comprehend or produce spoken language but have no problem with written language, the second to patients who can understand and produce speech but cannot comprehend environmental sounds. They concluded that, unlike visual imagery, the impairment of auditory imagery is not associated with global episodic amnesia. One explanation would be that we rely more on vision than audition, but it could also be explained by a different organization of auditory imagery on the neurobiological level. Concerning olfactory, gustatory and tactile imagery, whereas they seem to play a prominent role in traumatic memories (Kline & Rausch, 1985), they may play only a small role in general personal memories, so a loss of these kinds of imagery would probably affect only a few memories. Besides, there are not very many behavioral and neuropsychological data on these sensory imageries. In the case of olfaction, it is clear that the neural basis differs from vision and may be differently organized: probably there is no storage similar to sensory memory because the odorant itself remains in contact with the sense organs for a period of time. Recognition of odors has different properties than visual recognition, whereas memory and imagination of odors present more difficulties than the visual ones. (Rubin, 2006, p. 282-283).

All these empirical data point to the fact that visual, spatial, olfactory, auditory, gustatory and tactile forms of imagery not only rely at the subpersonal level on different systems but also present different properties and characteristics at the personal level that make them different from each other as well as from other different kinds of representations, like the linguistic one.

In Rubin's model, the language system is distinguished from the narrative system: while the language system corresponds to the semantic, syntactic and phonetic aspects of language, the narrative system corresponds to the representation of a causal structure and thematic coherence of a series of events and can be expressed through forms other than language, like pictures, mime, etc. In fact, when a narrative is expressed through language it uses structures that are above the level of the sentence, and this reinforces the idea that

the two are dissociated and their impairments are independent. Aphasia, a well-studied language impairment, is associated with left-hemisphere damage and does not entail narrative impairment, whereas narrative loss is associated with the frontal lobe and right hemisphere and it frequently results in a loss of ability to appreciate context, presuppositions, affective tone and theme of a narrative. In fact, language impairments like aphasia do not cause major impairments in personal memory, with the exception of semantic dementia. Concerning the interaction between language and the sensory systems, according to Rubin empirical studies are consistent with the idea that visual and multimodal objects and scenes are stored both in the original sensory systems and in the language system, more specifically, in the language that has been used at the time of the event (Schrauf, 2000; Marian & Neisser, 2000).

Another important system that contributes to the constructions of personal memories is the emotion system. Rubin considers this system very briefly and in a very schematic way, as a sort of broad system which includes "experiential, behavioral, sociodevelopmental and biological phenomena" (p. 283). In his model, the emotion system is a system that also modulates other systems, like the explicit memory system and the search and retrieval system. In fact, numerous empirical studies have shown how emotional intensity and valence influence the encoding and recall of memories (Holland & Kensinger, 2010). Consistent with the general belief that the amygdala constitutes the locus of the emotion system, damage to the amygdala does not appear to extend beyond changes in the processing of emotional stimuli. In any case, I will come back to the analysis of the emotion system and its relation to memory and language in chapters 5 and 6. In this chapter I simply take Rubin's conceptualization of the emotion system as an independent system mainly instantiated by the amygdala.

There are also other systems that according to Rubin can intervene in the formation of an episodic memory but to minor extent, like pain and vestibular function. One important characteristic of the systems is that each one has their own schemata in Bartlett's sense (1932): "schema refers to an active organization of past reactions, or of past experiences, which must always be supposed to be operating in many well-adapted organic responses" (p. 201). These schemas are a sort of semantic frameworks through which different aspects of the information stored is processed and modulated in order to construct an episodic memory. Another characteristic of the systems is that they communicate with each other. I already mentioned three kinds of general coordination: those made by the explicit memory

system, the search and retrieval system and the emotion system. But there are other kinds of more specific coordination that refer to local forms of interaction between different systems, such as visual, gustatory, olfactory, tactile and emotion systems, or between different subsystems, such as the motor and color subsystems that combine in vision.

In summary, Rubin presents compelling behavioral, neuropsychological and neuroimaging data that supports the idea that personal memories are the result of different systems that are coordinated by the explicit memory system and the search and retrieval system and that deal with different kinds of information, at the subpersonal as well as at the personal level. In my terminology, this means that Rubin presents compelling evidence for defending the idea that personal memories can have heterogeneous contents, among which are some non-propositional contents. Visual imagery, spatial imagery, auditory, olfactory, gustatory and tactile imageries, language, narration, emotion: each one seems to have a different neural basis as well as different phenomenal and behavioral properties.

GOING BEYOND DAVID RUBIN'S BASIC-SYSTEM MODEL OF EPISODIC MEMORY

I do not pretend here to evaluate in depth the empirical literature mentioned earlier or Rubin's statement that these different modalities constitute different systems. The main point I want to make is that there seems to be convincing evidence at different levels of explanation—subpersonal as well as personal—that points to the existence of heterogeneity of information and thus contents of our personal memories. Although further detailed analysis and review of empirical studies would need to be carried out in order to have better grounds to definitely accept or criticize or refuse Rubin's model, I assume here that the evidence is enough for my purposes. What I take from Rubin's model is that empirical data at the neural, behavioral and phenomenal level strongly suggest that each modality or system contributes to a type of information that differs from the others in the process of recollection and reconstruction of personal memories. I will use this subsection thus to offer some general remarks about these heterogeneous memory contents and also some links with philosophical discussions about conceptual and non-conceptual contents.

Narrative system, language system and phenomenology

First, I propose to discard the narrative system as a system which has a particular kind of content because it seems to be more a system that structures and organizes information provided by other systems, like visual imagery and language, rather than a system that contributes a specific and unique kind of information to the retrieval-reconstruction of personal memories. Therefore, the possible contents of personal memory are a variety of images, which includes visual images, spatial images or cognitive maps, auditory images, olfactory images, gustatory images and tactile images; linguistic representations and emotions or some sort of *affective aspect* (as I will call it and explain with more detail in chapters 5 and 6).

These different kinds of content can surely have phenomenal properties that probably differ according to the modality. While the phenomenal character of merely linguistic memory contents is a matter of current debate in philosophy of mind but probably cannot be empirically measured, the phenomenal character of sensory imagery as well as the emotional aspect can and have been empirically measured through personal ratings concerning different variables like clarity, level of detail, tone, vividness, intensity, remembered feeling, valence, etc. (see the Memory Characteristics Questionnaire: Johnson & al., 1988). This phenomenal character that is exclusive to the different kinds of contents need to be differentiated from the phenomenal properties that arises from the remembering mode that is given by the explicit memory system and the search and retrieval system, and that corresponds to what James (1890) and Russell (1921) and others have conceptualized as a feeling of remembering or feeling of pastness, that is, the feeling that the content presented was real, or what the psychologist Tulving (1985, 2002), in more technical terms, has defined as autonoesis and mental time travel[5]. This distinction constitutes the second point I want to make. Because this feeling is a metacognitive feeling, I propose to call this phenomenology *metacognitive phenomenology* or *metacognitive phenomenal character*, and to the phenomenology proper to the different kinds of contents I will call *first-order phenomenology* or *first-order phenomenal character*. Whereas the first order phenomenal character is proper to the different kinds of systems or modalities involved in the recollection of personal memories, the metacognitive phenomenal character is proper to the remembering mode and is what makes the content to be felt as past. However, this does not

[5] More about these notions on chapter 3.

mean that the two phenomenal characters are completely independent one from the other: flashbulb memories are clearly examples of this interaction, where the vividness and details of a visual snapshot about a past event is tied to a strong feeling of remembering and a high level of confidence of the rememberer about what is represented, even in the case where what is represented is false. In general, studies have shown a correlation between the vividness and degree of details of imagery, mostly visual but also auditory, and the sense of reliving the memory (Rubin & al., 2003; D'Argembeau & Van der Linden, 2006; Greenberg & Knowlton, 2014). More in this line should be empirically explored, in order to better clarify the direction of the influence. Besides, the sense of reliving or the feeling of remembering should probably be distinguished from the believability of the memory, as recent studies in non-believed memories have argued for: memories can have the same first-order and metacognitive phenomenology of authentic memories but are not believed to be true memories, and in fact they are not (Mazzoni & al., 2010; Otgaar & al., 2014).

The third remark concerns the language system. The language system can contribute in three ways to the retrieval and reconstruction of a personal memory. First of all, except for the cases of memories of our inner speech, it seems that because we can only access linguistic information through the visual, auditory or tactile modalities, memories of linguistic information cannot be *pure*; they will always be intertwined with some imagery of the modality through which they were encoded. This is a case, in Rubin's terms, of specific coordination between different systems that happens at encoding as well as at retrieval. It is probable that this coordination notably applies to recent memories, whereas some old memories of what others said or I said or I read could lose their association with the sensory modality and become more semantic. The visual memory of the page and even the vertical location of some information recently read in a book in order to do an exam is probably a case of a memory that most of us have experienced. Secondly, language can be also used as a tool to describe some information given in another non-linguistic modality. This is particularly useful to communicate the memory to other people, that is, at retelling. I can spend a day alone walking around a city and seeing different landscapes and situations without talking to anybody and then be able to retell what I saw. It is probable that in these cases, information retrieved from non-linguistic modalities, of which we are not necessarily completely aware, is *converted* through retelling to linguistic information. The third possibility in which language can contribute to the reconstruction and reconsolidation of memories arises from these cases of retelling. When we retell an event, the trace of the event becomes unstable again and can be altered or re-encoded as a new trace, as I

explained in chapter 1. So what we tell to others and also to ourselves about that event can be encoded with the memory of the event or even replace the memory of the event. The next time we remember the event, we can remember thus partially what we told about it—without necessarily being aware of this—or we can remember mostly or uniquely what we told.

Non-linguistic memory content: conceptual or non-conceptual?

Coming back to the nature of these heterogeneous contents of personal memories, in Rubin's model, except for the information conveyed by the language system, all the other contents seem to be non-linguistic. It is clear that all the empirical data presented above at the neural, behavioral and phenomenal level strongly suggest that each modality or system contributes a type of information that differs from the others—at both subpersonal and personal levels—in the process of recollection-reconstruction of personal memories. Because there is a strong link between concepts and language, there is nothing at first sight that should lead us to consider that the contents of these non-linguistic systems are conceptual in nature. Nonetheless, even if these non-linguistic contents may not be experienced as conceptual, first, concepts might be required in order to experience these mental contents; and second, it could also happen that these mental contents experienced as nonconceptual could ultimately be reduced to a set of concepts or propositions. In order to clarify these points and make links with current philosophical debates about the nature of mental content, I examine next these two points: first, if concepts are necessary to have these heterogeneous non-linguistic mental contents; and second, if these contents can be reduced to concepts.

The first point concerns the conditions of possibility to have non-linguistic mental content. This question could be answered if there was a general consensus in cognitive science about the development of experience-near memories, that is, memories with mostly sensory imagery content, but in fact there is not. Whereas some authors like Tulving (2002), Wheeler & al. (1997) and Newcombe & al. (2007) consider that personal memories develop around 3-4 years old and require conceptual knowledge (among others capabilities), other authors like Conway (2009) consider the opposite: it is these sensory memories that in fact are more primitive and contribute to the formation of concepts. Nonetheless, these authors are in fact talking about different phenomena: Tulving and Wheeler do not refer to the memory content but to the metacognitive phenomenology that characterizes remembering;

Newcombe & al. (2007) do not distinguish more sensory memories from more conceptual ones—that is, episodic memory from autobiographical memory, as I explain in the next chapter. So it seems that only Conway is considering what is at stake here: sensory imagery. In fact, Morrison & Conway (2010) hypothesize that the possession of concepts is not necessary for encoding information in sensory modalities but it is necessary to encode these information in a way that will make them retrievable later. The relation between these early sensory non-conceptual memories and concepts would be dialectical: on one side, these memories may provide part of the basis for the emergence of early concepts which can be abstracted from them; on the other side, as this conceptual knowledge emerges, it organizes these sensory memories in a way that makes them accessible later for the subject.

> "This view of the development of conceptual knowledge derives from a developmental theory originally proposed by Nelson (Nelson, 1974). Nelson proposed that for the infant in the process of acquiring vocabulary, single words initially refer to events. For example, when the mother rolls the ball to the child and says 'ball' then the word 'ball' is taken by the infant to refer to the whole event and not just the object. In this way early episodic memories become associated with specific words. As memories accrue in which the same or similar words occur but the memories themselves differ, for example the ball rolled on the carpet versus the ball rolled on the grass, then the referent of the word narrows from whole episode to a detail of an episode. At some point the word itself must become attached to a conceptual, rather than episodic, representation in long-term memory (…) In this way conceptual knowledge might gradually emerge from what are in essence non-conceptual episodic memories. But as conceptual knowledge emerges it will, of course, in turn be represented in episodic memories (…) Thus, episodic memories develop from sensory-perceptual-affective representations to sensory-perceptual-affective-conceptual representations in the older child and adult" (Conway, 2009, p. 2312).

More should be explored in this line of research. Nonetheless this hypothesis is quite promising. First, it brings closer infants and non-human animals, in the sense that they would share similar perceptual capabilities that would allow them to encode perceptual information from particular situations. Second, the distinction of memories of infants and

non-human animals from those of adults would be mainly based in the acquisition of language and thus concepts in the proper sense of the term. The concepts acquired through these same perceptual capabilities would restructure the way in which we encode this perceptual information: first, because they would permit to differentiate and thus encode this perceptual information at a fine-grained level; and second, because the association of this information with a concept at encoding would render this information accessible for long-term conscious retrieval. In conclusion, from this hypothesis, it follows that sensory imagery is a capability that in its origin does not require the possession of concepts; in fact, it allows the acquisition of concepts. Nonetheless, because the acquisition of concepts radically changes the way in which we encode, retrieve and experience sensory imagery, although concepts are not ontogenetically necessary for sensory imagery, their possession and activation become necessary—at the personal and subpersonal level—to the sensory imagery states that are characteristic of human adults. In summary, if sensory imagery is essentially nonconceptual, with the acquisition of concepts it becomes partly conceptual.

Admitting that concepts are necessary—in the sense explained above—to undergo a sensory imagery state, there is still another question that can be asked: is it possible, as Russell (1921) thought, to completely reduce this variety of sensory imagery concepts to conceptual content? I think some of the arguments used to defend the thesis that perception has nonconceptual content could be successfully transferred to argue that these non-linguistic contents of personal memories are nonconceptual and not reducible to concepts or propositions. Dretske's argument (1981, p. 135-141) about the analog and digital distinction to mark a difference in the ways in which information can be represented could prove useful. According to Dretske, "a signal (structure, event, state) carries the information that *s* is *F* in digital form if and only if the signal carries no additional information about *s*, no information that is not already nested in *s*'s being *F*. If the signal does carry additional information about *s*, information that is not nested in *s*'s being *F*, then I shall say that the signal carries this information in analog form" (p. 137). So whereas language would represent the past event in digital form, other non-linguistic modalities would represent it in analog form, because it would carry more information than that one given in digital form. Paraphrasing Dretske's example, the statement "I remember I left the keys on the table" exclusively carries no more information that the keys were left on the table. However, the visual memory image that can accompany this utterance is far richer, even if it only represents the table and the keys: it tells me approximately in which part of the table I left the keys, the shape, size, and maybe color of the keys and the table, etc. It

can even include myself leaving the keys on the table. And although more concepts and propositions could be employed to describe a lot of detailed information conveyed in the memory image, the sentence would be enormously complex and it would be doubtful that it could provide even an approximate linguistic rendition of the information carried by the visual memory image in analog form.

Probably the other cases of imagery like gustatory, auditory or olfactory memory images are more compelling, because in these cases it is possible to state not only that we do not have the necessary concepts to describe all the information carried by a remembered flavor, sound, smell or music but also that we do not even have the canonical concepts to describe these remembered sensations, that is, the concepts that would characterize the properties considered as essential to those memories. Probably a chef or sommelier or musician, that is experts who have developed a particular sensory perception in a more sophisticated way than other people, could better describe through the use of concepts a particular remembered flavor or music, but again their description could not even be close to exhausting the specific information carried by those memory images. Another example could be given in relation with remembered erotic memories, a type nicely analysed by Casey (1987, p. 157-162): the memory of a caress of a specific part of the body of a sexual partner could probably be described through the use of some concepts like fond, intimate, sensual, as well as the particular way in which the touched or caressed body felt, such as soft, milky, etc., but it would be hard to imagine that this conceptualization does not entail a loss of information that can be only given through a specific modality, in this case through tactile imagery. So finally, it seems that Bartlett (1932) was quite right to state that imagery has some intrinsic qualities that defies a linguistic description and that this *aesthetic luxury*, as he called it, is lost when described through language.

The notion of *structural resemblance* developed by O'Brien & Opie (2004) would be another line of argument to explain why sensory imagery carries information that cannot be reduced to concepts without any loss. According to O'Brien & Opie, mental representations do not represent by physical resemblance, because they are capable of representing features of the world without sharing physical properties with what they represent. But they do represent by structural resemblance: one system structurally resembles another when the physical relations among the objects that comprise the first preserve some aspects of the relational organization of the second. Therefore, we could say that sensory imagery represents an object by structural resemblance; because conceptual representations cannot represent the same object that sensory imagery can represent by

structural resemblance, some information is lost and that is why conceptual representations carry less information about it than the sensory imagery representations.

Another argument to defend the non-reducibility of sensory imagery to concepts and propositions comes from a similar line of thought defended by Cummins & Poirier (2010). For Cummins & Poirier (2010) mental representations mirror the structure of what they represent and that is why they are multidimentional, that is, they can represent simultaneously more than one dimension, like visual images represent at the same time size, shape, location, etc. This makes representational accuracy far more complex than accuracy in terms of truth value. Pictures, maps, sensory imagery are not true or false but they are more or less accurate representations of their objects. Propositional and thus conceptual representations are true or false and cannot be represented with greater or less accuracy. This is another argument in favor of the idea that sensory imagery cannot be reduced to propositional and conceptual content.

To sum up, I have presented in this subsection some arguments to defend the idea that sensory imagery is nonconceptual. Although the possession of concepts may be necessary for the development of sensory imagery as adults experience it, and the *activation* of the corresponding concept may occur while having a sensory imagery experience, the content of sensory imagery does not seem to be reducible to concepts without loss of information. Whereas the analysis of visual imagery could still present some doubts for some people who are skeptical in relation to the arguments presented earlier, because in general we have an enormous array of concepts to refer to what we visually perceive, the consideration of other senses, often neglected in the discussions about nonconceptual content, could provide more compelling evidence. For example, auditory imagery could be more compelling to argue against the conceptual reducibility of its content. As the reader can notice, I have not analysed all the representational content of all the nonlinguistic systems that contribute to the retrieval-construction of personal memories. The emotional content, which was deliberately omitted, is going to be analysed later in chapters 5 and 6.

OTHER KINDS OF MEMORY CONTENTS

Until now, I have analysed contents of personal memories that are purely mental contents. Most of them are internal to the mind and the body, as is the case for all sensory imagery, and so they are private to the rememberer and unobservable for other people.

Language is a case of memory content that is internal but with the difference that it can be exteriorized and become public[6]. In this section, I examine the possibility of having other memory contents that are not internal to the rememberer and that are essentially public. I analyse two different kinds of non-internal memory contents. First, memory contents that are exteriorized through the body, and so they are not strictly speaking external to the rememberer because they are still body-dependent; and second, memory contents that exist independently of the rememberer and so can be properly called *external*.

Embodied content

A possible content of personal memories scarcely mentioned by Rubin (2006) and generally neglected in cognitive science are the bodily aspects of memories, like motor behaviors, motor tendencies and bodily sensations. Although the notion of motor skill learning was already mentioned in philosophy some time before its later conceptualization in cognitive science as *procedural memory*, there are almost no references in the psychological and philosophical literature to a possible bodily aspect or content of personal memories. Once again the model of human memory based on the computer metaphor is probably the major reason for the negligence of the role of the body in memory and in cognition (Ryle, 1949; Rubin, 2006).

One important question needs to be answered concerning the possibility that personal memories have an embodied content. It is not evident that motor behaviors, motor tendencies and bodily sensations have to be conceived as contents of memories. They could be simply considered as a consequence of retrieving a personal memory but not as a constituent of the memory itself. For the purposes of this analysis, I propose to distinguish between two possible kinds of embodied contents: interoceptive content and kinetic content. Interoceptive content refers to any kind of sensitivity originating inside of the body: temperature, arousal, other bodily feelings and sensations, included motor tendencies. Kinetic content refers to occurrent motor behaviors. Whereas interoceptive content is essentially internal but in some cases like temperature can be exteriorized, kinetic content is always external and public. Because interoceptive sensations, first, seem to be tightly connected with affective states, that is, emotions, feelings and moods, and second,

[6] Although from phylogenetic and ontogenetic perspectives, language would probably be best considered as a means of representation that is external to the subject and is progressively internalized.

as I already explained, some of them can be exteriorized but they are not external, I only examine in this subsection the kinetic content and leave the discussion of interoceptive content for chapters 5 and 6.

Kinetic content

Ryle (1949) first mentions the possibility of conceiving memories of personal experiences as taking a kinetic form. He considers that memory is a way of showing and presenting something already experienced or learned, and that this presentation of something past can take the form of a visual image or a verbal narration, but also of a mimic or re-performance of some past perception:

> "The stock accounts given of reminiscence give the impression that when a person recalls an episode belonging to his own past history, the details of the episode must come back to him in imagery. He must 'see' the details 'in his mind's eye', or 'hear' them 'in his head'. But there is no 'must' about it. If a concert-goer wishes to recollect just how the violinist misplayed a certain piece, he may whistle the bungled tune, or play it on his own fiddle just as the artist had done it; and, if he repeats the mistake faithfully, he is certainly recollecting the artist's error. This might be his only way of recalling how the artist had gone wrong, since he may be poor at going over tunes in his head. Similarly a good mimic might recapture the preacher's gestures and grimaces only by reproducing them with his own hands and on his own face, since he may be poor at seeing things in his mind's eye. (…) If their mimicries (…) are good and if, when they go wrong, their authors duly correct them without being prompted, their companions will be satisfied that they have recollected what they had seen, without desiring any additional information about the vividness, copiousness or connectedness of their visual imagery or even about its existence" (p. 260).

Martin and Deutscher (1966) describe a similar case: "Suppose that someone has never dog-paddled. He is not good at visualization and has never learned any words which would describe swimming. His method of representing the one time at which he saw a man dog-paddle is his actually doing the dog-paddle stroke. We can imagine him trying to remember the curious action that the man went through in the water. He cannot describe it, and cannot form any picture of it. He cannot bring it back. He gets into the water,

experimenting a little until suddenly he gets it right and exclaims, 'Aha, that's it!'" (p. 161-162).

These two cases exemplify enactive memory. Probably Ryle's examples are better than the one mentioned by Martin and Deutscher because there is no possibility for them to be mistaken with a motor skill learning. In any case, in these two cases, all the content of the memory is expressed through a re-enactment, even if the content or some content can also be expressed by means of inner visual images, language, etc. It is possible to think about slightly different cases where only one part or aspect of the content is expressed through a kinetic component (Sutton & Williamson, 2014): while telling you about a past date with a potential partner, I can grab your arm in order to exemplify the way this potential partner grabbed my arm that night. Or I can even move my body to exemplify a concept and thus make a movement that did not take place: for example, if I want to express and communicate the embarrassment my potential partner felt when I told him that I liked him, I can tighten my belly, round my back and make myself smaller in the chair to express that he was really embarrassed but without implying that he actually moved his body in this way. In this case, the purpose of my kinetic movement is exemplificatory of some concept or information in another modality that correspond to a past situation and not imitative or reproductive.

The question is to what extent these bodily movements are really a specific kind of content of personal memories or a simple motor output, a simple action that follows the retrieval of a personal memory. I will defend here the first option, that is, the idea that some cases of kinesis related to personal memories are part of the memory content. For a comparative purpose, I propose to start by considering a paraphrase of an example given by Malcolm (1970, p. 65-67). Let's imagine that a friend of mine with whom I left my house to go for a walk asked me if I locked the front door. To this question I can reply with a statement 'Yes', 'No' or 'You locked it'. But I can also reply with an action: go back to my house and lock the door. Nothing in this example indicates that before doing the action I had a conscious inner representation, like a visual image, of me and my friend leaving the house without locking the front door. Because of this, Malcolm concludes that the action itself is the memory of the past event 'leaving the house without locking the door'. I propose now to contrast Malcolm's example with the examples given earlier. In Malcolm's example, the motor behavior is embedded in a task-relevant external situation and only has a sense in that particular environment. The intention behind it is to bring a change in the world; in this case, lock the door. Therefore, even in the case where the subject does not

have any previous conscious recollection, some information retrieved guides the action. Therefore, it is possible to say that in this case memory is operating to serve the needs of a body interacting with a real-world situation. This action thus could be at most considered as an on-line aspect of embodied cognition (Wilson, 2002), although the case would deserve further analysis in order to establish if it is effectively a case of embodied cognition or just an action followed by a retrieval of information. Probably procedural memory would be the best and clearest example of on-line embodied memory. In any case, it seems that Malcolm's example is very different from Ryle's and Martin and Deutcher's examples, as well as the other examples of kinetic content that I gave. In these last examples, the motor behavior is not relevant to any task in the external environment (except in some cases for a communicative purpose): it clearly does not pretend to bring a change in the world and its sense is independent of the environment where it is done. It seems that motor behavior is only brought out with a representative intention whose reference bears the mark of the past. So this is clearly a case of off-line embodied memory: rather than memory operating to serve real body-world interaction, the body and its control systems are put at the service of memory.

A similar case of motor processes that are put to the service of higher cognitive processes like memory is the case of *the looking at nothing* phenomenon that is associated with the retrieval of a memory. In this case, oculomotor mechanisms, more specifically eye movements, are also activated in the absence of appropriate external stimuli, by remembering a scene or elements of a scene (Richardson & Spivey, 2000; Spivey & Geng, 2001; Richardson & al., 2009). It seems that "the locations to which eye movements are directed appear to be determined, at least in part, by the mental representation of the scene rather than by the scene itself" (Altmann & Kamide, 2004). So probably in this case, while the motor behavior can be considered as a case of off-line embodied cognition, it is doubtful that it could be considered as a case of off-line embodied memory. If these oculomotor movements are guided by internal representations, like spatial and visual imagery, it seems more plausible to think that they are not representing by themselves but are helping to form an internal representation. A different example of eye movements that would correspond to a proper case of off-line embodied memory is when the oculomotor movement is done to represent a similar movement done in the past by the rememberer or by another person, or to exemplify some concept that applies to a past situation.

Therefore, I conclude first, that cases of body movements guided by memory (Malcolm's example) and cases of body movements that assist memory retrieval (*looking*

at nothing phenomenon while remembering) do not constitute part of the content of memories, so they are not cases of kinetic content.

Second, among the examples of possible kinetic content mentioned earlier, it is necessary to distinguish between different kinds of kinetic contents of our personal memories: some kinetic contents represent something past by exemplifying a concept or information in another modality while other kinetic contents represent something past by imitating a past movement or behavior. In this last case, the past movement or behavior imitated can be a past movement or behavior seen by the rememberer that has been done by a third party, or it can be a past movement or behavior done by the rememberer himself. Probably these conceptual differences, though they are not reflected at the behavioral level, they have different phenomenology and probably different neural correlates. In fact, experimental studies as well as brain-imaging research give support to the idea that when past enacted actions are retrieved by the performer of those actions motor areas are involved during recollection, even when recall is simply verbal rather than behavioral (Nilsson & al., 2000; Nyberg & al., 2001; Heil & al., 1999). The idea that motor information also contributes to the construction of some memories which do not present kinetic content suggests that personal memories could have another different kind of content, a sort of motor content that is internal and thus not embodied.

The last point that is necessary to consider is whether this kinetic content is nonconceptual in the sense defined before. The kinetic content that is imitative of a past enacted behavior or a behavior or movement just seen is clearly nonconceptual in all the senses. The acquisition of language and concepts is not required to perform imitative behaviors, as studies in neonates and infants have largely shown since Meltzoff & Moore (1977). On the other side, imitative behaviors not only are multidimensional representations that have different degrees of accuracy rather than truth value (Cummins & Poirier, 2010) but, unlike sensory imagery, they represent by the most primitive sense of resemblance: physical resemblance (O'Brien & Opie, 2004). Therefore, it does seem less plausible than in the case of sensory imagery that all the information conveyed by the enactive representation of a past piece misplayed by the violinist, or of the past preacher's gestures and grimaces, or of a special way of swimming seen for the first time, can be satisfactorily expressed by concepts and propositions without a meaningful loss of information. On the other side, it seems that when the kinetic content is exemplificatory, the acquisition of language and concepts would probably be necessary to use the body to exemplify something past that was not originally corporal. Nonetheless, the information

carried could be with difficulty reduced to some concepts or propositions: if I want to represent the embarrassment that my potential partner felt last night or, to give a different example, the catchy music of yesterday's party by moving my shoulders up and down and my hands in circles even if I did not dance, the information conveyed by my motor actions carry more information about my potential partner´s embarrassment and the catchy music at the party than that one conveyed by concepts like *embarrassed* and *catchy music*.

External content

External memory content refers to possible memory contents that are not mental and exist independently of the rememberer and any act of remembering. Two questions need to be answered in order to better specify what external personal memory content exists, if any. The first question is whether the external artifacts that are manipulated while remembering personal experiences are in fact in themselves externalized memories. The second question is whether the manipulation of these external artifacts is an integral part of an act of remembering and not just a simple aid or prompt.

In the literature, external memories have been characterized for being permanent and potentially accessible forever; not subject to degradation; portable and easily accessible; faithful and with an enormous capacity of recording not comparable with biological memory; transparent and trustable (Donald, 1991; Clowes, 2013). If this characterization seems adequate to distinguish artifacts that are a sort of external memory hardware from artifacts that are not, it is not sufficient to distinguish artifacts that are potential external memory contents or representations from artifacts that are not. What is missing are some essential properties that make of an artifact an external personal memory content. To better understand the properties that I want to refer to, I propose to consider two cases of artifacts that are not external memories and compare them with artifacts that are good candidates to be external memories, like all kind of direct records of the past: photographs, audio records, videos, some written material, etc.

A vase that was broken in a dispute with my partner and later repaired has a physical trace of this dispute. When I look at it, it can make me remember that awful and violent dispute, but there is no qualitative feature in the vase itself that is shared with the characteristics of the dispute that I had that other night. If it is true that the broken vase carries more information for me than one that is actually visible (shape, color, etc.), it is also true that this information is not essential to the vase which is not a natural sign. Its

reference and meaning is accidentally added; it is non-natural. That is why the broken vase in this case could be at most considered as an artificial index that points to something I personally experienced in the past. Because of this merely accidental indexical relation between the vase and an event of my past, it is hard to see how the vase could be a case of external memory. What is more, the vase here acts as a trigger of my memory, and so it is an aid, a prompt, but not a constitutive part of my memory which is completely carried as an internal act of my mind. A different thing happens when the artifact in question has an iconic nature with something that happened in the personal past of the rememberer. Photographs, audio records, video records, written records, physically resemble what they stand for: scenes seen, voices heard, voices pronounced, thoughts and emotions had. It is evident that only some of their features are similar to the features of their reference and not others, such as the properties of shape and size of visual records. In Goodman's terminology, these would be cases of reference by exemplification, where the artifacts refer back to some of the features they possess (Goodman, 1976). Nonetheless, features like shape and size could be considered as having a structural resemblance (O'Brien & Opie, 2004), in the sense that the relations of shape and size of the elements on the photographs and video records mirrors the relations of shape and size of the objects depicted by the photographs and video records. Therefore, it seems that physical and structural resemblance with some features of the past experience or past object is an important requirement that artifacts which are candidates to be external memories should have. The iconic or exemplificatory nature of artifacts proves thus to be an essential property of candidates to external personal memories.

However, iconicity is not sufficient: as the next example proves, indexicality, and a special kind of indexicality, is also a necessary requirement. A painting and a sculpture and any other means of representation, like an installation, can share with photos and video and audio records the property of having similar features to their past referents. They can even be virtually indistinguishable one from another, that is, they could share exactly the same amount and quality of properties that are similar to the properties of their referents. Photorealism and hyperrealism are good examples in painting and sculpture, like Chuck Close's paintings and Ron Muek's sculptures, and Charlie Kaufman's film *Synedoche, New York* (2008) offers an excellent example of a theatrical and scenic recreation of moments of the past of a theatre director who engages himself in a crazy project of directing a play of his own life.

It is also possible to think about hypothetical technologies that would allow us to recreate someone's voice in order to register what someone said but was not recorded at that time, or a video program that with a couple of images and other information could faithfully recreate a scene that was not originally recorded. This recreation of something past can even be thought in an extreme science fictional scenario, as it would be the case of the recreation of someone dead. This is the plot of "Be Right Back" (2013), one episode of the English series *Black Mirror*. I relate now more about the plot of this episode because it will help to better understand in what sense these last cases mentioned should not be considered as external memories in the same way as photographs, audio, video and written records. In a similar world as ours, a woman called Martha loses her husband in a tragic accident and decides to buy a physical replica of her husband whose behavior and character are guided by powerful software that reconstructs the past person based on all his emails, texts, Facebook posts and other data collected from social media. Whereas at the beginning Martha seems to treat this replica as if it was her husband, she finally breaks down when she starts to see his unreality and realizes he is not her husband. This unreality is in part given by the fact that the replica's behavior and personality is driven by software which is based in the computation of the information of the past person collected through social media to form an output. So the software here acts as a sort of mediator or intermediary in which we have to trust in order to conceive that the behavior that the replica has would have been similar to the behavior that the dead person would have had under those same circumstances. The software acts thus as a sort of interpreter of some data that constructs an appropriate output according to a set of rules. And because of this mediation, the idea of an exact replica of a dead person ultimately fails and Martha realizes that he is not her husband, but just a copy, and a very imperfect one.

A similar sort of mediation is present in pictures, sculptures and possible theatrical and scenic replicas, but also hypothetical technologies that would reconstruct a video or audio artifact of something past that was not recorded, despite the great exactitude that these reproductions and reconstructions may have. In these cases, what is depicted or represented is mediated by the beliefs of the author of these artifacts, which can be perceptual beliefs about what was before him and which characteristics it had if, while the artifact was being made, the referent depicted (model, landscape, scene) was always present, or memory beliefs if the referent was absent and the author just trusted his memory representations. This mediation is absent from photographs, video, audio and written records—when the content of the written records are exclusively about the current inner

states of the writer (and later remembered)[7]. In these cases, the mechanical records of past events and people are not mediated by the beliefs of the technician who operated the machine (camera, film camera, tape recorder or paper and pencil), that is, they are indifferent to what the technician perceived or thought to perceive. As Walton (1984) explains for the case of photographs, it is certainly true that the technician has to have held some beliefs about the way these mechanisms of recording operate and process information, and it is also true that the technician's point of view is present in the resultant artifact in the sense that he decides to record some fraction of the experience, some miniature of reality (Sontag, 1977) and not another. But this choice of recording *this* instead of a simultaneous *that* does not affect the fact that what was recorded was independent of the beliefs of the technician about what was being seen or heard (or thought). This indicates that the causal processes of these two different kinds of artifacts are different and that this difference is what makes a difference in the way rememberers engage with these artifacts and experience them. Paraphrasing Walton (1984), whereas the counterfactual dependence on the past object or event of artifacts that are a result of a recording process is independent of the technician's beliefs, paintings, sculptures and another similar means of representation have a counterfactual dependence on the past object or event that is dependent of the author's past perceptual beliefs (or memories). That is, the beliefs of the rememberer about the past reality of the content presented through the recording artifacts is independent of the beliefs of the technician who did the recording, whereas this is not the case for paintings, sculptures and similar means, even if extremely realistic. This is so even if the person who is remembering and the person who did the painting or sculpture is the same. As Walden (2008) analyses from another perspective, the advantage of recording artifacts lies at the metacognitive level: because of this independence from the technician's beliefs, second-order beliefs about first-order perceptual beliefs concerning the past existence of the objects represented and their qualities have as their contents that those first-order beliefs about past things and events are true. Therefore, a special kind of indexicality, that I will call

[7] Whereas notes of a supermarket list and diaries about current inner emotions and thoughts related with a past experience are not mediated by any other belief of the writer, normal diaries where in general the writer writes about his past experiences (what happened during that day or that trip) are not independent of his past memory beliefs. So whereas diaries would be faithful records of the emotions, thoughts and memories about external events that the writer had at the moment he wrote them, they are not faithful records of the external events they refer to. Even if the writer of the diary is writing the events as they happen, and so the events are contemporaneous to their writing, the descriptions of what is happening would not be as transparent as a photograph of the scene or a video record (see also Walton, 1984, p. 44-45). Here the change of modality, from sensorial to linguistic, or nonconceptual to conceptual, implies a loss of information that would render the diaries opaque.

unmediated indexicality, seems also to be an essential characteristic of external personal memories in the same measure than iconicity.

This comparison with paintings, sculptures and similar means of representation brings up another difference in the way in which they refer to something past that is related to the process through which the information depicted is captured in the representation: whereas recording means registering the experience at the same moment that the experience is happening, paintings, sculptures, scenic and theatrical representations used as means of recording or recreation need a much longer amount of time. Even if the model or landscape is always occurrent to the making of the painting or sculpture, models and landscapes change every second, and so what is really captured is already a sort of abstraction from a quite long series of moments. Even portraits done by sketchers that work on touristic streets of touristic cities need some minutes to be done, and thus they refer to the person drawn but their reference does not capture the posture, regard, tension of the muscles, etc., of one single moment of that person as a photograph does. Video recording captures a succession of moments in their individuality, whereas realist paintings and sculptures can refer to the same thing or landscape but not with the same fineness of grain: there is always at least a minimum degree of temporal abstraction—as in the case of the portraits made by sketchers—that results in a certain degree of abstraction of the features of the object depicted. In this sense, whereas paintings and sculptures would resemble our internal memories because of their abstraction and generalization and finally reconstructive nature—even in a small degree—recording artifacts would resemble that old and idealistic conceptualization of memories that mistakenly considered them as exact replicas of the past, which are nicely exemplified in the character Funes of the story "Funes the Memorious" written by Borges (1944). And this is another aspect that distinguishes the unmediated indexicality characteristic of recording artifacts from the indexicality that some paintings and sculptures can have.

Once analysed the two properties that artifacts that are external personal memories need to have, that is, iconicity (or physical and structural resemblance) and unmediated indexicality, it is time to answer the second question: are these external personal memories an integral part of an act of remembering or only a simple aid or prompt that leads to an internal memory act? It is clear that these external memories differ from biological memories like sensory imagery in many aspects, notably in the lack of the reconstructive and changeable nature that characterizes our internal memory representations. Nonetheless, these and other differences in nature, dynamics and functions do not prevent that internal

and external memory representations can couple in a complementary way in an act of remembering (Sutton, 2010b). Whereas some acts of remembering are more internal processes that do not imply the manipulation of external information, other acts of remembering are interactively spread across inner and outer resources (Michaelian & Sutton, 2013). External memory records like photographs or video recordings can become a temporary cognitive structure used by the cognizer in an act of remembering to hold items and process information about a past experience that in some cases could not be accessed otherwise. Because these external memory records would play the role attributed to working memory, it could be said that in these cases working memory would be an hybrid made of the biological working memory and the processes of manipulation of and interaction with these external records of the past (Donald, 1991; Rowlands, 1999). Whereas in some cases the coupling between internal and external resources constitutes a full-blown incorporation, like the computing device known as Sensecam (Hodges & al., 2006) that is constantly used by some amnesic and Alzheimer's patients in order to remember everyday life, other times it only constitutes a regular reliance without incorporation, like when people reviewing their photos jointly recall their past.

FINAL THOUGHTS

Whereas older analyses of personal memories considered that memories had a unique kind of content: images or propositions, newer models like the one proposed by David Rubin defend the idea that personal memories are multimodal and can have heterogeneous contents, like sensory imagery, language and emotions. I have shown that there are many empirical reasons to believe that each of these contents carry different kinds of information and have different properties at both the subpersonal and the personal level, and so they cannot be reduced to a set of concepts or propositions. Because personal memories are not always disembodied mental representations but can be embodied and also external and independent from the rememberer, I have explored at the end of this chapter the way in which motor behaviors and external memory records can also constitute part of the act of remembering our past.

CHAPTER 3: INTENTIONAL OBJECTS OF PERSONAL MEMORIES

This chapter is focused on the analysis of the possible intentional objects of personal memory. Historically, *personal events* have been the privileged intentional object of personal memories, although to a lesser extent other kind of objects have also been considered or mentioned in the literature, like *facts*, *individuals* (*objects* and *people*), *places*, and psychological states like *feelings*, *thoughts*, *dreams*, etc. In this chapter, I present and analyse these different intentional objects. Because *events* are the kind of intentional object that has received most of the attention in the literature—in philosophy as well as in cognitive science—I start with their analysis and I spend most of this chapter on them. I then examine more briefly the other candidate intentional objects of personal memories.

EVENTS

Events have been the privileged intentional object of study and analysis in the field of personal memories, both in philosophy and in psychology. In Woozley's (1949) words: "remembering has for its object an event or series of events belonging to the past" (p. 36). Also Neisser (1988): "In the case of autobiographical memory the material [that is to be remembered] consists of events that we have personally experienced—or, to put it another way—of our personal experiences of events" (p. 71).

In philosophy of memory the notion of *event* has been not much analysed and discussion has turned around the possibility of remembering the event as experienced or only a fact of the event experienced in propositional form. But in cognitive psychology it has received more attention and has been the centre of the two main concepts developed in cognitive psychology to account for personal memories: episodic memory and autobiographical memory. As I explain later, whereas in the case of episodic memory the emphasis has been put on the notion of particular event, the autobiographical memory framework has introduced the idea that the notion of *events* can have different levels of abstraction and thus so also do the intentional objects of personal memories.

In this long section, I first consider the philosophical discussion around the notion of *event*. Then I examine the way in which different psychological theories of personal memory have characterized this notion through the concepts of *episodic memory* and *autobiographical memory*. I subsequently analyse the relationship between these two notions in order to shed light on the different kinds of events that seem to be the intentional object of our personal memories. I finish this section with a discussion of the dependence and interconnections between events as intentional objects, possible memory contents and the mode recollection.

Events versus facts

Without denying—but sometimes neither affirming—the existence of other kinds of personal memories, most philosophers have concentrated on memories of events, suggesting that the principal way in which we remember our past is through memories of specific events personally experienced (Laird, 1920; Russell, 1921; Stout, 1924; Broad, 1925; Price, Laird & Wright, 1936; Woozley, 1949; Earle, 1956; Martin & Deutscher, 1966; Deutscher, 1989, 2009; Wollheim, 1984; Fernandez, 2006, 2008; Debus, 2008; Matthen, 2010; Naylor, 2011; Goldie, 2012; Noordhof, 2013; etc.). As Laird (1936) remarked, "the most important sense of memory is the memory of some particular past event that the person who remembers has formerly observed and is aware of having observed" (p. 34).

The notion of event, however, has not been analysed by these philosophers, nor has the organization of memories of events, which is a central problem within cognitive psychology. In fact, most discussion have been focused on the possibility of remembering personal events as experienced or only remembering facts about those events. Margolis (1977), for example, remarked that "facts and propositions ought not to be confused with experiences, though we do remember facts and propositions (that is, that *p* and *r* is true); and, in fact, we are also said to remember experiences —though that needs clarification" (p. 187). He stated in general terms that the sense in which we remember events, faces, odours, etc., is different from the sense in which we remember propositions or facts: we never experience a fact or proposition. The old terms used in philosophy during the 60's and 70's to talk about these two different kinds or ways to represent a past event are *personal memory*—the term that I have adopted—or *event memory* to a lesser extent, and *factual memory* respectively, even though all of these terms had already appeared also in

the psychological literature[8]. In fact, in the psychological as well as in the philosophical literature the term *factual memory* had also another different denotation; it referred to general knowledge about facts of the world. Because I used from the beginning of this thesis the term *personal memory* in an indistinct and general way, I prefer to employ in this section the term *event memory* to talk about experiential memories of events, as well as reserve the notion of factual memory to talk of factual memories of events.

In the philosophical literature is possible to identify three criteria to distinguish event memory from factual memory, although some authors who have made this distinction do not necessarily refer to only one of them. These criteria are grammatical, phenomenological and causal.

The grammatical criterion distinguishes event memory from factual memory according to the grammatical objects of the verb *to remember*. Factual memory is unanimously considered to refer to memories whose natural expression involves a clause of the form "remember that *p*" where *p* stands for a proposition which has the property of being true or false (Malcolm, 1963; Bernecker, 2010). So factual memory *per se* is not limited to past events personally experienced but also includes general knowledge, as I have already mentioned. When it refers to personal events, it would be the equivalent of remembering that something personally experienced occurred or existed, as in the following example: "I remember that when I was a child I went with my family to Barcelona for the Easter holidays". The gerundival construction in *–ing* is in general categorized as the grammatical complement characteristic of event memories (Wollheim, 1984; Bernecker, 2010), as in "I remember reading your book" or "I remember the sun going down over the Indian Ocean". Others authors consider that nominalizations of verbs are also possible objects of event memories, as in "I remember the hike through the Berkshires" (Malcolm, 1963, p. 215).

The phenomenological criterion is grounded on the presence or absence of what I defined in the second chapter as non-propositional content (such as imagery) and the subsequent phenomenology that arises from it: first-order phenomenology and metacognitive phenomenology. That means that this criterion is mainly based on the kind of content. So if a memory has as intentional object an event experienced in the past, it would be considered a factual memory if its content is merely propositional and thus is

[8] For a list of the terms used in philosophy and psychology to refer to the memory of events see Brewer (1995), pp 21 and 32.

devoid of phenomenology[9]; if it has phenomenology and some of its content is non-propositional, it would be a case of event memory. Martin & Deutscher (1966) could be considered as proponents of this kind of distinction: "…the reason a man might be said only to remember that something happened is merely that there is a lack of detail in his direct memory (…) If someone is asked whether he remembers what he did last Friday at lunchtime, he may be able to say that he went down the street. Yet he may feel scarcely in a position to say that he remembers actually going down the street. What he needs in order to be able to say that he does remember going down the street is at least more detailed remembering that certain things happened when he went down the street (…) A precisely analogous point could be made in connection with the construction 'remembering what happened' or 'remembering what something was like'" (p. 62-63). It would be possible to add to this criterion a third requirement: that the event experienced must be remembered as it was experienced, that is, with a similar phenomenology to the original experience of the event, included the point of view or perspective in which it was experienced. The demand of egocentricity has been defended by Wollheim (1984) for whom only by adopting the perspective of the protagonist of the experience can the rememberer actually experience the memory of the past event with a similar phenomenology.

The third and last possible criterion to distinguish event memory from factual memory is causal and is based on the previous condition that is necessary to remember a past event. It is in general considered that event memory only requires as a previous condition that the remembered event is based on a previous experience or perception of that event, whereas factual memory requires that the present knowledge or belief about a past event be based on a past knowledge or belief. Malcolm (1963) is an advocate of the strong sense of this criterion: he defines *event memory* or *personal memory* in his terminology as "A person B personally remembers something, x, if and only if B previously perceived or experienced x and B's memory of x is based wholly or partly on his previous perception or experience of x" (p. 215), whereas factual memory is defined as "A person B remembers that p if and only if B knows that p because he knew that p" (p. 223). Fernandez (2006) on the other hand defends a weaker version: whereas factual memory of the proposition *p* requires previous belief that *p*, event memory of *p* is possible even if the rememberer had

[9] Even if the existence of 'cognitive phenomenology', that is, of a phenomenology that is characteristic of propositional representations like beliefs, is recently a subject of debate, for the proponents of the phenomenological criterion like Bernecker phenomenology is considered as synonym of non-propositional content.

never believed that *p* before. The criterion aims to distinguish between memories of events that come through testimony (understood in a broad sense) from memories of events that have been directly experienced or perceived by the rememberer. When exclusively applied to the events experienced by the rememberer, this criterion would in principle entail that memories based on previous knowledge or belief formed while experiencing the past event and not on the experience *per se* would be factual. However, Malcolm (1963) did not understand it like this and considered that personal memory entails some factual memory of it: "A person who personally remembers the burning of the city hall could be said, in this derivative sense, to personally remember that it burned" (p. 216). He named this memory *personal factual memory* in opposition to *non-personal factual memory*. Either Malcolm understands 'factual memory' simply as propositional memory, or he believes that while experiencing an event we always gain and form some knowledge that later we can recall. Fernandez' case (2006) is in some way different because it is not the fact that we form a belief in the past that entails that our memory is factual but the necessity of having formed this belief about an event in order to remember it.

Now I have introduced these three pure criteria, it is possible to ask which one correctly distinguishes event from factual memory, and more fundamentally, it is also possible to ask if this distinction has some sort of validity or usefulness.

The grammatical criterion is easy to dismiss because in fact it merely provides just that: a grammatical distinction and not a psychological one. First, the reason for distinguishing different categories is—if not to identify natural kinds—at least to make distinctions that are conceptually or empirically useful to think about and analyse in regard to mental phenomena. As Boyd (1999) and Machery (2009) have pointed out, entities should be clustered together when they share a large set of properties because of some uniform causal mechanism and when these clusters optimize the inductive and explanatory purposes of theories that make reference to them. The grammatical distinction clearly does not satisfy these requirements. First, this grammatical distinction on one hand divides memories that seem to have more properties in common and could be explained by the same causal mechanism, such as "I remember that I read your book" and "I remember reading your book", both of which refer to a past event experienced by the rememberer, and on the other hand clusters together memories that have less properties in common such as "I remember that I read your book" and "I remember that Paris is the capital of France" (that + event experienced versus that + fact or semantic knowledge). This suggests that this grammatical distinction is exclusively based on syntax and does not even consider

semantics, which would be essential to the understanding of memory, even from a grammatical point of view. Second, this syntactic distinction is not even a good syntactic distinction: it is exclusively based on the analysis of English and does not consider the fact that some other languages, such as Japanese, do not have the same kind of gerundival constructions (for a detailed analysis of the language of memory see Amberber, 2007). But the essential problem is that the grammatical criterion is intended to be more than just a syntactic distinction; it presumes to assert a difference at the psychological level, in the sense that it aims to explain two different ways in which personally experienced events can be remembered and not two different syntactic constructions to express the memory of an event. This aim nonetheless can only be fulfilled if this grammatical distinction is only conceived as a conceptual tool that reflects a difference based on other criteria than grammar, as it could be in the case of the phenomenological criterion.

The causal criterion is a little trickier because it implies epistemological assumptions about the way in which our memories are justified: factual memories always require a prior belief, if not knowledge. So I will avoid going deeper on what it is known as *epistemic theory of memory* and just focus on the two formulations mentioned earlier. For my purposes, two questions matter: first, if the criterion is useful to distinguish between two kinds of memories; second, if it is useful to distinguish between two kinds of memories of events personally experienced. The questions are in fact intertwined. Concerning the first question, it has been criticized (Munsat, 1965, Saunders, 1965, Margolis, 1977 for Malcolm, 1963; Naylor, 2011 for Fernandez, 2006) first, that factual memory is an umbrella category that includes two different kinds of memories, i.e. memory of events personally experienced and memory of events learned through testimony (Munsat, 1965). Second, that remembering—even factual remembering—cannot be equated with knowing that or believing that. The easiest counterexample is a case of relearning, in which a subject knows or believes that *p* at time t_1, then forgets *p* at time t_2, and then relearns *p* again at time t_3, but in fact does not remember *p* at t_3 (Munsat, 1965; Margolis, 1977). This example shows that previous knowledge or belief is not sufficient for factual memory. The third criticism tries to show that previous knowledge and belief are not even necessary. It has been argued that actual knowledge and beliefs, included about past events, do not necessarily require previous knowledge or belief. Cases of inattentive remembering, that is, when we are inattentive and do not form a conscious belief while experiencing the event but we form it later while remembering the event (Lackey, 2005; Bernecker, 2010), or cases when we do not consciously form a belief about *p* but then a defeater of *p* is removed and thus we

remember *p* (Naylor, 2011), or cases of negative memory, like remembering not having done something (Bernecker, 2010) are common counterexamples that have been used in the literature to argue that past knowledge and beliefs need not be a necessary requirement to remember beliefs or have knowledge about past events. These last counterexamples nonetheless have been also criticized. An advocate of the epistemic theory of memory could argue that belief and knowledge should not be reduced to conscious and occurrent states and so at the moment of experiencing an event the subject could form dispositional beliefs or dispositional knowledge about the event which is later remembered. So it seems that the criterion that defines factual memory as necessarily based on previous knowledge and belief does not constitute a good criterion to divide memories of personal experiences from memories of information acquired through testimony. It seems also that this criterion does not present any utility or gives any clarification to understand the different ways in which an event experienced in the past can be remembered. Even if we agree that some dispositional beliefs and knowledge are formed in an experience, establishing that when we remember these beliefs or knowledge of our experience our memory is factual requires establishing also what sort of properties of our experience of the past event we need to remember to have an event memory of it in opposition to a factual memory. Once more, the phenomenological characteristics of the event memory appear as a good option to explain the particularity of event memory. But this would suggest abandoning the causal criterion and embracing the phenomenological one.

Therefore, the phenomenological criterion is the only one left, and in principle it seems the most plausible. Nonetheless it has been criticized for example by Bernecker (2010) for not being *sharp*: "the problem with this strategy is that the frequency and intensity of mental imagery [and qualia] varies greatly from one person to another" (p. 16). However, variability does not imply absence or inexistence, as I already mentioned in chapter 2. It has also been argued that it is not easy to measure the phenomenal aspects of a mental experience, and even that subjective and introspective reports are sometimes considered as not reliable indicators of mental processes and phenomena. Social psychologists Nisbett & Wilson (1977) provided strong evidence against the possibility of having direct introspective access to high mental processes. More recently, and in philosophy, Peter Carruthers (2009, 2011) argues not only that we do not have privileged and authoritative access to our own thoughts but that in fact we access our thoughts using the same interpretative mindreading capacity that we use to access other's minds.

Therefore, it also seems in principle that the phenomenological criterion, although being the most plausible, is also questionable.

Having arrived at the point where none of the criteria seems adequate to distinguish between two kinds of memory of past events, it is pertinent to ask if the distinction is in fact legitimate. Some authors like Stout (1930) and Wright (1936) explicitly considered that it is not. For them, events cannot be recalled *per se*, in the sense that they cannot be apprehended in their particularity; the only way to remember them is to remember facts about them which are expressed through the form of propositions. As it is possible to see, the denial of the distinction is associated with a propositionalist view of the memory content of personal memories and with a lack of distinction between content and intentional object: because we only remember propositions about events experienced in the past, we can only remember facts about those events and not the event themselves. Propositionalism about memory content is evidently incompatible with the phenomenological criterion.

I would like to leave open for now the question concerning the validity of the distinction and a possible legitimate criterion and come back to this issue once I have introduced the psychological approach to the study of personal memory. If philosophy does not give a satisfactory answer to this question, cognitive psychology seems to provide a better analysis of memory of events and thus a possible criterion to distinguish different ways of remembering events. This criterion points to the phenomenology of memories where the phenomenology—as I will show next—is nothing more than the result—in the sense of being an epiphenomenon or a supervenient property—of different brain memory systems.

Episodic memory: contextual description

Episodic memory is the first technical concept introduced in the cognitive psychology field to refer to memory of events. In fact, the conceptualization of the philosophical distinction between *event memory* and the broad sense of *factual memory*, is quite recent in psychology. If the first use of the term *semantic memory* is made by Quillian (1966) in his doctoral dissertation, and in the same year the philosopher Munsat mentions the term *non-episodic memory* in his book, it was not until 1972 that the two notions—semantic and episodic memory—were presented together as different kinds of memory from the hand of Endel Tulving. Even if the idea behind the concept of *episodic memory* has a long history in the philosophical literature, as I have shown in the last section and as

Tulving has also recognized, it did not have any influence in psychological research until its introduction by Tulving and subsequent acceptance in the psychological community. Until then, laboratory experiments in cognitive psychology only examined how well participants could recall or recognize items in a list. In this sense, before Tulving, traditional research on memory was not really concerned with the idea behind the notion of episodic memory (Tulving, 2002, p. 4), except maybe only for Bartlett (1932).

The original definition made by Tulving (1972) is one which is closer to the notion of event memory mainly used in philosophy. The original distinction between the two kinds of memories is mainly based on the kind of information stored[10]: whereas semantic memory retains information about the meaning of words and concepts and their interrelations, episodic memory is the memory that retains "information about temporally dated episodes or events and temporal-spatial relation among these events" (p. 385). So three kinds of information are retained in episodic memory: the *what*, *where* and *when* of some particular event that happened, that is why it has been called *www memory* by Clayton & Dickinson (1998). Whereas the *where* and *when* would correspond to the *setting* of an event, the *what*, that is, the salient happening within the setting would correspond to the *focal element* of the event (Tulving, 1983, p. 143)[11]. Because it is the contextual information of the event which is essential to episodic memory, this first way in which Tulving characterized episodic memory has been called the contextual description (McCormack, 2001). As McCormack (2001) explained "the general idea is that whereas factual memory simply involves retrieval of the fact acquired during a given learning episode, the corresponding episodic memory would involve remembering something about the specific learning episode itself, namely the context in which the fact was acquired" (p. 286).

Nonetheless, this original definition is very restricted and in some way problematic. In the first place, Tulving (1972) establishes that episodic memories are memories of occurrences of an episode, that is, "an event that is distinctive and separate although part of a larger series" (p. 385) that happens in a particular place at a particular time. It has a

[10] In his *Elements of episodic memory*, Tulving (1983) added to the differences in the information stored differences in the operations of the systems (p. 35). In fact, he denies that the difference between episodic and semantic memory could be solely explained in terms of different kinds of information: "I should like to argue that the distinction is between two memory systems rather than merely between two kinds of information" (p. 58-59). In his 1972 article, nonetheless, although he introduced the idea of "systems", he also explained that "I will refer to both kinds of memory as two stores, or as two systems, but I do this primarily for the convenience of communication, rather than as an expression of any profound belief about structural and functional separation of the two" (p. 384).

[11] Tulving adopted the distinction between the setting and the focal element of an event from Hollingworth (1913, p. 532-533).

beginning and an end and the interval is filled with some action which involves the rememberer, either as an actor or as an observer (Tulving, 1983, p. 37)[12]. This suggests that the notion of 'event' corresponds to a quite minimal and short time slice of experience, that is, that it is experience-near (Conway, 2009), and so for example the memory of some holiday trip would be too broad to be considered as an episodic memory. In fact, in his 1983 book Tulving distinguished between simple events, like a flash of light or hearing an unfamiliar sound, and complex events, like a holidays or trip, and remarked that complex events "requires interpretation of their components in terms of semantic memory" (p. 38) whereas simple events do not and so strictly speaking would be the only real cases of episodic memories. Secondly, for these simple events, which are perceptual, only the perceptible properties and attributes are stored. That is why a particular event can be described in terms of its perceptual properties and its temporal and spatial relation to other experienced events (p. 388). Thirdly, it is suggested that contextual information is stored with event information in memory but it is not explained how, or either in what consists this specific relevant contextual information. In fact, this last assumption presents some difficulties that have been expressed by McCormack (2001, pp. 293-294): we are often able to correctly recall perceptual properties of events without accurately recalling the temporal and contextual information; we are able to recall temporal and contextual information of events not personally experienced; and finally, we could be able to make temporal and contextual judgments based on ways different from the retrieval of stored pieces of contextual information. All these criticisms point to the fact that temporal and contextual information is neither necessary nor sufficient to define the episodic character of a memory. As McCormack (2001) wrote, "if it is argued that the temporal-contextual information is often not accessible for retrieval, it is not clear what is useful about introducing this type of information to do the job of ensuring the specificity of episodic memories" (p. 295).

In conclusion, the first formulation of the notion of *episodic memory* made by Tulving considers that the intentional objects of this distinctive kind of memory are specific events which are defined by their perceptual properties and their location in space and time. As it has been shown, the definition of episodic memory in terms of its contextual

[12] The importance of actions to mark the boundaries of episodic memory has been supported by analysis of the discourse of subjects remembering personal events. It seems that episodic memories mostly start with an action and finish with some facts, that is, details of the context of the action or general knowledge related with the action. Williams, Conway & Baddeley (2008) called this structure of episodic memory the Action-Fact structure.

information is not exempt of problems; in fact Tulving later partially abandoned this view and redefined the notion of episodicity.

Episodic memory: experiential description

Without still adopting a different definition of episodic memory, Tulving (1983) already started to highlight in the *Elements of episodic memory* that the phenomenal experience associated with memory was not only absent from experimental studies which focus on the objective quantified performance of memory (such as measuring how well and accurately people could remember some studied material) but was also absent from any conceptualization in cognitive theories of memory: "we do not even have a term to express what I have referred to as '(conscious) experience of remembering'. This means that if anyone decided to make a systematic survey of what experimental or cognitive psychologists have said about conscious experience of remembering, he would be frustrated at the outset, because he would not know what key words are that he would have to use in the search" (1983, p. 126). With time, the phenomenology of episodic memory acquired more importance and thus the concept was redescribed in phenomenal terms: instead of being mainly defined in terms of the kind of information (what, where and when) that is encoded, stored and retrieved, it was mainly defined in terms of the kind of subjective experience that accompanies the operations of the system at retrieval[13]. That is why it is called by McCormack (2001) the experiential description of episodic memory. This reformulation considers that the essence of episodic memory is the kind of conscious awareness of its experience: Tulving (1985) introduced the notion of *autonoetic awareness* to characterize episodic memory in opposition to the notion of *noetic awareness* that is characteristic of semantic memory. The concept of *autonoetic awareness*, however, is not well defined by Tulving: in 2005 he describes autonoesis as referring "to the kind of consciousness awareness that characterizes conscious recollection of personal happenings" (p. 15). This description is in fact a tautological definition; it does not say what characterizes the awareness of recollecting personally experienced events. Maybe his purpose was primarily to introduce a specific concept in the psychological field to refer to the conscious experience of remembering, due to the previous absence in the literature of

[13] Although it is important to remark that Tulving (2005) does not equate episodic memory to a particular kind of phenomenal experience (p. 9), as I will show next, he suggests phenomenal properties are the most significant property that characterizes episodic memory.

terms to refer to the phenomenal aspect of memory. Tulving nonetheless adds to autonoesis another three essential features of episodic memory which can give a clue about the meaning of this term: mental time travel, self and chronesthesia, all of which are highly related. Mental time travel refers to the possibility for the rememberer "to travel back in his or her mind to an earlier occasion or situation in the rememberer's life, and to mentally relive the experienced and thought-about happenings" (2005, p. 14); the self refers to the agent who does the travelling and chronesthesia to the experience of subjective time that recollection allows. Probably these characteristics could summarize the meaning of this particular consciousness of recollection, and so *autonoesis* could be synthesized as the awareness that arises from the ability to subjectively and mentally time travel that allows the self to represent and re-experience a past event. Therefore, essential to the notion of autonoesis is the idea of re-experiencing past experiences (Tulving, 2002b, p. 313). Autonoesis not only allows an individual to be aware of an event as a veridical part of his own past existence but also includes the awareness of such awareness (Tulving, 2002). Because of these characteristics, it "confers the special phenomenal flavour to the remembering of past events, the flavour that distinguishes remembering from other kinds of awareness, such as those characterizing perceiving, thinking, imagining, or dreaming" (1985, p. 3).

This definition is thus made in terms of the phenomenology of the experience and breaks the equation between episodic memory and memory of events: information about some past event personally experienced can be remembered in ways that are not episodic but semantic. For example, I can remember that I left the keys are on the desk without having any recollective experience of the moment in which I left the keys on the desk. When information about the personal past is remembered without any recollective experience it is in fact strictly only known and corresponds to the semantic memory system. That is why this difference between remembering a past event personally experienced episodically or semantically corresponds to the other difference introduced by Tulving (1985) in the psychological field between *remembering* some event from the personal past and *knowing* some event from the (personal) past: "people can have and can express knowledge about things that have happened to them even if they can rely only on their semantic memory (…) That is, even when a person does not remember an event, she may know something about it. Such knowledge is created in the same way, and it is of the same quality, as the knowledge about the temporally and spatially extended world and its abstract features existing independently of the person. If it is possible to recover knowledge about

past events from either the episodic system or the semantic system, then the phenomenal experience that accompanies the recovery of such information may be one of remembering (autonoetic awareness) or knowing (noetic awareness), or a mixture of two" (1985, p. 6). This goes hand in hand with Tulving's SPI model presented earlier: information about an event is encoded first in semantic memory and then in episodic memory, stored in parallel in both systems and retrieved independently. So Tulving's model clearly states that 'know' judgments about a past event are not entailed by the episodic memory of the event itself, as Malcolm (1963) thought, but are encoded and retrieved independently of it. That is, there is no single trace or single engram for an event, but "different kinds of information, representing the many different aspects of the event, are stored at different independent *storage sites*" (Tulving, 1999, p.20) that correspond to different systems and subsystems.

Some amnesic patients would constitute empirical evidence for this dissociative hypothesis: those who have source amnesia and those with medial temporal lobe damage which affects principally the hippocampus. Source amnesia is described as the retention and retrieval of factual content of an episode without any recollection of the episode itself in which that factual content was acquired (Evans & Thorn, 1966; Schacter & al., 1984; Wheeler, 2000). Patients with frontal lobe damage, elderly individuals and patients in early stages of Alzheimer's disease are among the groups who have this sort of memory disorder, which was already remarked by Claparède (1911a) in the study of his Korsakoff's patient. The same dissociation is presented in amnesic patients with damage in the hippocampus. It is of interest to consider patients whose hippocampi have been damaged early in life (Vargha-Khadem & al., 1997), because it shows that they can attain average levels of speech, language competence, literacy and factual knowledge without being able to remember events in daily life and spatial and temporal locations. But probably the most important and paradigmatic case of loss of episodic memory without loss of semantic memory is the amnesic patient K.C[14] (Tulving, 1985) who had global anterograde amnesia and retrograde episodic amnesia. K.C.'s lesion (medial temporal lobe with complete bilateral hippocampal loss) gave a neurological ground to the distinction of episodic and semantic memory that was until then only confirmed on behavioral grounds and contributed to the crumbling of the idea of a single declarative memory system and a single conception of amnesia. K.C.'s implicit and procedural memories were preserved. He still possessed

[14]For the importance of this patient on research, see Rosenbaum & al., (2005). This patient whose real name was Kent Cochrane has been called in the literature C.H., N.N. and K.C. I will use here the initials K.C.

stored semantic facts about the world and also about his life and could still learn under special conditions some new facts. However, he was unable to recollect any specific event in which he himself participated or that he witnessed, whether experienced long ago or in more recent times. In fact, the autobiographical knowledge about his past relied completely on his semantic memory: he showed no feeling of re-experiencing and his recollections completely lacked the subjective re-evoking of the emotional and contextual details that defined episodic memory (Rosenbaum & al., 2005, p. 1008) Talking about K.C., Tulving explains that "he has no great difficulty answering questions about semantic (public, objective, shared) aspects of his own past life (autobiographical knowledge), such as his date of birth, the address of his home for the first 9 years of his life, the names of the schools he attended, the make and color of the car he once possessed, and the fact that his parents owned and still own a summer cottage. He knows the location of the cottage, can easily find it on the map, and knows its distance (90 miles) from his home and how long it takes to drive there from Toronto in weekend traffic. He also knows that he has spent a lot of time there. Note, however, that all this accessible factual (declarative, cognitive, propositional) knowledge, even if it is about his own past, is classified as semantic because it is impersonal, objective, public, and shared with others. K.C. knows things about himself and his past in the same way that he knows similar things about others, friends and family. It is knowledge of one's life from the point of view of an observer rather than that of a participant, the same kind of knowledge that people have about many other aspects of their world" (2005, p. 16). Even episodes in K.C.'s life that are supposed to be personal tragedies are remembered as simple decontextualized facts, without any emotional tone, vividness or intensity. Rosenbaum & al., (2005) give some examples: "K.C.'s younger brother from whom he was once inseparable met accidental death a few years prior to his own head injury. K.C. remembers nothing of the circumstances in which he had learned of this shocking news, including where he was at the time, who told him of the event, and how he reacted emotionally. Likewise, the events of a potentially lethal chemical spill from a train derailment that forced him and his family to evacuate their home for over a week have been reduced to a dry fact of the world" (p. 993-994). K.C. is not the only example and other similar cases have been reported in the literature[15].

[15] For a list of cases with specifications of the kind of memory lost see Nadel & Moscovitch (1997, p. 219). Rosenbaum & al., (2005) remarked that similar cases of a disproportion of episodic memory relative to semantic memory, especially in what concerns the disruption of personal facts, has been reported in patients S.S. And D.B. among others (p. 1008 for a list of cases described in recent publications).

However, as it is possible to infer from the empirical data mentioned above, the phenomenal criterion to distinguish between episodic memory and semantic memory is not held alone; the phenomenological characteristics of episodic memory is the consequence of conceiving episodic memory as a distinct memory system (Tulving, 1985, 1999; Schacter & Tulving, 1994). Memory systems are defined by Tulving as "organized structures of more elementary operating components. An operating component of a system consists of a neural substrate and its behavioral and cognitive correlates. Some components are shared by all systems, others are shared only by some, and still others are unique to individual systems" (1985, p. 387). This means that episodic memory is an independent memory system that differs from other memory systems in the information it processes, the laws and principles of its operations, its behavioral and cognitive functions but also its neural substrates and mechanisms (Tulving, 1984)[16]. The notion of multiple memory systems is in general widely accepted (Squire, 2007). Although the memory systems approach has been criticized specially in the 80s and 90s by researchers who defend the idea that episodic and semantic memory can be distinguished focusing on processing modes (Blaxton, 1989; Roediger & McDermott, 1993) or components processed (Moscovitch, 1992) or operations or mechanisms (Bechtel, 2008)—that is, on the way in which different tasks place different demands on operations performed in different brain areas—researchers like Tulving (1999) have denied the existence of an opposition between memory systems and memory processes and advocate for a complementarity of approaches (1999)[17]. I do not pretend here to go further on the debate about memory systems and processes; the only point I want to make is that whether explained in terms of systems, processes, components, mechanisms or operations, there are differences at the neural, behavioral and operational level between semantic and episodic memory that support this phenomenal distinction.

Therefore, whereas Tulving's first definition of episodic memory denies the existence of different ways of remembering a past event, the experiential definition of episodic memory delineates it and what is more gives a quite satisfactory answer to the philosophical discussion about the criterion to distinguish different ways of remembering personal events, grounding the difference in the phenomenal properties of memories resulting from different memory systems. Because episodic and semantic memory are two memory systems that are supported by different brain structures and connections and

[16] For a discussion of the concept of "system" see Schacter & Tulving (1994).
[17] In fact, for Tulving (1999) the true controversy is about unitary versus multiple memory theories.

operate by different principles and processes, episodic and semantic memory have different phenomenal properties at the metacognitive level and first-order level that supervene on these differences. Nonetheless, it could be argued that it is one thing to state that there are phenomenal differences, and another thing to state that those phenomenal differences can be accessed by subjects and accurately verbalized through first-person reports. A reasonable way to contest this criticism, along the lines of Varela & Schear (1999), consists in denying the common idea that the defence of first-person accounts entails the claim that first-person accounts have a privileged access to experience while maintaining that the first-person dimension is a legitimate and fruitful domain of study for psychology and is one door through which professional interventions like education, learning, psychotherapy, etc., can produce psychological changes in the subject. To provide fruitful data for psychology, first-person accounts should be oriented by a "careful examination of what it is that we can and cannot have access to, and how this distinction is not rigid but variable" (1999, p. 2) and should harmonize and build the appropriate links with third-person methodologies. Also a second-person mediation could help subjects to become familiar with first-person methodologies and receive appropriate training. In fact, since Ericsson & Simon (1980), there is empirical evidence that it is possible to obtain valid reports on cognitive processes under specific study conditions. In the specific case of memory, most researchers working on personal memories consider that data from phenomenal experience should be used as data for theoretical construction. William Brewer has specially defended its importance (Brewer & Pani, 1996; Brewer, 1986; Brewer, 1995): "It seems clear that the data from phenomenal experience can play a crucial role in the scientific study of human memory. The investigation of phenomenal experience should be pursued with just as much vigor as other aspects of human memory" (Brewer, 1992, p. 44). Just to mention a few examples, Tulving (1985) proposed to measure autonoesis by asking people whether they remember the event or they simply know in some other way that it occurred. Since then, the remember-know paradigm has been refined in order to elicit more reliable judgments and has also been correlated by studies showing different brain activations. Nowadays, it is widely used in cognitive psychology to understand some clinical disorders and explain autobiographical memory in general and more specifically in aging patients. Renoult & al. (2012) suggested that participants could also be trained to voluntarily remember a particular event in either the noetic or autonoetic mode by teaching them to focus on knowledge associated with a personal experience or to attempt to re-experience it in its original context (p. 554). Another example of a fruitful first-person methodology is the Memory Characteristics

Questionnaire developed first by Johnson & al. (1988) whose objective consists in rating from 1 to 7 a series of phenomenal characteristics of memories. This questionnaire is widely used in empirical studies in order to assess phenomenal differences and similarities between memories: perceived versus imagined events, emotional versus neutral events, positive versus negative emotional events, etc. These studies are relevant, for example, to understand processes of reality monitoring and decision-making processes which are based on the qualitative character of memories: "it is often more important that our memories seem real—and how real they seem to the rememberer—than that they be real" (Rubin, 1986, p. 4). They are also relevant to treat psychological disorders like PTSD and to better develop psychological intervention strategies in order to promote mental health.

Coming back to Tulving's experiential description of episodic memory, one problem nonetheless with this definition is that it is not clear if episodic memory is necessarily associated with a particular intentional object or it is not. In a comparative table between episodic and semantic memory, for example, the idea that episodic memory refers to simple events that are experience-near is completely absent from its characterization (Tulving, 2001, p. 11). So if episodic memory is not associated with a particular kind of intentional object, the question about the possibility of remembering something other than a simple event with the metacognitive phenomenal experience characteristic of episodic memory arises. The more plausible answer departing from Tulving's framework would be that it is not possible, and that both characteristics, those of the intentional object and those of the phenomenology, are necessary to episodically remember something from the past, because in fact both are characteristics of the episodic memory system which encodes short-time slices of experience. As Hoerl (2001) and Werning & Chen (forthcoming) have explicitly argued, a phenomenological account of episodic memory is not enough because phenomenology should be connected with the specific epistemological status of the intentional object of episodic memories, that refers to the fact that events remembered must have been experienced in the past by the rememberer and must been appropriately caused by this original experience. In fact in his later writings, Tulving emphasizes that the notion of episodic memory refers to the episodic memory system and thus cannot be equated either with a particular memory task, or a particular kind of performance, or a particular kind of stored information, or either with a particular kind of phenomenal experience: "all these senses are related with episodic memory, but they are not identical with it" (2005, p. 9). However it is possible to think of everyday examples of memories that are not about

specific events but have a phenomenology similar to that attributed to episodic memory. I propose to consider three different cases. First, some memories about events that have been not experienced by the rememberer but learnt indirectly, like September 11 attacks, or some memories about facts or knowledge, like "Boulevards in Paris were constructed by Haussmann" or the lyrics of a song, can sometimes be embedded into and tied to the past time where we learnt this news or fact or hear the song and thus inherit their phenomenology[18]. These events to which these memories are associated constitute the context of learning or acquisition of the non-personal event or knowledge remembered. But if in this case it is possible to counter-argue that it is the memory of the event which corresponds to the context of learning or acquisition that is in fact responsible of the phenomenology of the *semantic* memory, there is a second case in which it is much more difficult—if not impossible—to associate a memory of a non-event with a memory of an event. And this is the case of memory of individuals, that is, of objects and people. When I remember my partner or—to explicitly locate the intentional object in the past—someone who is dead, like a parent, I can subjectively and mentally travel to the past and represent someone who is not present or who completely belongs to my past. The memories of individuals who were present in our lives for some time do not seem to be linked to a particular event, so it is difficult to object that the phenomenology of this kind of memory is inherited from some particular event associated to the individual. I will come back to the discussion about the possibility of this kind of memories later.

The third case refers to general events, which includes periods of our life, like childhood, complex events, like a trip or holidays, and repeated events. When Tulving (1983) referred to these kinds of complex events, he considered that they were cases of semantic memory. Nonetheless these memories, which according to Tulving are not pure cases of episodic memory and in philosophy have been considered *inferential* (see for example, Bernecker, 2010), are very common in the way we remember our past, even more frequent than simple episodic memories[19]. An intuitive examination of these kind of memories shows that in fact their phenomenal characteristics can be similar to those attributed to episodic memories: rememberers travel back in a subjective time when they recall their honeymoon or Sunday lunches with the family in a quite similar way as to when they recall the particular moment when their partner said goodbye to go to work this

[18] It seems that Tulving referred to these memories as vicariously experienced events and stated that they do not differ from direct experienced events in any important aspect (see Larsen, 1992, p. 61).
[19]As shown by Barsalou (1988) and as I will explain in the next section.

morning. These memories can also be highly personal and self-involving and have a high degree of emotional involvement as well as sensory imagery. But all these aspects are absent from the characterization of semantic memory which is conceived as "culturally-shared general knowledge (including facts and vocabulary)" and is characterized by being "detached from its context of acquisition and devoid of any subjective sense of mental time travel" (Renoult & al., 2012, p. 550). This leaves the memories of personal general events in a sort of conceptual limbo: typically labelled as semantic memories, they do not actually meet the criteria to be considered cases of semantic memories and share some properties of episodic memories. As Brewer (1986) remarked, the root of the problems with the notion of episodic memory is that "Tulving attempted to accomplish too much with a single binary distinction" (p. 33); if episodic memory seems to refer to the phenomenon of personal memory, in fact it does not and they are not synonymous. Fortunately, the notion of *autobiographical memory* made the scene in cognitive psychology to try to compensate for this gap.

Autobiographical memory

The notion of *autobiographical memory* was introduced in cognitive psychology in the 1980's (Berntsen & Rubin, 2012). Although the beginnings of its empirical study can be situated with Sir Francis Galton (1880), who introduced the cue word technique and the questionnaire about a past event (breakfast questionnaire), it was only from 1975 that the study of memory of personal events was reintroduced into psychology. This absence as a topic of research from the beginning of XX century until the 1970's was again due to the rise and dominance of behaviorism, information processing theory and a memory research tradition focused on verbal learning based on Ebbinghaus' methodology, all of which considered that phenomenal experience did not belong to the scientific study of memory (Brewer, 1986, 1992, 1995; Robinson, 1986, Baddeley, 1992). Probably the methodological difficulty of gaining purchase on the subject's phenomenal experience was also a factor that contributed to its disappearance as an experimental object of study in memory research (Brewer, 1986). Nowadays, although almost 40 years have passed since its re-emergence in the psychological field, Baddeley (2012) has remarked that the field of autobiographical memory has been mostly focused on empirical research about specific cases of autobiographical memories (flashbulb memories, eyewitness testimony, false memory) at the expense of theoretical development. Some psychologists, nonetheless, have offered

theoretical accounts of *autobiographical memory*. If with its reintroduction Tulving (1983) first conceived of autobiographical memory as simply a synonym of episodic memory, the development of more complex models led to conceptualizing autobiographical memory as a subsystem at the intersection of episodic memories and semantic memories (Rubin, 2006; Baddeley, 2012), or as a superordinate system that includes both episodic memory and facts about the self (Brewer, 1986; Conway & Pleydell-Pearce, 2000) or to a minor extent, part of the episodic memory system (Larsen, 1992).

Nonetheless, what all these accounts have in common is their characterization of the notion of *autobiographical memory* not in terms of its phenomenology but in terms of its intentional object, that is, events, which can have different levels of abstraction and generality and are hierarchically organized. Because these accounts were developed by cognitivist psychologists, they were not concerned with the distinction between content and intentional objects, and it is possible that they were proposing an organizational account of the content of our personal memories, where the content is conceived as conceptual in nature. Nonetheless, I deliberately consider their accounts as proposals to understand the intentional objects of our personal memories. I explain in the next subsection how the heterogeneous kinds of content can express/mean an intentional object.

Already in the 1980's there were some Artificial Intelligence models which presented an embedded structure of memories for personal events, like the computational theory called CYRUS developed by Kolodner (1983, 1984), which inspired Barsalou's model (1988). The principle that underlies Kolodner's theory, and that is present in all theories of autobiographical memory, is that in the comprehension of a particular event, generic knowledge and other similar specific episodes are always used, and that is why the memory of a particular event is always integrated with this generic and specific knowledge. This embedding or nested structure of the organization of personal events has also been remarked by Neisser (1988)[20], for whom "recalling an experienced event is a matter not of reviving a single record but of moving appropriately among nested levels of structure" (p. 71).

Barsalou (1988) showed that when people remember their personal past, there is a high percentage of memories that are not about specific events but about what he calls *summarized events*, which includes not only repeated events but also more generic and

[20]Inspired by James J. Gibson's conception of nesting of objects, places, events, etc.

abstract representations of single events. His empirical research also confirmed how these events are comprehended through representations corresponding to different levels of abstraction and how we move through a nested representational structure to remember an episode: in free recall protocols, the memories of summarized events were invoked together with other kind of information, like what Barsalou calls extended events ("I went on a diet"), alternative events ("I had not taken a shower") and comments about aspects of the events ("We had a lovely apartment").

In fact, Barsalou (1988) was one of the first psychologists to propose a theory of autobiographical memory hierarchically and chronologically organized in three levels: extended-event time lines, summarized events and specific events. The primary organizers are the extended-event time lines that are parallel between them and that are organized according to different topics like *work*, *relationships*, *education*, etc., which at the same time, can also be subdivided into subtopics, like *job at the library*, *friends*, *partners*, *high school*, etc. These extended-event time lines are chronologically subdivided into summarized events. Summarized events are not only events that occur repeatedly ("I watched a lot of TV") but also can be constructed after experiencing one single event, as I will explain later. Specific events ("We saw a play") via their connection with summarized events constitute the last level of the autobiographical memory structure.

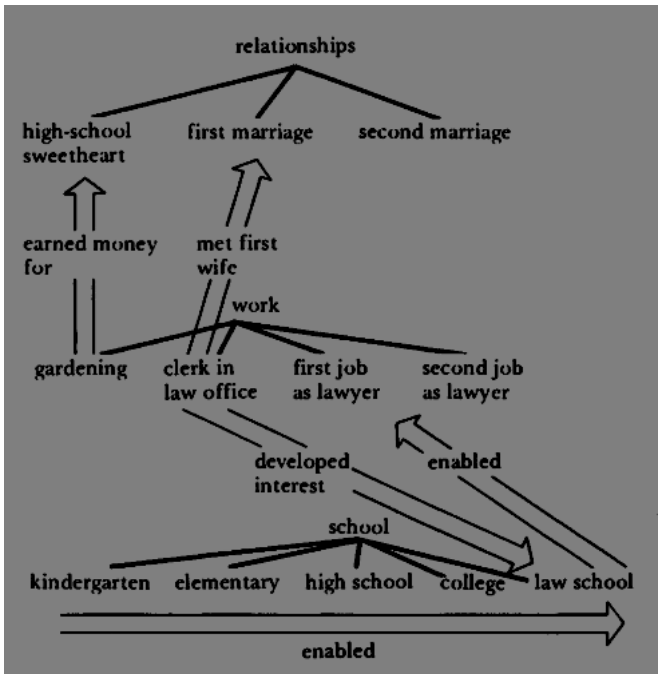

Fig. 1 Example of parallel, extended-event timelines and their interrelation according to the logic of goal attainment (Barsalou, 1988, p. 221).

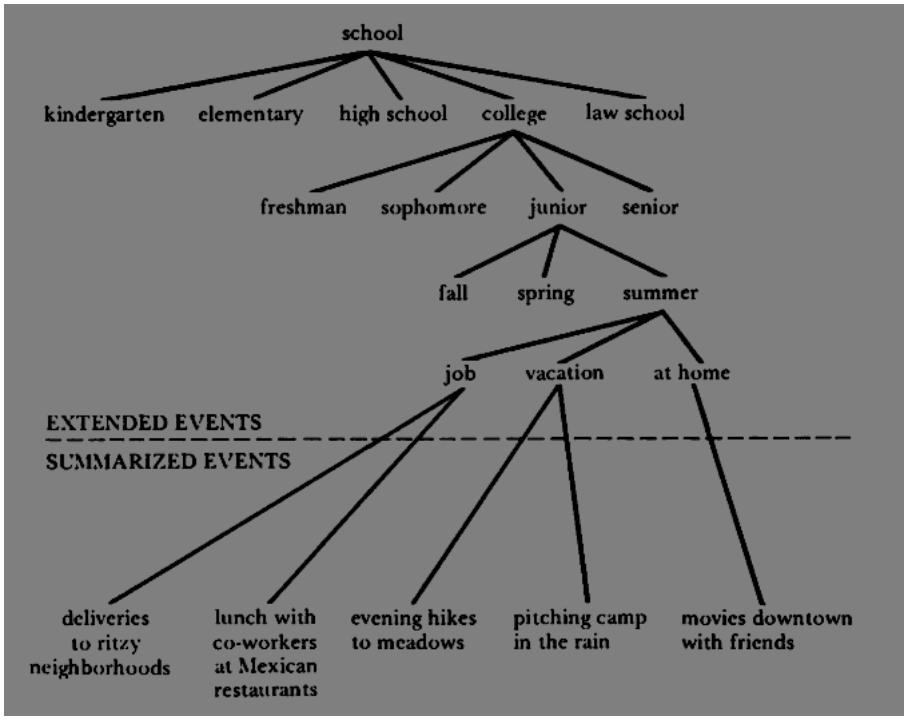

Fig. 2 Examples of summarized events nested in extended events (Barsalou, 1988, p. 225)

This hierarchical and chronologically organized structure that refers to episodes is parallel to another structure that corresponds to different ontological entities, like objects, people, actions, location, time, thoughts, etc. The connection between these two kinds of structure is established by specific events, because the representation of a specific event is done at the intersection of these different ontological domains. So, according to Barsalou, when an event is experienced, information about each ontological entity that constitutes the event—carrot cake, aunt Kimberly, have tea, Sunday afternoon, etc.—becomes integrated into the representation of the event as exemplars. But at the same time the generic concepts corresponding to all the exemplars that have been simultaneously activated—carrot cake, aunt Kimberly, having tea, Sunday afternoon, but also food, family, eat, weekend—interrelate between each other and give rise to a long-term memory of a summarized event. That is also why a specific event creates an intersection of exemplars but also an intersection of the generic concepts used to encode it, that is, a summarized event that, with time, according to Barsalou, may become more accessible than the event memory itself. That is why a second similar event may cue and activate the summarization instead of cuing and activating an exemplar from the first event, a summarization that guides the processing of this second event. This also explains why when retrieving an event, summarizations are also activated and so the representation of specific events is formed also from this more generic knowledge.

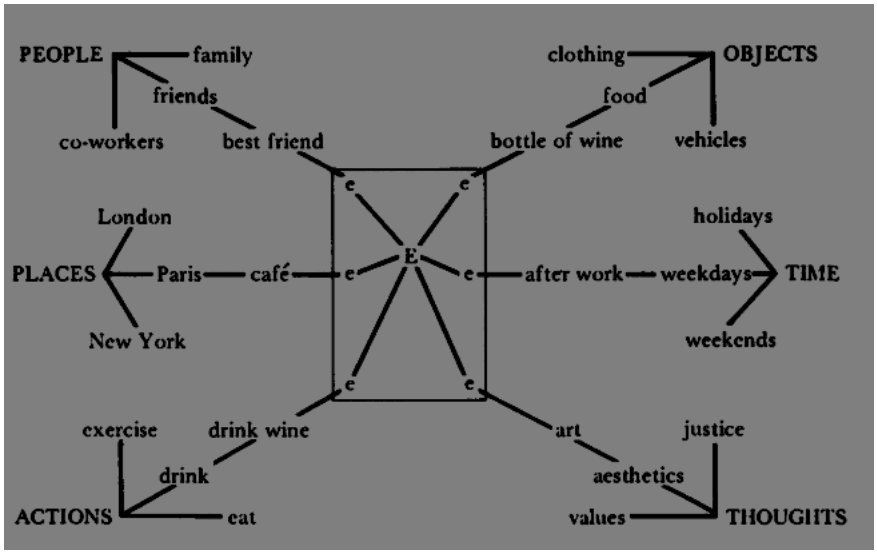

Fig. 3 Example of an event stored as a collection of exemplars in the hierarchically organized knowledge for ontological domains. "E" represents the event, "e" represents an exemplar

Linton (1986) also proposed a hierarchical structure of autobiographical memory. Like Barsalou, she also distinguished three general levels of events: themes, extendures and events and episodes. Themes and extendures are similar to extended-event time lines: while themes and subthemes correspond to unifying aspects of life, such as work or relationships, extendures are smaller, more temporally bound and correspond to some persistent orientation, such as *marriage with Susan* or *work at Macquarie University*, etc. Episodes and events are representations of self-contained sets of actions that have independent coherence, and they can go from *our trip to Cancun* to *buying tomatos*. There are some events that are embedded into extendures, there are others that are isolates and so maintain solitary coherence independent of the unifying elements of one life, and others that enter into amalgams with other events that are logically unrelated, except for temporal proximity. Linton adds an interesting analysis of the constitution of events: they are composed of elements, that is, features or components of the event that includes who, what, where, etc. At the same time, these elements are composed of details which correspond to nuances of color, sound, texture, etc. At the most general level, comprehending all this autobiographical structure, Linton positions the mood tone.

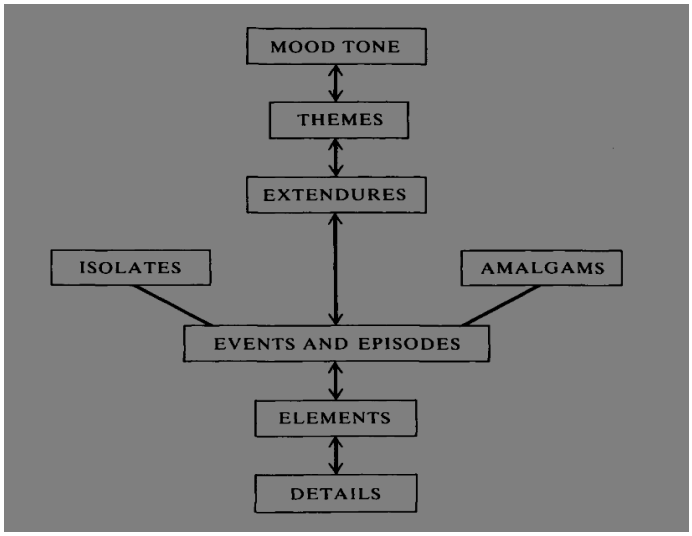

Fig. 4 Hierarchical structure of memory categories (Linton, 1988, p. 58)

But probably the most sophisticated and developed model of autobiographical memory is that developed by Conway (1992, 1995, 2009, & Pleydell-Pearce, 2000). Conway & Pleydell-Pearce (2000) call the organizational and hierarchical structure of memories of events the *autobiographical memory knowledge base*. The autobiographical memory knowledge base structures autobiographical knowledge at different levels of specificity. In the first formulation of the model, Conway and Pleydell-Pearce (2000) distinguish three levels in a way similar to Barsalou and Linton: the more general are lifetime periods which correspond to periods of time with more or less identifiable beginnings and endings (my stay in France); then the general events that are a little more specific than lifetime periods and correspond to repeated events or single general events (my trip to Strasbourg); and finally the event-specific knowledge that correspond to specific events (my lunch on Friday). Also similar to Barsalou, autobiographical memories are constructed from these three levels of knowledge: event-specific knowledge is contextualized within a general event that is associated with a lifetime period which locates the specific event in the life history of the individual. In a later development of the model, Conway (2009) renamed and explained with more detailed the *event-specific knowledge*. The most basic unit of representation of experience is the *episodic element* (EE) which is generally visual in nature and corresponds to a fragmentary and summary representation of experience that is the result of a sensory-perceptual-conceptual-affective processing of external stimuli. Except in the case of *free radicals*—which would correspond to some visual memories of early childhood or to dysfunctional memories—the episodic element is always embedded in a conceptual framework that contextualizes it, interprets it and thus

gives to it a personal meaning. If the EE is characterized by the correspondence with reality, the conceptual framework is more guided by the coherence with the present self (or *working self* in Conway's terms, as I will explain in the next chapter). In fact, these two competing demands—of coherence and correspondence—are the basic principles of the memory system and can dominate to different extents to form and shape episodic and autobiographical memories: some of them will be more focused on correspondence, that is on the external milieu, whereas others would be more focused on coherence, that is, on the internal milieu. The EE and the frame form a simple episodic memory (SEM). Experiences are in general complex and involve more than a simple episodic memory, which is why in general a SEM relates to other SEM in a broader frame giving rise to a complex episodic memory (CEM). Whereas a lot of episodic memories that we formed during the day are if not lost at least inaccessible[21], a small portion of them become integrated with autobiographical memory knowledge structures—which correspond to general events and lifetime periods—and this integration enables them to remain accessible in long term memory. According to Conway, it is possible to hypothesize that the episodic memories that are integrated are those relevant to long-term goals and not exclusively to short-term goals. This would also explain why long term memories are more biased towards coherence than to correspondence, this last one being a characteristic of recent memories. To summarise, in the reformulation of the model made by Conway (2009) autobiographical memory knowledge has a structure that is more complex than the three levels of specificity characteristic of the first formulation. The autobiographical memory knowledge is composed of a sort of hierarchical gradient of different representations which goes from the most perceptual and concrete representations to the most abstract and conceptual ones: episodic elements, episodic memories, general events and lifetime periods. Whereas visual and auditory images that come to the mind are the kind of content characteristic of the episodic elements, more conceptual, personal and cultural knowledge structures that become activated give rise to a complex representation of a past experience that would correspond to an autobiographical memory.

[21] The point is that even if a lot of episodic memories endure in long-term memory and could be retrieved with an appropriate cue (like a photograph), they cannot be spontaneously recalled or what Conway calls ‘generatively retrieved’.

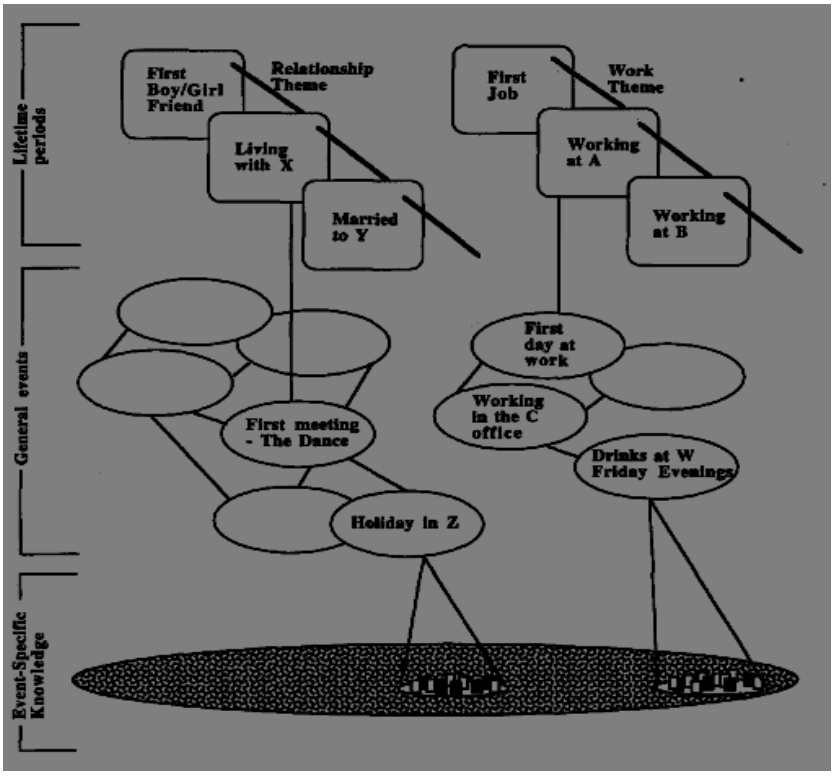

Fig. 5 Autobiographical memory knowledge base (Conway & Pleydell-Pearce, 2000, p. 265)

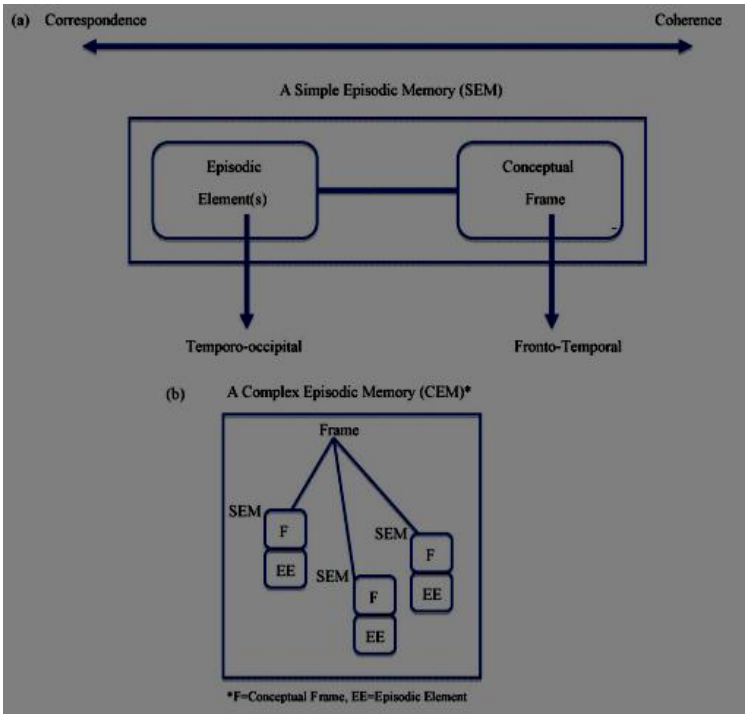

Fig. 6 Simple and complex episodic memories according to Conway (2009, p. 2308)

In conclusion, all these autobiographical memory accounts that present a nested and hierarchical structure of events suggest that personal memories can be directed towards events that have different levels of abstraction and that can go from those that are

experience-near to those that are highly abstract and involve a period of our lives. That is why when remembering events of our personal past, the intentional object of our memories can be a simple event: opening the car to go to the airport; a complex event: driving to go the airport; a general event, that includes repeated events: weekends at the beach, single general events: trip to Malaysia; an extendure: living in the white house in Newtown; or an entire life-time period: our childhood. Two important principles guide most of the autobiographical memory theorization. The first one, that the more generic knowledge about events and life-time periods is involved in the construction and representation of even simple memories of events, and thus memories whose intentional object is a simple and experience-near event, like opening the car to go the airport, is never a literally a record of experience but always a summarized and generic record of experience. The second principle, mostly remarked by Neisser (1988) and Conway & Pleydell-Pearce (2000), is that in everyday memories, we move through this nested structure, and so the intentional objects of our personal memories fluctuate from simple events to more complex and abstract events and vice versa.

Therefore, theories of autobiographical memory satisfactorily account for the memory of events that Tulving's notion of episodic memory could not explain. The question that now naturally comes to mind is the question about the relationship between these two notions.

Autobiographical memories and episodic memories: their relation

It seems evident that the most basic unit of each of these accounts of autobiographical memory would correspond to Tulving's concept of episodic memory. Conway & Pleydell-Pearce (2000) recognized that in principle it could be possible to connect on one hand the notion of event-specific knowledge to the notion of episodic memory and on the other hand general events and lifetime periods to the idea of personal semantic knowledge, but considered that this equation would undermine the importance that these last two kinds of more general knowledge play in autobiographical memory. In later articles nonetheless, Conway (2005, 2009) acknowledges that the episodic element and its context equate to the contextual definition of episodic memories in Tulving's sense, while reminding us that episodic memories are experience-near but are not literally records

of experience but summarized and generic records of experience. He also considers that episodic memories and other kinds of more generic autobiographical memories correspond to two different systems that are independent and have different functions: episodic memory and semantic memory systems (Conway, 2005). One of the arguments he uses in support of this last hypothesis is the dissociation of amnesia and semantic dementia: whereas in the first case people cannot remember personal experiences but do remember some general and semantic information about who they are, in some cases of semantic dementia episodic memory is preserved with some degraded or loss of conceptual knowledge (Conway, 2005, p. 612).

Nonetheless, as I explained before, episodic memory has been lately redescribed by Tulving according to its phenomenological characteristics (Tulving, 1985; Wheeler & al., 1997). Conway & Pleydell-Place (2000) stated that their notion of autobiographical memory, which goes from event specific knowledge to more general personal events, would be completely compatible with the notion of episodic memory if conceived as a mode of awareness. However, it is not at all evident that we are aware of memories with intentional objects of different levels of abstraction in a same mode and that all of them have the same kind of phenomenology. Baddeley (2012), for example, consider that only a subset of autobiographical memories has a recollective feeling and so would be more episodic than semantic. The propositional memory examples given by Baddeley: "I have visited France" and "I remember our visit to the Eiffel Tower" suggest that the phenomenology of autobiographical memory depends on its intentional object: if the event remembered is particular, the memory is an episodic autobiographical memory, whereas if it is general or corresponds to a life time period it would be a semantic autobiographical memory in the experiential sense. And in fact, recent empirical studies and reviews of old empirical data have started to identify some correlations between the phenomenology, contents and the kind of intentional objects of personal memories, showing that not all kind of personal memories have the same phenomenology and contents.

If episodic memory is considered to be a mental episode in which: (i) its intentional object is an experience-near event; (ii) its content involves a great degree of sensory imagery—especially perceptual imagery which is the most frequent one—with the subsequent first-order phenomenology that arises from these contents; and (iii) its mode imparts to the mental episode the feeling of pastness or autonoetic awareness which is characteristic of recollection, then it seems that memory for repeated events is a candidate for comparison since it has similar traits. And this is indeed the case. It seems that memory

of repeated events, like episodic memory, includes spatial and temporal information, that is, contextual information, sensory imagery and emotion (Renoult & al., 2012), even if the scale of these last two are smaller than for episodic memory. Also the brain areas activated during retrieval are more similar—even if they do not overlap—to episodic memory than to semantic memory: they include the hippocampus and the medial temporal lobe. The feeling of re-experiencing or autonoetic awareness is also generally present in memory of repeated events.

The nature of autobiographical facts, like "My son was born the 15th June 1999" or "I used to live in Brown Street" is a little more controversial. According to a review made by Renoult et al. (2012) autobiographical facts are similar to semantic memory and dissimilar to episodic memory, in the sense of having similar neural correlates to semantic memory. Also Picard & al. (2013) demonstrated that two people with developmental amnesia could acquire semantic autobiographical memories despite their impaired episodic memory. A recent review about amnesic patients with medial temporal lobe lesion made by Grilli & Verfaellie (2014) arrives nevertheless at a different result: memory of autobiographical facts is impaired in amnesic patients, which shows that memory of autobiographical facts partially depends on the medial temporal lobe and thus, that they share mechanisms with episodic memory. However, the same authors have remarked that memories of autobiographical facts are in general better preserved than episodic memories, suggesting that autobiographical facts may not depend on the medial temporal lobe to the same extent. Also a review made by Martinelli & al. (2013), while recognizing the functional independence of the semantic autobiographical memories from the episodic ones, state that semantic autobiographical memories seem to recruit basically the same brain structures as does episodic memory, but to a lesser extent and excluding the hippocampus. The problem is that notions like *autobiographical facts* and *autobiographical memory* seem to refer to a variety of memories that includes friend's names and personal addresses, memories that are closely associated with a unique event, such as "My son was born the 15th June 1999", and memories that refer to lifetime periods, such as "I used to live in Brown Street". It is probable that memories of friend's names and addresses are more semantic—because of their frequency—than other kinds of memories associated with events. It is also probably that memories associated with specific events would include more spatio-temporal information and thus sensory imagery—and even emotional content—than memories associated with general events or lifetime periods. However, it is also probable that because in real life memories the intentional object is not

always the same but fluctuates from the general to the specific and viceversa, even memories of general events and lifetime periods could be experienced with sensory imagery and some emotional content, with a consequent feeling of remembering or autonoetic consciousness. To someone's question as to if I had always lived in the same house or not, I could simply reply "No, I used to live in Brown Street" and simultaneously a mental image of my house and the street could come to my mind as well as some feeling of nostalgia. So probably as seems to be the case for particular events that can be remembered episodically or semantically (remember versus know paradigm), general events and lifetime periods can also be remembered in these two different ways depending of the kind of memory content.

There is also a third kind of autobiographical memory, which has been called by Renoult & al. (2012*) autobiographically significant concepts* and that refers to semantic information (in general tested with famous faces and names) which for its tight association with specific episodes is similar to episodic memory. They seem to involve the medial temporal lobe and so engage both the episodic memory system and the semantic one. These memories present in general a high degree of sensory imagery and emotional content and they include spatial and temporal information. More interesting to my purposes is a similar case that Larsen (1992) has called *narrative memories*. Narrative memories are memories about events not directly experienced by the rememberer but learnt indirectly by testimony, such as events learnt by the news or read in a book or told by someone, whose content is thus not personal but, like autobiographically significant concepts, are nonetheless autobiographical because they have the property of being tied to a personal event and thus to a personal spatial-temporal context. The personal context corresponds to the moment in which the rememberer received the message, news or information (Larsen, 1992, p. 61), and this moment refers not only to the time and location but also can include personal meaning and have an emotional tone. The best known subcategory of narrative memories is the narrative form of flashbulb memories, but there are other subcategories that correspond to common memories about *narratives*. For example, the external event "going to the cinema to see Terminator with friends" could be remembered either as an event focused on going out with friends, in which case the cinema and film would be part of the external context, or could be remembered as an event of watching the *narrative* Terminator, and so the core event would be the film and the people would only be part of the context. It would be expected that these kinds of *narrative* memories that Tulving could not account

for could be explained in a similar way to autobiographically significant concepts, astride the episodic memory and the semantic one.

Intentional object, content and mode

All these last examples point to the fact that the memory phenomena subsumed under the label of autobiographical memory have heterogeneous natures that the big label of *autobiographical memory* does not seem to capture. Specific events, general events, repeated events, lifetime periods and other kinds of personal memories can be understood neither as similar to episodic memory—either considering the contextual or the episodic definition—nor as a sub-domain of semantic memory; nor even as a continuum that goes from the most specific and episodic elements to the most abstract and semantic ones, like most of the nested models of autobiographical memories. If the contextual definition of episodic memory as well as the data mentioned before about the characteristics of repeated events suggest that it is the kind of intentional object of the memory that determines the mode in which it is retrieved (*recollective* in this case) as well as the content (sensory imagery and emotion content), with their subsequent metacognitive phenomenology and first-order phenomenology, the ambiguity presented in more general events suggests that the mode and content are independent of the nature of the intentional object.

This last idea, that it is the mode of retrieval which determines if a mental occurrence is a memory or just a know-judgment and not the kind of intentional object, has been recently defended by Stanley Klein (2014a, 2014b). Klein's position is similar to the experiential definition of episodic memory, that is, to the second conceptualization made by Tulving. But whereas Tulving left undefined the relationship between the intentional object of episodic memories and their mode of awareness, Klein explicitly argues that it is the special mode of experiencing that determines memory and not its intentional object[22] or a simple causal relation between an act of registration and a present mental occurrence: "a memory experience is not the nature of the [intentional object] presented to awareness, but the manner in which awareness becomes associated with the [intentional object] during the act of retrieval" (p. 45). In fact, for him, only the mental occurrences that have this

[22] In his articles, Klein makes a distinction between content and mode. But his notion of *content* is in fact similar to my notion of *intentional object*. So for the sake of clarity, I have re-adjusted his terminology in this explanation to be consistent with my usage.

particular kind of autonoetic phenomenology deserve to be called *memories*. Klein considers that information about the what, where and when, that is, about the temporal and spatial context of some happening, even if it is self-referential, can also be displayed in reports of semantic experience. According to his view, this information is unspecified prior to its demarcation as semantic or episodic during the act of retrieval. Two case studies are in favor of Klein's account. The first one refers to amnesic patients, as well as developmental amnesic children, who are unable to re-live their personal past, and thus remembering it in a proper way, but are nonetheless able to re-learn the temporal, spatial and self-referential information about their own past even if less detailed than non-amnesic people. The second case refers to the patient R.B. (also Klein & Nichols, 2012) who was able to describe events of his life with contextually rich details but without the feeling of *mine-ness* that would be proper to autonoetic awareness: "when I recall memories of my past I intellectually know they are about me. It just does not feel like it … when I remember scenes from before the injury they do not feel as if they happened to me –though intellectually I know they did" (2014b, p. 47).

However, while Klein invites us to forget the content and the intentional object and just focus on the mode in order to determine mental occurrences as personal memories states, Rubin (2015) proposes quite the opposite: a special kind of content—which can only be given for certain kinds of intentional objects—matters, because if it does not determine the mode, it at least correlates with the phenomenology proper of recollection.

For Rubin (2015) what is essential to memory of personally experienced events is a particular kind of content: imagery, particularly visual and spatial imagery. He uses the term *scene* to emphasize the fact that visual images have always a particular viewing location, a particular perspective, a viewpoint that is always egocentric in nature even if specific scenes are constructed from general (allocentric) knowledge of the scene abstracted from exposures to multiple perspectives, and even if the scene is constructed from a third-person point of view. The neural substrates that are needed for the construction of scenes are the medial temporal lobe, especially the hippocampus—which plays an essential role in binding sensory imagery, spatial organization and emotion in the construction of a scene at retrieval—and the visual ventral stream. Therefore linguistic content and narratives, which have both different neural substrates and that seem to be essential for more complex forms of personal memories—like more general autobiographical memories discussed in the last section—are not needed for the constructions of scenes, even if they can of course contribute to the recall of an event or a series of events. But they are not essential to

remember events, as proven by damage in the regions that involve language and narrative, in contrast with visual memory loss that extends beyond the visual deficit to a general amnesia (Greenberg & Rubin, 2003). What is important about scenes, and thus, about visual images, is that they present a high correlation with a sense of reliving and other measures of reliving (like mental time travel), correlation that is higher than that found for emotion and other kind of image content (Rubin et al., 2003; Rubin & Siegler, 2004; Rubin & al., 2007). In fact, there is also a correlation between the phenomenology of the visual image (first-order phenomenology in my terminology) and the metacognitive phenomenology characteristic of remembering: "the vividness of the scene correlates as highly with a sense of reliving as various measures of reliving correlate with each other" (2015, p. 10). Rubin thus concludes differently from Klein that visual images play an essential role in determining the mode in which an event is retrieved and the subsequent metacognitive phenomenology that arises from this retrieval and so that "one would judge one's recall to be a memory of an event only if it was experienced as the recall of a scene" (p. 6).

The more philosophical question that arises from all this recent data and different theories is in which sense we should understand the relationship between content, mode and intentional object of personal memories. It seems that *scenes* which are principally constructed from visual-spatial imagery, but also other kinds of imagery and emotional content, are good candidates to be the most-experience near element of our personal memories, more than the contextual conceptualization of episodic memory. In fact, this idea was already explicit in Conway's (2009) notion of episodic element, which was defined as composed of imagery. This points to the fact that the nature of the content clearly puts constraints on the kinds of intentional object that our personal memories may have. Because the construction of a unique scene resultant from a sort of superposition form the exposure to multiple perspectives of the same scene does not mainly differ from the superposition of repeated scenes implied in the construction of scenes of repeated events, Rubin (2014) considers that repeated events are similar to unique and simple events, and this goes hand to hand with the review of empirical data made by Renoult & al. (2012). Concerning more abstract and generic events, it seems that in some cases it is possible to construct a sort of generic image that does not correspond to any single episodic moment, whereas in other cases a similar generic image is not possible. Brewer (1986) explains it very nicely: "For example, I have a generic personal memory of hiking up a mountain in Vermont. I am simply not able to produce a specific personal memory of any particular moment of the trip

up the trail; yet the generic image I have is detailed enough to distinguish it from other hikes (e.g., the trail is in a tall forest, the trail is not along a ridgeline, I am using a branch I picked up as a hiking stick). This generic personal memory is thus different from the specific personal memory I have of the moment during the end of the hike when the hiker in the van next to us opened up his hood and found that porcupines had eaten all the rubber off his water hose. Generic personal memories are constrained by the abstracting properties of the relevant perceptual systems. Thus, I can have a generic personal memory of 'going out on the beach' during some vacation but not of 'going on vacation' where that includes going hiking in the mountains, going swimming at a beach, and visiting a major city" (p. 30). So it seems that when our memories are directed to some general events (trip to Malaysia) as well as extendures (living in the white house in Newtown) and lifetime periods (childhood), the only imagery that can accompany these retrievals to give to them the proper recollective phenomenology are images of less general events that are subsumed under them or of things or people involved, that is, images of what can be representable through the corresponding perceptual systems. This is compatible with the idea so widespread in theorists of autobiographical memory that in everyday memories, even in the course of remembering one event, like the holidays in Marseille, our intentional object is not static and fixed but it is always changing, fluctuating from the details and elements of simple events to more complex and abstract types of events.

Concerning the relationship between content and mode, it is hard to think as Klein does that the content of a mental occurrence about something past does not play any role in the mode of awareness of that content: a merely linguistic memory lacking all kind of imagery and emotional content would hardly come with a sense of reliving and autonoetic consciousness. So if the kind of content has something to do with the mode in which it is retrieved, first, it is necessary to handle the empirical data mentioned by Klein, and second, it is necessary to analyse the criterion of distinction between imagery and emotion whose reference is a past event and imagery and emotion whose reference is an imagining. Concerning the first point, the two cases studies constitute the strongest support to Klein's claim. The first case, that one corresponding to amnesic patients and developmental amnesic children, is easier to counter-argue: it is clear that temporal, spatial and self-referential information about their own past that is re-learnt and can be encoded and retrieved as semantic information is merely linguistic in nature and lacks visual imagery and emotional content. And because of this absence, amnesic people can learn to know

what they did but cannot properly remember it. The second case is a little more difficult. Probably further cases of similar amnesia would be needed to draw more solid conclusions; Klein reported that to his knowledge this is the first case documented in the amnesic literature (2014, p. 104). From the transcripts mentioned by Klein & Nichols (2012) it glimpses that R.B. during his amnesic period was able to picture scenes, even vivid scenes, and what was lacking was the sense of ownership of those events but not the knowledge that they were about him. So it was not the case that R.B. pictured vivid scenes that he believed to be imaginings when they were actually memories. Probably because of that vivid imagery R.B. could at least know that he was remembering and not imagining events. So this case shows at the most that the imagery is not sufficient for recollection but not that imagery is not necessary. And it points to the fact that the metacognitive phenomenology that is proper to the recollection mode of awareness arises not only from the particularities of the content but either exclusively from the mode or (more probably) from the relation between the mode and the content (Crane, 2001)[23]. And this is what finally distinguishes a memory occurrence from an imaginative one, even if both have imagery and emotional content (and this gives an answer to the second point).

My last two comments in this last subsection concern possible lines of research, theoretical as well as empirical. The first one points to a deeper analysis of what is conceived as the metacognitive phenomenology of recollection. It has been widely shown that other factors like the age of memories, the rehearsal or frequency in which memories are retrieved as well as the age and mental health of the rememberer (Cabeza & St Jacques, 2007) also influence the kind of content (sensory details and thus vividness, emotion, etc.) and thus the feeling of remembering and re-experiencing the past, which clearly diminishes if it does not disappear. However, I think that denying any sort of metacognitive phenomenology proper of *remembering* to old memories, memories of old people or memories of frequently retrieved events, would constitute the same sort of move as denying the metacognitive phenomenology proper of *remembering* to the memories that normally come with a sense of reliving because their *sense of reliving* cannot be compared to that experienced by patients with post-traumatic stress disorder. So a better specification of the

[23] Klein (2014b, p. 45) mentions, as I do, that autonoesis and the sense of re-living is relational: "what makes an experience a memory experience is not the nature of the content presented to awareness but the manner in which awareness becomes associated with that content during the act of retrieval". But his emphasis in discarding the nature of the content misses completely the point of the relational link between the content and the mode.

terminology used to refer to the metacognitive phenomenology of recollection and the meaning that lies behind this terminology seems to be an urgent requirement in the field, which currently uses quite indistinctly the notions of sense of reliving, sense of re-experiencing, mental time travel, and other similar notions.

The second comment is also related to the clarification of this terminology: it intuitively seems that memories that are felt as emotionally distant or that are not emotional at all, such as remembering where I put the keys when I arrived at home, have a lesser feeling of re-experiencing than highly emotional memories or memories of events that have not been emotionally closed. So it seems that emotions as well as the self-relevancy of the events for the rememberer could also play a significant role in the kind of mode in which an event is retrieved and thus the kind of metacognitive phenomenology that its memory has. As I noted in earlier chapters, because more should be studied about the affective aspect of personal memories, I will dedicate the last two chapters to this line of thought.

THOUGHTS, IMAGININGS, DREAMS, OBJECTS, PEOPLE AND PLACES

Even if events have been the privileged object of study in philosophy and in models of personal memory in psychology, the question about the possibility of having personal memories with other intentional objects, such as people, objects, thoughts and feelings needs to be answered.

As I already anticipated in several earlier paragraphs, I will deal with feelings and emotions as possible contents and intentional objects of personal memories later.

Two kinds of entities stand as possible intentional objects of personal memories: (i) individuals, such as objects and people and (ii) thoughts or psychological states. As is quite evident, the first kind of intentional objects refer to ontological objects that have existence in the external world, whereas thoughts refer exclusively to ontological objects that have only an existence in our minds, so the nature of these two objects is exactly the opposite. They could be considered as the two extremes that span the diversity of events that we can remember training from those experience-near events (referring to a single ontological object such as brushing the teeth) to complex and abstract events more dependent on conceptual categorization (referring to a series of ontological objects such as going on holidays).

I start by analysing thoughts. As Grilli & Verfaellie (2014) recently remarked, there is not much empirical research on the storage and retrieval mechanisms of thoughts. If thoughts associated with a personal external event seem to be intertwined with the memory of the event and mostly inseparable from it, there can be thoughts that are at first sight completely independent of any personal external event, like thoughts that people have about the meaning of life or the nature of freedom, as well as thoughts that a writer has about the plot of his novel, or a mathematician about a possible solution to an equation. It is probable that most of these *detached* thoughts resemble semantic memory more than episodic, in the sense of being independent of the spatial-temporal context as well as not having the phenomenology characteristic of recollection. However, it could happen that some *detached* thoughts become tied to an external personal event, in the same way as some autobiographically significant concepts (Renoult & al., 2012) and narrative memories (Larsen, 1992) are. The famous anecdote in science about the way in which Isaac Newton came up with his theory of gravity (seeing an apple falling from a tree) could be a good example of a memory of a thought that becomes entangled with a memory of an external event and could thus gain its phenomenology in a certain way.

Memory of imaginations, memories of future plans and prospection, which is known in the literature as prospective memory, and memory of dreams, because of the event-like nature of their intentional object and the plausible similarity of their content—imagery, emotion, language—would probably resemble memory of external events more than memory of more semantic thoughts. And in fact this seems to be the case. Although there seems little or no research on memory of pure imaginings, *prospective memory* (memory of intended actions) became a new growing field of empirical research a little before the start of the 21th century (Ellis & Kvavilashvili, 2000). Although the notion of *prospective memory* has been considered as a sort of umbrella term (Roediger, 1996; Ellis & Freeman, 2008) because it runs the risk of including too many different phenomena, such as things we want to do, things we hope to do, things wish we might do, etc. (Roediger, 1996), in the literature the term has been in general restricted to tasks or actions that the person feels compelled to do in a short term, so memories about wantings, hopes and wishes have not been studied in this field (Kliegel & al., 2008). The retention of these memories has also been intimately studied with the processes of execution and evaluation of the actions intended, so empirical research on this domain has not been entirely devoted to memory, but has also addressed planning, problem solving, attention and action control (Ellis & Freeman, 2008). Nonetheless, the retrieval of intended actions is associated with

activation of the hippocampus and related medial-temporal structures in a similar way to other explicit memories about past external events (West, 2008; Kliegel & al., 2008). In fact, amnesic and Alzheimer's patients also have prospective memory loss; in the case of Alzheimer's patients prospective memory seems to be more susceptible to the adverse effects of early stages of dementia compared to retrospective memory (Kliegel & al., 2008). Concerning the content of these memories, everyday and ordinary intended actions would probably lack a rich and emotional content much as memories of past ordinary actions lack personal significance, such as having gone to the supermarket.

Moreover, memories of dreams correspond to the controversial dream reports. Even if there are not consensual answers—and they may be no answers at all—to questions about the experiential nature of dreams as well as about the transparency and trustworthiness of dream reports, the transparency assumption seems to be not only methodologically necessary for scientific dream research but also theoretically justified because it offers the best available explanation of dream reporting (Windt, 2013). Evidence of this include empirical studies that show that the same pattern of brain activity is present during REM sleep as well as during wakefulness (Dang-Vu et al., 2007; Desseilles et al., 2011), especially the visual area (Horikawa et al., 2013). If we assume that dreams are conscious experiences and that dream reports recount memories of these experiences, then more research comparing dream reports with memories of external events should be done. This also could shed some light on the nature of dreams as experiences.

Memories of entities that have an existence external to the rememberer, such as people, things and places, have been mostly ignored in the philosophical as well as in the scientific literature. Scarcely analysed by Broad (1925) as a kind of perceptual memory dependent on the memory of events, and casually mentioned by Bernecker (2008, 2010) in his grammatical taxonomy of memory as a possible intentional object, the discussion about memories of people and objects would fit nicely into the current philosophical debate about the existence of *objectual attitudes* (Forbes, 2000; Montague, 2007; Grzankowski, 2014), that is, of attitudes like loving, desiring and fearing, whose intentional object seems to be irreducible to a proposition. To give an example: "Solomon may love that Rosamond is beautiful (…) But Solomon may not love Rosamond (…) Whatever property Solomon loves about Rosamond, her beauty, kindness, humor, intelligence, or some combination of these, it does not follow that Solomon loves Rosamond" (Montague, p. 513). The possibility of conceiving *objectual memories* nonetheless has not been mentioned in the

literature. Probably this topic would require further analysis, but a tentative answer in my framework would be that is possible to remember people and things without remembering any event in which these people and things are involved. To the question "Do you remember Mary?" I can answer positively because I remember that Mary was one of the guests at the dinner organized by my friends, and so in this case I remember Mary because I remember the event, and this memory would not be an objectual memory.

However I can also remember Mary without remembering any event related to her. A good candidate to remember her in absence of any event about her would be to remember her through a visual image of her physical aspect. But in this case, it would be possible to counter-argue that what I really remember is the way in which Mary looks like, which is reducible to a conjunction of propositions of the form: I remember that Mary has dark hair, an oblong face, green eyes, that she is tall and thin, etc. I argued in chapter 2 for the non-propositional and thus nonconceptual nature of any memory content which is not linguistic in form, in the sense that a possible reduction to a propositional format would imply the loss of information that can only be given through the specific modality in which that information is represented.

Nonetheless, the example above is probably not the best example, because of the context: to be able to remember someone that I just met or that I met a couple of times, I probably need to remember something about that person, that is, his visual aspect or an event related to him. A better example would be a memory that first, is not brought to mind in order to determine if I remember or not someone or something; and second, whose intentional object—people, thing or place—is not tied to a single event but to a multitude of events, that is, with whose ontological object I have a history. As in Barsalou's model (1988) the representation of events are at the intersection of different ontological domains, it is possible to hypothesize that the entities of those ontological domains such as *people*, *objects* and *places* with which I interact during an extended period of time can become more detached from the specific events to which they are related. Rather, those entities may acquire a personal meaning that goes beyond the meaning resulting from the individual events that compose it. If the memory of someone I just met yesterday is probably directed towards the events and thoughts related to the meeting or to his physical appearance, the memory of someone with whom I shared a lot of experiences can—but not necessarily need to—be in a certain way objectual.

The memory of a dead family member or someone close but not physically present, or a place I used to live during a period of my life, would constitute good examples of objectual memories. If in these cases my memory can be constituted by a visual image of the person or place, the intentional object need not be directed towards some specific feature of his visual appearance, but it can perfectly be directed towards the person or place in itself because it has acquired a general meaning that goes beyond any particularity. That is why earlier I mentioned the idea that these memories can be *in a certain way* objectual; in fact, it is ambiguous if the intentional object is only a person or a place or a thing, that is, an intentional object which completely refers to an external ontological object, or if in fact the intentional object is an object-subject relation. It seems that if the object is remembered with the meaning that it has for the rememberer, the memory would not be merely about the object but about the significance that the object has for the rememberer. Anyway, these memories should be distinguished from memories where an object-subject relation becomes their explicit intentional object, like remembering the kindness of a person, or his love towards me.

Another issue that deserves some discussion is whether all of these mental occurrences have a similar metacognitive phenomenology. My intuition guides me to think that there is a difference between remembering an intentional object that refers to an ontological object that is still part of the present world of the rememberer—like remembering my current partner who has been out of town for a couple of weeks, or remembering my house while on holidays in another city—and remembering an intentional object that refers to an ontological object that is not anymore part of the present world of the rememberer, like a dead family member, or an ex-partner or friend with whom I have not kept any more contact, or a house I used to live in. Maybe only cases of memories whose intentional object refers to an ontological object which belongs to the past of the rememberer would have a metacognitive phenomenology similar to that characteristic of recollection. And I say "similar" because other concepts different from the notion of re-experience should be needed—we can only re-experience events, not people or things—in order to characterize the feeling of pastness that seems to be proper of these fair candidates for objectual memories.

Probably the possibility of objectual memories would need further development than done here, as well as other kinds of memories whose intentional object is not an event.

For example, the study of people with Alzheimer's disease and dementia may shed some light on the interaction between objectual memories and event memories.

FINAL THOUGHTS

In this chapter, I have analysed the possible intentional objects of personal memories. *Events* have been the privileged object of study in philosophy as well as in cognitive science, and it is probably the research done around the notions of episodic memory as well as autobiographical memory that has thrown better light onthe different kinds of personal events that can be the intentional object of our memories. However, as the recent research has shown, there is still work to do in philosophy as well as in empirical science to better understand the differences and similarities between events of different levels of abstraction, as well as the relations between intentional objects, content and the mode of recollection. Other possible kinds of intentional objects, like *objects*, *people*, *places*, *thoughts*, *imaginings* and *dreams* also require further analysis in both memory fields. A clarification about the terminology used to refer to the phenomenal experience of recollection would be a great utility to better characterize our personal memories.

PART II: THE SELF AND THE AFFECTIVE ASPECT OF PERSONAL MEMORIES

After defending in the first part a representationalist account of personal memories, I explained *how* we represent the past and *what* we represent about the past. Nonetheless, besides stating that this past should have been experienced by the rememberer, I did not explain in depth the sense in which this past is personal or the sense in which this past is apprehended as personal. This part is dedicated to correcting this absence. As it may be expected, thinking about the personal aspect of our memories implies thinking about the way in which the rememberer not only shapes his memories but also is in certain way *present* in them. Whereas chapter 4 analyses the first point, that is, the way in which different self-configurations intervene in the construction of personal memories, chapter 5 and 6 focus on the second point through an analysis of what seems to be the most subjective aspect of our memories: our feelings and emotions.

CHAPTER 4 : THE SELF AND PERSONAL MEMORIES

In this chapter, I examine the way in which the *self*, conceived in a broad sense, intervenes in the construction of our personal memories. Once again, it is probably Martin Conway's theory which better sheds lights on this issue. I later analyse the sense in which personal memories seem to imply at the same time identity but also the difference between the rememberer and the experiencer of what is being remembered. I finish this chapter by considering the way in which personal memories may be reflexive and a way in which this reflexivity could be analysed.

THE SELF AND THE CONSTRUCTION OF PERSONAL MEMORIES

Tulving's theorization around the notion of *episodic memory* was less concerned with the notion of *self* than are autobiographical memory models, especially Conway's model. In fact, Tulving's contextual conceptualization of episodic memory does not make any explicit reference to the self. Because episodic memories are characterized exclusively in terms of the event's perceptual properties, time and place, episodic memories appears as representations of specific events that are completely depersonalized and lacks of any subjective character. In fact, the only reference to the self made by Tulving is minimal—and very Jamesian (1890)—: episodic memories are located in and refer to a person's personal past, so they could be translated as "I did such and such, in such and such place, in such and such time" (Tulving, 1972, p. 389). The self is thus completely external to the content of the representation of the past event and is not part of the intentional object; it only serves as a sort of truth condition assuring that the event was truly experienced by the rememberer.

Nonetheless, the experiential characterization of episodic memory explicitly refers to the concept of self. As Bechtel (2008) casually remarked, one difference between episodic and semantic memory is that "episodic memory closely involves the self, whereas semantic memory seems more removed" (p. 54). In fact, according to Tulving the concept

of self is necessary for and characteristic of episodic memory, but not semantic memory. A good overview about this distinction is given by Wheeler & al. (1997 p. 349) as follows:

> "The kind of knowledge that retrieval from semantic memory provides is that from the point of view of an observer of the world rather than that of a participant. Even when it concerns autobiographical facts, it is objective, impersonal, and tied to the present moment –it is carried by noetic consciousness. Episodic memory need not play any role in the actualization of this kind of knowledge and, for these purposes, need not exist. Recollection of episodic information, by contrast, is not merely an objective account of what is, what has happened, or what one has seen, heard, and thought. It involves remembering by re-experiencing and mentally traveling back in time. Its essence lies in the subjective feeling that, in the present experience, one is re-experiencing something that has happened before in one's life. It is rooted in autonoetic awareness and in the belief that the self doing the experiencing now is the same self that did it originally" (p. 349).

First of all, this paragraph suggests that the perspective adopted in an episodic memory is always the first-person perspective and never an observer perspective, that would be "objective, impersonal and tied to the present moment" and thus characteristic of semantic memory. And this makes complete sense: only by adopting the perspective of the participant of the event, that is, of the self experiencing the past event—an ability that implies a sophisticated form of self-awareness that allows humans to consider the self's extended existence throughout time—the rememberer mentally travel back in time and experience again the past event. So the experiential description of episodic memory suggests that what is determinant of episodic memory is the re-experience of the past event from the perspective of the past self. This formulation seems to imply some theoretical consequences that have not been explicitly assumed by Tulving, and which he might disagree with. The emphasis on the re-experience and the mental time travel supposes a sort of complete identification between the experiencer and the rememberer, that is, between what from now on I will call the past self and the present self, or a sort of momentary forgetting of the current self in order to be able to adopt the perspective of the past self. Besides, the self—at least the past self—plays a more important role than just being a truth condition of episodic memory, as in the contextual definition of episodic

memory; it determines the content of memories because the past event must be remembered from the perspective adopted by the past self and with a similar phenomenology to that experienced. However, it is true that Tulving does not specify the sense in which episodic memories are perspectival.

It is probably Martin Conway's model of autobiographical memory that better explains the central role that the self plays in the construction of personal memories at the moment of encoding as well as at the moment of retrieval. The original version of his model has been mainly developed in Conway & Pleydell-Pearce (2000), but it has been the object of successive changes (Conway et al. 2004; Conway, 2009). I will first roughly describe the first version of the model and then the modified version of 2004 and then just mention some changes introduced in 2009.

According to Conway & Pleydell-Pearce's first version of the model (2000), autobiographical memories are transitory dynamic mental constructions generated in the *self-memory system*. The *self-memory system* is the name Conway gives to the superordinate and emergent system that is formed from the interaction of the working self and the autobiographical memory knowledge base (even if these two systems can possibly enter into processing sequences other than memory). I have already explained the way in which the autobiographical memory knowledge base is conceived in the last chapter, so now I focus on the notion of *working self*. The working self is a term that Conway uses to refer to a subset of working memory control processes which is, in the first version, principally conceived as an agent for goal processing. The main function of the working self consists in the assessment of discrepancies between the current state of the world and ideals and duties and in the planning for reducing or increasing this discrepancy. The relation between the working self and the autobiographical memory knowledge base is reciprocal and dynamical. On one side, the working self is constrained by its own history, that is, by the autobiographical knowledge base, and this implies that goals cannot be unrealistic or contradict the autobiographical knowledge: "the goal of becoming a parent could not be maintained if knowledge of one's children can be accessed. Similarly a past possible self of, for instance, outstanding achievements at school could not be realistically maintained (although it might be pathologically maintained) when a series of memories of academic underachievement can be recalled" (2000, p. 271). So the autobiographical knowledge base places consistency and plausibility constraints on what goals can be held by the working self. Incompatibilities between autobiographical knowledge and goals may

underlie some pathological disorders. On the other side, the working self through its goal structure determines what information is encoded, what information can be accessed and how memories are to be reconstructed at retrieval from this information on the basis of compatibility with its current goals: "autobiographical knowledge that is strikingly discrepant with the current goal structure might be actively prevented from influencing it, or, perhaps, when accessed the knowledge is edited, distorted, or changed in some other way" (2000, p. 272). Therefore, if autobiographical memories are part of the self and so ground the self and its goals in its past history, the self functions as a control process that modulates the construction of memories according to its goals. In Conway's system, autobiographical memories are patterns of activation across autobiographical information conjoined with the subset of activated working-self goals that have been used to shape that pattern.

A later version of the model (Conway & al., 2004) presented some modifications of the self memory system, which is considered as an emergent system that is the result of the interaction of the working self with the episodic memory system and the long-term self.

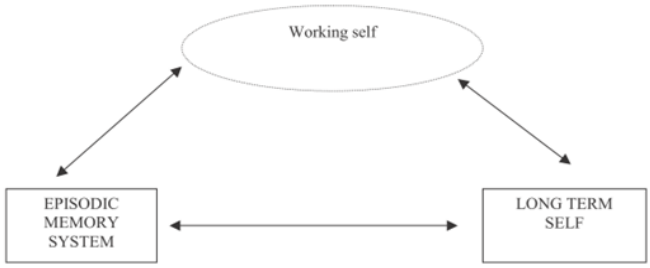

Fig. 7 The self memory system (Conway, 2004, p. 492)

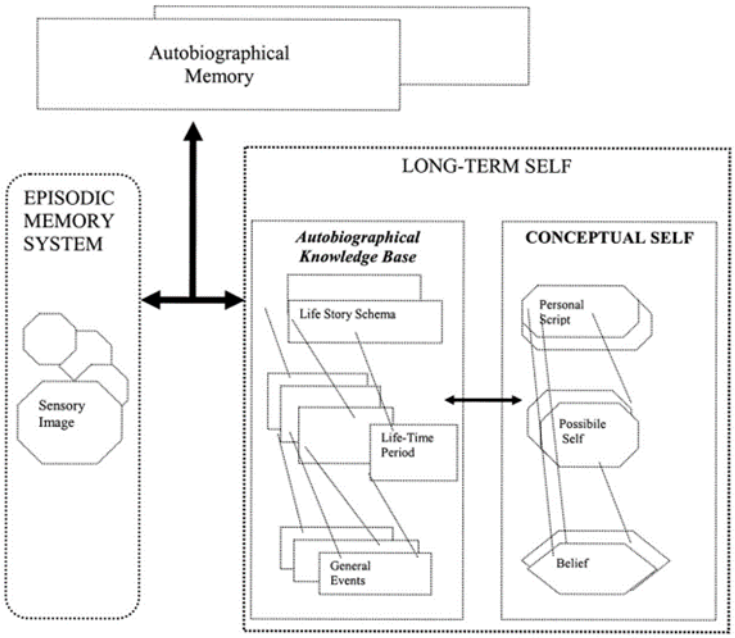

Fig. 8 Generation of autobiographical memories (Conway, 2004, p. 498)

The working self is similarly conceived, but in this version it is not simply engaged in goal regulatory processes (which includes categorization, evaluation and prioritization of goals) but also actively organizes current experience in what Conway calls the *psychological present*, that is a period that goes from some recent point in goal history that forms an event and forward to some prospective target point on goal processing (2004, p. 502). Also in this model, it is made explicit that assessment of progress on goal attainment is experienced as emotion and thus autobiographical memories are initially assembled through this nexus of cognition, emotion and goals.

Whereas the event specific knowledge constituted the lowest level of the autobiographical memory knowledge base, in this version of the model Conway refers to it as an independent system, the episodic memory system. It refers to short-time slices of experiences (sensory imagery and emotional content), is primarily cue-driven and relatively little conceptual. In the short-term, this system provides input to the working self and allows it to fulfill its adaptive correspondence function of keeping an accurate record of goal-relevant activities. In the long-term, the few episodic memories that are retained become linked to more enduring long-term knowledge and fulfill the function of coherence with the self at the same time that they ground the conceptual autobiographical memory knowledge structures in past reality.

Moreover, the notion of long-term self tries to account for the absence of specification in the first version of the characterization of the more permanent aspects of the self. The long-term self is conceived as "the knowledge required by the working self to organize and instantiate active goal processes" (2004, p. 497). It consists of the autobiographical knowledge base and the conceptual self.

The autobiographical knowledge base is similar to that of the first version, except for the restructuring of event specific knowledge as a separate system and the inclusion of the notion of life story schema (2004). The episodic memory system is conceived as independent of the autobiographical knowledge base probably to be more faithful to the studies mentioned in the previous chapter that point to the existence of neural and phenomenal differences between simpler forms of memories of events and more abstract and general memories (Renoult & al, 2012; Picard et al, 2013).

The notion of conceptual self introduced is partially related to the notion of life story schema developed by Bluck & Habermas (2000) which refers to the highest individual's knowledge structure in what concerns the organization of autobiographical memory. Bluck & Habermas (2000) introduced the notion of life story schema to refer not to a linguistic phenomenon or to a simple collection of significant events, but to the mental organization that is used to produce a life narrative and that gives a form and meaning to a life establishing a sense of self-continuity. For Bluck & Habermas (2000) the life story schema is a structure stored in long-term memory and used to retrieve episodes as well as to filter the encoding of new information. Although it is not conceived as a completely static structure, especially before adulthood when it is gradually changed and updated as life is being lived, it is highly stable during adulthood, when its structure becomes "largely invariant" (2000, p. 126). Cultural and social norms also influence the construction of life-story schemas, and this creates connections between individual life stories and cultural identities and narrative structures. In fact, Bluck & Habermas' notion of life story schema tries to account for an extended and diachronic self that engages in meaning-making, a conceptualization of the self which is absent in Conway's first model, where the self is conceived as a more momentary life configuration whose purpose is focused on goal-pursuit. For Habermas the goals of the self are not only constrained by specific past events and lifetime periods but also by the way in which individuals give meaning to and frame those experiences in their life. What is more, for Habermas the motivational qualities of memories cannot be fully understood in terms of the purposeful goals of the self; reactive

action tendencies and emotions also define the qualities of memories while roughly defining the direction of actions.

Therefore, the conceptual self is introduced in this new version of Conway's model to account for this notion of life-schema as well as for other kinds of abstract knowledge about the self. The conceptual self refers to conceptual self-structures that are not temporally specified, such as self-schemas, self-scripts, possible selves, self-images, self-with-other units, relational schemas, attitudes, values and beliefs. According to Conway's model, these units of abstracted self-knowledge are formed and ultimately grounded in episodic memories of specific experiences but they exist independently of specific temporally defined mental states. In fact, the idea of conceiving the conceptual self as independent of autobiographical knowledge and episodic memories goes hand in hand with recent empirical studies and reviews of old studies that strongly suggest that self-knowledge and personality traits have different neural basis than episodic and more semantic personal memories as well as other kinds of semantic knowledge: they only seem to recruit the prefrontal cortex (Grilli & Verfaellie, 2014; Klein & Gangi, 2010; Martinelli & al., 2013; Picard & al., 2013; Renoult & al., 2012). However, Conway's idea that this kind of abstract knowledge about the self depends on episodic memories for its formation is more controversial. Whereas some patients with Alzheimer's dementia cannot update their self-knowledge and thus the access to episodic personal memories seems to be essential, cases of developmental amnesia suggests that conceptual self-knowledge develops independently from personal memories and thus that self-knowledge is a functionally isolable acquisition system (Klein & Gangi, 2010; Picard & al., 2013). The idea that the conceptual self includes also knowledge about other people can also be contested: Klein & Gangi (2010) reported a case of an amnesic patient who is able to retrieve accurate and updated knowledge about himself but unable to retrieve accurate knowledge about other persons. So more research in this line should continue to be done in order to better understand the relation of dependence/independence between self-knowledge and personal memories as well as the differences and similarities between the heterogeneous kinds of self-knowledge that are subsumed under the notion of conceptual self. As Martinelli & al. (2013) remarked, most of the studies on self-knowledge have been focused on personal traits, but hardly any research has been done on beliefs, goals and desires which are also important aspects of knowledge about oneself.

In any case, independently of the autonomy or not of the conceptual self—or some aspects of it—it is undeniable that these different systems interact, and thus the conceptual

self is normally informed and constrained by autobiographical knowledge and episodic memories, at the same time that it informs and constrains the construction of specific personal memories by guiding the pattern of activation of information encoded across the autobiographical knowledge and the episodic memory system.

In a slightly modified version of the model of autobiographical memory (Conway 2005, 2009), the notion of *long term self* disappeared and the conceptual self, the autobiographical knowledge base and the episodic memories are organized more in accordance with this idea of functional and structural independence of these systems (see fig. 9). However, certain hierarchical structure remains, which would be better to eliminate in order to be more faithful to the data mentioned earlier, in the same way as the notion of *autobiographical knowledge base* that, as I explained in the last chapter, does not account for the complexity of the phenomena subsumed under it. Probably the notion of *working self* is also an unnecessary division of working memory; the idea of an independent system that regulates goal processes, actively organizes current experience and also past information could be easily handled by the simple notion of working memory.

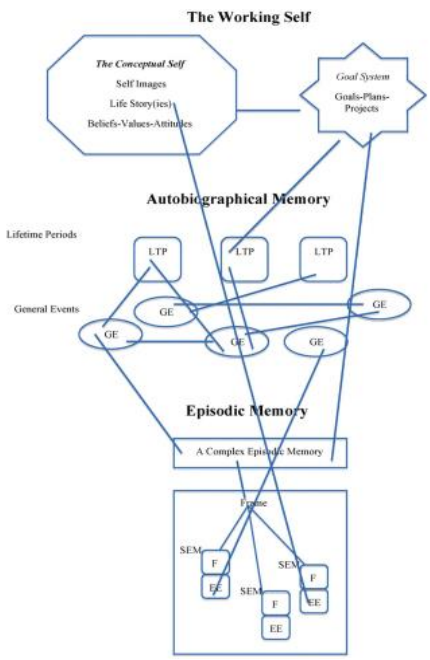

Fig. 9 The embedding of episodic memories in the autobiographical memory knowledge structures (Conway, 2009, p. 2310)

Nonetheless, despite these minor mismatches, Conway's model of how the self-knowledge and other conceptual self-structures in its pursuit of goals and meaning-making

operate in the construction of autobiographical memories and directly influence their content, proves to be useful to understand the way in which our personal memories are formed. Pathological cases of personal memories, like overgeneralized memories, distorted memories and repressed memories, found a good explanation in Conway's model. All these are cases of memories that threaten the individual's sense of self-consistency and so are overgeneralized, distorted or repressed in order to protect the integrity of the self and its belief structures and avoid its destabilization and ultimately change. According to Conway & al. (2004), "one general operating principle of the SMS is the avoidance of change, especially change to goals and the conceptual self. This may be because the cognitive and affective costs of such change are high and, moreover, there is usually no guarantee that new goals and new models of the self will be any more effective than those they replace" (p. 518), and that is why distortion, overgeneralization and repression may be a defensive mechanism that the working self usually employs against widespread goal change. Overgeneralized memories, so frequent in depressed people, are memories that terminate at the level of general events. The inability to bring specific episodic memories to mind that characterizes overgeneralized memories allows the construction and maintenance of versions of the self that are not constrained by remembered reality, and thus inhibits the destabilization of the goal and beliefs structures of the current conceptual self (Conway & al., 2004, p. 516). Distorted memories, as in the case of some PTSD memories, operate to protect the integrity of the self in different ways: avoidance of change of the beliefs and goals of the conceptual self; avoidance of recalling intense pain; etc. They can also signal that there is something wrong in the goal system when the distorted memory keeps being intrusive, probably because of the influence of the long term self through which it was encoded that originally distorted the memory for survival purposes (p. 519). Repressed memories, first mentioned in the literature by Freud (1896), are memories that manifest in the form of action tendencies, like shivering, because their intentional and fully conscious retrieval is not possible, probably in order to maintain existent self-coherence and avoid radical change. So one important point in therapy to deal with these kinds of memories consists of transforming these autobiographical memories encoded in action tendencies into images, and more significantly, into narratives (see also Beike & al., 2004). Through the narratives, the patient can reconnect his repressed memory to the current conceptual self. Habermas (2012, p. 42-46) exemplifies how during the course of psychotherapy, narratives of the repressed memory evolve and change function according to the degree of coping: "In the course of retellings and re-elaborations of the event, narratives become longer to

increasingly include evaluations and then also interpretations. In this phase the event is narrated in detail, strong emotions are aroused, and the meaning of the event is elaborated. Once the event is emotionally and cognitively processed, narratives become shorter again" (p.42). Eventually, narratives are less emotionally charged, more condensed, distanced and closed. Habermas' basic thesis is that, even if there are some exceptions, the more diverse temporal and personal perspectives are represented, the more successful the coping of the problematic past experience has been.

In conclusion, if Tulving's notion of mental time travel implicitly suggest that a subject while remembering past experiences mentally travels back in time and adopts the perspective of the past self, Conway and Habermas propose the reverse: it is in fact the configuration of the present self that determines the way in which personal memories are constructed, so the perspective adopted by the rememberer is the perspective of his present self. As Conway remarked (2004) autobiographical memories always emerge from the intersection of these two competing principles: correspondence with past reality and self-coherence, so the self-memory system needs to answer to these demands in an appropriate and calibrated manner in order to function in a healthy way. Therefore, a healthy self-memory system will construct a personal memory according to its present goals, interests and purposes, which in fact are partially determined by the functions of the memory and the context of remembering and its demands, making autobiographical memories *pragmatically sensitive* (Bernecker, 2008)[24]. That is why representations of these events can be more experience-near, and so be focused on the correspondence with the past event and less influenced by the interests and goals of the self, as for example when a witness is asked to remember how a car hit a pedestrian; or they can be more abstract and conceptual, and so focused on the coherence with the self and its goals, as when this same witness, who happens to be a close relative of the dead pedestrian, remembers the affective import and the meaning for his life of having witnessed the death of his own relative. Habermas defends the idea that the construction of personal memories is not only guided by the purposeful goals of the self, as Conway emphasizes, but also by its emotions, reactive

[24] Bernecker uses this idea in another sense: "the truth condition of memory is pragmatically sensitive in the sense that it is contextually dependent on whether memory requires literal reproduction or whether it allows for the moderate reconstruction of previously learned information" (2008, p. 13). For Bernecker, moderate reconstruction means that the content of the original representation may be decreased but he denies the possibility of an increased or different content.

actions tendencies and meaning-making processes. As Habermas remarks, the interpretation and evaluative and emotional characterization through our current lens of certain memories of past events are essential in the process of elaborating the meaning of those memories in the context of our life and not be haunted by irrevocable moments that are incapable of revision. Conway also expressed this idea with these nice words: "creative and healthy memory is never simply a recursive loop of past records, but rather a look backward that takes the individual forward in understanding and self-knowledge" (Conway & al., 2004, p. 522).

PAST AND PRESENT SELVES

In the last section, I mentioned the idea that while remembering a personal event about the past, rememberers adopt the perspective of the past self who directly experienced the event and identify themselves with it. I also mentioned an opposing idea, at least at first sight: memories of past events are reconstructed from the purposeful goals of the current configuration of the self, its emotions, interests and meaning-making processes. So more metaphorically speaking, if according to the first idea rememberers travel back in time to re-experience the past event, according to the second idea rememberers bring the past forward to the present in order to reconstruct it according to its current purposes. The question that arises is how to conciliate these two conflicting conceptualizations about memory that seem to reflect two intuitively accurate aspects of memories. This section tries to outline a possible solution to this problem, which will prove to be especially useful in the next two chapters in pursuit of my analysis of the affective aspect of personal memories.

It is common-place idea in the philosophy of personal memory since James (1890) that while remembering a past event, the rememberer must also be aware that this event was experienced by him, that it must be dated in his past: "in other words, I must think that I directly experienced its occurrence". So it seems that one of the conditions for a person to remember a given past event is that he, the same person, must have observed or experienced the event at the time of its occurrence (Martin & Deutscher, 1966) and thus that there must necessarily be identity between the experiencer and the rememberer. Earle (1956) nicely expounded this idea: "the me to which it happened in the past, is itself not wholly past me, but also precisely me now, identical with the I that is now remembering,

for it is the I now which claims the past experience as its own (…) I am numerically identical now and then, that there is only one myself which once had some experiences I now recall as mine. The inescapable fact is that they could not be recognized as mine now unless I am the same now and then" (p. 14). If we leave behind the hypothetical notion of *quasi-memories* (Shoemaker, 1970), that is, memories that in a world where fusion, fission and other kinds of memory transplants are possible do not require personal identity and thus can be owned by more than one person[25], personal memories in this world presuppose some sort of identity between the past person who experienced an event and the present person who remembers. Also people experience their present selves as being the same person who had certain experiences in the past and the same person who will have new experiences in the future, what Neisser (1986) has called the extended self. That is why people identify the *I* who remembers the experience with the *I* of the past experience, and this produces in us the appearance of a single and stable self that endures in time (Velleman, 2006), that is, all present at a single point in time but also existing in all its totality at other times. However, if people identify their present selves with their prior selves, it is also true that when there is some degree of inconsistency or discrepancy between that past self's behavior, attitude or emotion and their current mental model of themselves (conceptual self), they tend to distance themselves from their past self and feel that the past self is different from who they are now (Libby & Eibach, 2002; Pronin and Ross, 2006; D'Argembeau & al., 2008). This distance is experienced as a 'not-me' feeling and influences the way in which people process and represent their personal memories: they are visualized from a third-person perspective, it has less subjective feelings and the explanation of the behaviour is made through dispositional attributions (and not by situational constraints), all of which are characteristics that resemble more the way they think about other people than the way they think about themselves.

To clarify this apparent dichotomy between identity and distinction of past and present selves in personal memories, it is necessary in the first place to distinguish between a metaphysical level and a psychological level of this dichotomy. The metaphysical level is related to the debate about what makes it the same person that persists in time, and so it goes beyond the scope of this analysis. Just for the purposes of giving a general framework that will enable me to continue my analysis of personal memories, I will consider that at

[25] See Wiggings (1992) and Schechtman (2010) for a criticism of the usefulness of the notion of 'quasi-memory' to understand personal memories and their relationship with personal identity.

the metaphysical level there is an identification between the past experiencer and the present rememberer that must be understood as implying at least numerical—in the sense of physical—continuity. But it also requires some sort of qualitative continuity: because there is some persistence of the biological organism, there must be also persistence of some mental features. However, some degree of qualitative continuity does not need to imply psychological sameness: an account of what psychological features persists through time needs also to take into consideration what psychological features change, and needs also to allow for conflict, moral indecision and self-deception (Gallagher, 2000) as well as radical change (Goldie, 2012). Probably Velleman's conceptualization (2006) of a self who persists by perduring, that is, of a self who does not move or pass through time but extends through it with newer temporal parts: "each moment of my temporal extension contains a mere temporal part of me" (p.8), could be a good framework to account for a persistence that allows change. In this framework there would be no identity between the present self and past and future selves: each configuration of the self would be just parts of a self who perdures over time. Further specifications would nonetheless be needed in order to explain the relationship between these parts and the sense in which they belong to the same self, a point that remains obscure in Velleman's argumentation. One possibility would be to change the notion of a *self* who persists in time for the notion of a *human being* who persists in time (Strawson, 2010). Another possibility would be to look into patients whose episodic memory system is damaged (amnesic and Alzheimer's patients) and also people who go through a radical conversion; this could probably shed more light on what remains and what can change or can be lost. In fact, Klein (2014) has provided evidence of an amnesic patient who despite being unable to retrieve personal memories—episodic and more semantic ones—maintains a sense of personal continuity and temporal self-extension. This has led him to defend the idea that cross-temporal personal identity is just a pre-reflective feeling of sameness or feeling of diachronicity that derives from the "feeling that despite change in the object of awareness, the subjective *I* by which the object is apprehended remains unchanged" (p. 4). This feeling of sameness is devoid of reason and evidence, and only when a person attempts to provide evidential support for personal continuity can self-referential content, like personal memories, be invoked.

I acknowledge that these metaphysical issues would require a deeper discussion; but this is not the place or the purpose of this dissertation. After these last considerations and with the aim of establishing a working framework that provides a minimal understanding of the sense in which the rememberer and the experiencer are simultaneously

the same and yet different, I adopt the following conceptualization. There is a human being who perdures through time, and this implies numerical continuity and some degree of psychological continuity (that I leave unspecified). The present self and the many past selves and future selves are just many and different configurations, different conceptual selves in Conway's terminology, that constitute parts of the same human being who persists. Therefore, the relationship of identity between the present self who remembers and the past self who directly experienced what the present self is remembering must be understood not as psychological sameness but in the metaphysical sense of belonging to the human being that extends through time. The metaphysical claim that states that 'I am the same person now and then' states nothing more than my present self-configuration now belongs to the same human being as did my past configuration then. This metaphysical sense of sameness could be revealed in the pre-reflective feeling of personal continuity that permeates all of our experiences.

Keeping this sense of the metaphysical distinction in mind, it is possible to better understand how the statement made by psychologists should be interpreted that in personal memories there is a distinction between the person at the time of retrieval and the person at the time of encoding (Rubin, 1986; Baddeley, 1992). At the metaphysical level these different selves correspond in fact to different psychological configurations of the same human being who perdures in time. At the psychological level, these different selves correspond to different conceptual selves in Conway's terminology, that is, to different self-schemas, self-images, goals, beliefs, desires, etc. The relationship between the current conceptual self —that I will call present self in order to simplify the terminology —and the past conceptual selves can vary, even in a healthy memory system. Claparède (1911a) had already noticed this possibility of variation: "At times I project the past moment away from the present moment that fills my self, then it is as a simple spectator, so to speak, that I consider those past memories—that is, if I represent myself, I perceive myself from the outside, in the same way that I represent other people. So my past self is psychologically different from my present self and it is, as in the case of spatial localization, an empty and objectified me, who I keep distant from my true self that lives in the present. And if, from being a simple spectator, I try to become an actor, if I try to identify myself with this image of me, so I drew it to the present to reincarnate it; but it draws with it the ambient images,

and then I am the impression of replaying again in the present the past scene"[26] (p. 368). As this paragraph nicely shows, the present self can identify itself with the past self and thus re-experience the past event or can distance itself from his past and remember the event as a spectator, and even experience a not-me feeling (Libby & Eibach, 2002) if the present self is in some aspect inconsistent with the past self through which the original experience was encoded. So these *not-me* or *me* feelings that result for the implicit or explicit comparison between the self who remembers and the self who experienced what is remembered must be distinguished from the feeling of personal continuity mentioned before (Klein, 2014) that permeates all our memories and experiences and that seems to be constitutive of consciousness.

In fact, in a healthy self-memory system it is necessary to take some distance and some perspective in order to evaluate some past experiences in terms of the present goal system and self-structures, especially considering that knowledge, evaluations and emotions related with some past events usually change (Goldie, 2012). This is particularly the case for self-defining memories which are considered by psychologists as particular types of autobiographical memories which are characterized by affective intensity, vividness, high levels of rehearsal, linkage to similar memories and connection to an enduring concern or unresolved conflict (Singer & Moffit, 1991-1992). As Conway (2004) explains, this distance and perspective are necessary to get an adequate balance between correspondence with the past reality and coherence with the present self. This distance requires activation of the past self (past-goal states, self-images, etc.) through which the original experience was encoded in order to evaluate in perspective the meaning of the memory considering the changes undergone by the current self. Nonetheless, sometimes this balance is broken and the predominance of a particular self—the current one or the past one—works against the correspondence with the past. I already mentioned some cases where the current self in order to maintain self-consistency and avoid change distorts or overgeneralizes some memories. This is also the case for depressed individuals who recall distorted and overgeneralized information in order to unconsciously maintain a coherent

[26] "Tantôt je projette le moment passé loin du moment présent que remplit mon moi, alors c'est en simple spectateur, pour ainsi dire, que je considère ces souvenirs passés, –c'est-à-dire que si j'y me représente moi-même, je m'y aperçois du dehors, de la même façon que je me représente les autres individus. Mon moi passé est alors, psychologiquement, distinct de mon moi présent, mais c'est, comme le cas de la localisation spatiale, un moi vidé et objectivé, que je continue à sentir distant de mon vrai moi qui vit dans le présent. Et si, de simple spectateur, je tâche de devenir acteur, si je cherche à m'identifier avec cette-image sosie, alors je l'attire dans le présent pour la réincarner ; mais elle attire avec elle les images ambiantes, et j'ai alors l'impression de rejouer à nouveau dans le présent la scène passée" (personal translation).

negative view about themselves. On the other side, a high activation of the past self and its goal structure at the expense of the present self can lead to a re-experience of the past event —especially if it was highly emotional—which brings about a disengagement from the psychological present and compromises an adaptive correspondence with the past as well as an adaptive coherence with the present self and its goal structure (Conway, 2004).

REFLEXIVITY OF PERSONAL MEMORIES

Thus far, I have explained how the self and its different configurations and structures intervene in the construction of personal memories. I also explained that this self need not to be a present self: past selves also configure the content of personal memories, in healthy but also more pathological cases of personal memories. This shows that the self-configurations and self-structures guided by their goals and search of meaning which are context-dependent determine the content of personal memories, that is, determine which information will be part of the personal memory that is finally remembered by the subject. This influence corresponds to what Bartlett (1932, p. 213) has called *personal flavour* of our memories. Nonetheless, this *personal flavour* differs from some statements made by psychologists about the nature of the relationship between personal memories and the self. In one of the first edited books about autobiographical memory (Conway & al., 1992), Conway (1992) and Baddeley (1992) express that autobiographical memories are memories where the subject takes himself as an object of the memory, Barclay & Smith (1992) declare that autobiographical memories are memories for self-reference information, Baddeley (1992) that the rememberer is directly involved in their content and Larsen (1992), more subtly, that "the contextual information [of autobiographical memories] specifies the presence of the rememberering self at the occasion of the core event. The self must be in the picture, so to speak, but not necessarily in the center" (p. 56).

These sentences thrown down without any further analysis point to two different ideas about the relationship between personal memories and the self: the first one, that personal memories contain self-referenced information and the second one, that the subject can be the object of those memories. These are two senses in which the reflexive nature of a mental occurrence can be understood, a mental occurrence that because of its reflexivity would provide to the subject some kind of self-awareness. Nonetheless, nothing that I have said so far has dealt with the reflexivity of personal memories. If at first sight an evaluation

of the two senses in which a memory can be reflexive seems to require a full re-examination of the contents and intentional objects of personal memories, a more careful reconsideration permits to see that the analysis of one possible content and intentional object, because of its subjective nature, would be the most propitious to explore in depth the way in which the self can be in different senses present in our personal memories, even if these personal memories are about past external events. This is the content and intentional object that I deliberately did not analyse in the last chapters, that is, emotions. In fact, this essential link between the self and emotions in personal memories was already remarked on by the philosopher Samuel Alexander in his book *Space, Time and Deity* (1916-1918): "I never indeed do remember myself without the object, for without an object a mental state is nothing. Even when I project my personality back into the past or forward into the future, I have before my mind either the external objects about which I was engaged or at the lowest the bodily and contemplated constituents of myself. But *I may attend to the self rather than to the object, or in other words it may be the self which predominates in my experience. This most often happens when the past event was highly coloured with emotion, and the emotion is renewed in memory*. I remember how elated I felt at a piece of good fortune or how depressed with a misfortune. Even without emotion I can faintly remember how highly invigorated I felt by my first bicycle tour when I was young. But though we do not often attends to our past mental states, we never remember a past object without some consciousness however faint of the past state" (p. 125, my italics).

The next two chapters will be exclusively devoted to the clarification of the relationship between emotions and personal memories as a way to get a better understanding of the relationship between personal memories and the self and thus of the reflexive nature of our personal memories. Whereas in chapter 5 I introduce two different and conflicting conceptualizations of the relationship between emotions and personal memories, in chapter 6 I examine the assumptions that lie behind these two different proposals and argue for –and broaden the analysis of—one of them, the one which seems the most plausible and which better explains the affective aspect that much of our personal memories seem to have.

CHAPTER 5: THE RELATIONSHIP BETWEEN PERSONAL MEMORIES AND EMOTIONS (I)

As explained in the last chapter, a way to analyse the reflexivity of personal memories consists in clarifying the nature of what seems to be the most subjective aspect of memories, that is, feelings and emotions. I focus in this chapter on the analysis of the interactions between personal memories and emotions. In the first section, I review the general conceptualization of the relationship between emotions and personal memories admitted in the literature that assumes that emotions and memory are two different kinds of mental capacities. I call it the natural thought, not only because of its general assumption in the literature, but also because it is at first sight highly intuitive. In the second section, I review some different and richer characterizations of the relationship between emotion and personal memories that have been outlined by some authors.

THE NATURAL THOUGHT

The most common conception of the relationship between memory and emotion is that in a memory experience if there is something of emotional nature, this emotional component is a real and occurrent emotion and external to the memory. Because of its general assumption in the literature, I call this idea *the natural thought*. The basic assumption that underlies this conception is that emotions cannot be remembered because they defy a certain representational economy, in the sense that they are always *present* and that is why they cannot be *represented*. As Claparède (1911b) wrote, "If anxiety is felt in the region of the heart, if discomfort is there, if the concern is perpetual, if the back shivers, if the arteries leap, if palpitations repeat ... is that an emotion is present and not therefore a representation of a past emotion"[27] (p. 363). Emotions are always experienced as occurrent and real and not as past. They cannot have a memory counterpart because they cannot be represented *per se*, as emotions. They can certainly be represented through language, but

[27] "Si l'angoisse est actuellement ressentie dans la région du cœur, si un malaise est là, si l'inquiétude est perpétuelle, si le dos frissonne, si les artères bondissent, si les palpitations redoublent… c'est que l'émotion est présente, et n'est donc pas la représentation d'une émotion passée" (personal traslation).

in this form they would only be a propositional memory[28]. The idea is that no memory can have an emotion-like character, that is, can share some of the properties of the emotions without being at the same time an occurrent and real emotion. A comparison with perception can clarify this conception. After having a visual experience of *x*, we can remember *x* through a proposition—even if there is loss of information—but we can also remember *x* through a visual image, as I explained in chapter 2. In this last case, the visual image is a memory representation that without being itself an occurrent visual experience keeps some of its properties. In the case of an emotion experience, we can remember it through a propositional memory but we cannot remember it in a different representational format that would have some properties of an emotion without being at the same time an emotion: we would just experience a new and occurrent emotion. To refer to this particular characteristic of emotions, Currie and Ravenscroft (2002) introduced the notion of *transparency of emotions* when talking about imagination, because according to them there is no imagining that can have an emotion-like character. Taking their notion and making an analogy for memory, the thesis that emotions are transparent to memory is the most common thesis defended—or assumed—in philosophy, psychology and neuroscience. It can come in two variants, which depend on the relation between the emotion and the memory of the past event. According to the first thesis, the emotion experience related with a past event is caused by the memory of this event; according to the second thesis, emotion and memory of the event are causally independent and just coexist in working memory. In the following sub-sections I review the two versions of the natural thought and then examine the specific empirical literature in cognitive psychology about memory and emotions that implicitly assumes this same thesis.

Causal thesis

The first variant of the transparency of emotions thesis defends the idea that emotions cannot be remembered as emotions: they can only be caused by a memory. James

[28] Mulligan (1997) has made the same remark concerning memories of pain: "If we deny the existence of a direct memory of these reactions and pain, then it seems that we are forced to accept that all the memories about pain, and so all the comparisons we do about them, have the form of propositional memories, related to other emotional knowledge" (p. 159) ["Si nous nions l'existence d'un souvenir direct de ces réactions et de la douleur, alors il semble que nous soyons obligés d'accepter que tous les souvenirs qui portent sur les douleurs, et donc toutes les comparaisons que nous faisons à leur sujet, ont la forme de souvenirs propositionnels, lies a d'autres connaissances émotionnelles"].

(1890) was one of the first critics of the existence of an affective memory, which was the term used in those times to refer to a memory with an emotion-like character. For James, the notion of affective memory makes no sense, because we can only remember the past event that caused a past emotion, and the memory of this past event can make us experience a similar emotion in the present, but this emotion is a new and occurrent emotion, and not a memory. In James's terms, it is not possible to revive an *idea* of an emotion, but it is possible to revive a real emotion prompted by an ideal object: "we can produce, not remembrances of the old grief or rapture, but new griefs and raptures, by summoning up a lively thought of their exciting cause" (p. 474). James considers the object of an emotion as its cause. So in cases when the object is not physically present, like a past event, "the cause is now only an idea, but this idea produces the same organic irradiations, or almost the same, which were produced by its original, so that the emotion is again a reality" (p. 474).

Similar ideas can be found in Höffding (1891). Because in emotions cognition plays a smaller part, emotions cannot be properly remembered, neither can moods which animated us in the past. Either we only remember the fact that we had an emotion, or we can remember an emotion only through the ideas with which it was connected. But this remembered emotion is not different from a new emotion.

Titchener (1895) followed this same tradition, adding two interesting ideas. First, it is impossible to voluntarily or spontaneously recall a past emotion, because when this kind of affective recall purports to have taken place, it has in fact been produced by the 'ideational substrate' of the affective state, that is, by the memory of the past event or circumstances that elicited the past emotion. In the voluntary cases, the *ideas* or memory of the past event are in general present in consciousness, whereas in spontaneous cases even if they are not consciously represented they are the cause of what it seems a revival of an emotion: "I pass a building where I was flogged as a boy. Although I am not thinking either of the building or the flogging, an accidental glance at the former recalls all the circumstances of the latter; and I feel a tremor of fear. That is, my associative mechanism has 'suggested' to me a train of ideas similar to that which constituted my intellectual consciousness on that fatal day; (…) and the dominant train fuses with its unpleasant toning, etc., to make up the emotion" (p. 73). Therefore, I feel a tremor of fear because of the nature of the ideas themselves, that in this case are unpleasant, and not because I am reviving an emotional state. Secondly, Titchener states that even if an emotion could be reproduced, it

could not be recognized as a memory because there would be no difference between an emotion that is reproduced or *represented* and a new emotion that is *presented* for the first time[29]. If it is possible to say that a past and a present emotion are the same, it is because "of the sameness of the ideational substrate", that is, because both of them have been produced by the same representation, i.e. the representation of the same event. Therefore, Titchener concludes that in both cases the ontological status of the emotion is the same.

Edouard Claparède (1911b) also explicitly defended James' rejection of the existence of an affective memory. For him, "It is impossible to feel a past emotion. Affective state and projection into the past are two incompatible facts"[30] (p. 367). If I try to remember a past affective state, either I have an occurrent affective experience produced by the image-memory of the past situation, or I represent my past affective state through image-memories that are not at all affective: "I know that I was sad, but I am not conscious of any sad state"[31]. If I try to translate these image-memories in affective terms "I fall back in an affective present state, that is, it is my present self who is sad, and not only my past self"[32] (p. 367). For Claparède, the only thing that can be reproduced is the physiological processes that have been associated with an image, but this *organic revivification* is not the emotion itself which constitutes the consciousness of these physiological modifications, but just the cause of it. Claparède also gives another interesting and original argument against the affective memory. Two things can happen when I try to represent a past emotion: either I project the past memory far from the present moment and thus my present self, and so I represent myself in it from an external perspective, in the same way I represent other individuals, and thus I become a simple spectator of my past self, which is empty and objective, a sort of *ghost self*; or I try to become the actor and identify myself with this past image of myself, and so I draw in this past self in order to reincarnate it and reenact the past scene. Only in this last case, that is when the present self reincarnates the past self, can I feel an emotion; but it is my present self who feels it. When I try to represent the past emotion as an attribution of my past self, because this past self is so distant from my present and true self, I can only form a representation devoid of affectivity: "we cannot be

[29] Spencer (1890) had already remarked that there is not a sharp distinction between memories and occurrent emotions, because memories of emotions can become actual emotions once they reach certain degree of vividness.
[30] "Il y a impossibilité de ressentir une émotion passée. Etat affectif et projection dans le passé sont deux faits incompatibles". (personal translation)
[31] "Je sais alors que j'étais triste, mais je n'ai conscience d'aucun état de tristesse". (personal translation)
[32] "Je retombe sur des états affectifs présents, c'est-à-dire que c'est mon moi présent qui est triste, et non plus seulement mon moi passé". (personal translation)

spectators of our own feelings: we feel them or we do not feel them; we cannot imagine them without thereby disrobing them from their affective essence"[33] (p. 369).

Much more recently, Debus (2007) also defended the idea that emotions cannot be remembered. Her argument goes as follows. Debus first rules out the claim that all emotions directed towards an event that the subject experienced in the past are memories, because we can experience an emotion different from the past emotion, like feeling shame at a past amusement. Secondly, she considers a more restricted hypothesis that similarity between the present and the past emotion guarantees that the emotion is a memory. She again rules out this thesis arguing that similarity by itself is not sufficient, because a very empathic subject A can feel the same emotion as a subject B felt in the past when B tells A about this past event and emotion, and this would not be considered as a case of remembering. This second hypothesis nonetheless could in principle be saved by adding to the similarity condition a second condition: the requirement of a causal bond between the past and the present emotion, and considering that these are sufficient conditions. However, for Debus, the sufficiency of these conditions for an experience to count as a memory could only be fully accounted by the empirical science; and even if it is desirable that this hypothesis would be true, "it remains unclear whether relevant empirical research would confirm it" (p. 764). Because for now the sufficiency of these two conditions have not been proved by science, she takes as a principle of her inquiry the following: in characterizing the phenomenon we want to explain (i.e. memory experience) we should not be guided by any prior preferences for a particular account of it but we should aim to capture the phenomenon itself as accurately as possible (p. 765). According to Debus, an analysis at the experiential and representational level reveals that these conditions are not sufficient for having a memory experience, because both of them can be fulfilled and the subject might not know that he is remembering; he might think that he is imagining[34], and on the basis of our everyday intuitions we would not say that he is remembering. He could also say that he is remembering, but if he does not use the information contained in this memory to form

[33] "On ne peut être spectateur de ses sentiments: on les ressent, ou on ne les ressent pas; on ne peut les imaginer, sans les dépouiller par-là de leur essence affective". (personal translation)

[34] [34]With this idea, she refers to some examples mentioned in the literature of a subject who has a visual image of x (in Malcolm's example) or paints an image of x (in Martin and Deutscher's example) that has been caused by a similar past perceptual experience of x, but the subject does not recognize his experience as a memory experience. If for Malcolm (1963) the status of this experience is not clear, Martin and Deutscher (1966) consider that it is a legitimate case of memory because what determines that status of a memory experience is its objective conditions and not the subjective ones. Debus is in disagreement with this last assertion.

beliefs about the past, we would not say either that he is remembering. Causality and similarity, Debus concludes, are not sufficient conditions for an experience to count as a memory.

Debus defends that, besides causality and similarity, there is another condition that has to be met: the epistemic-relevance-condition. This third condition refers to the fact that the subject has to make epistemological use of the present experience when making judgements about the relevant past experience: if the subject does not assume, without relying on any inferential reasoning, that the present experience presents him with how he experienced things in the past, the experience does not count as a memory experience[35]. Because according to Debus a reasonable subject never uses emotions directed towards a past event to judge how he felt in the past, these emotions never count as memory experiences, but always are present and new emotional responses to the past event.

Debus' argument nevertheless is circular. First, she herself recognizes herself at the beginning of her argument that autobiographically past-directed emotions "as discussed here are occurrent emotions, that is, experiences of certain emotions at particular moments of time" (p. 759). This does not mean something different from the conclusion at which she arrives: "all autobiographical past-directed emotions are *present*, *new* emotional responses to the past events" (p. 772): I do not see how an occurrent emotion could not be a present emotional response. This makes the conclusion and all the argumentation trivial and obvious. Second, because of this starting point, she employs inappropriate analogies to defend her view and show that we do not use our occurrent emotions towards a past event in order to judge how we felt in the past. Let's consider one of her examples: if B says "when thinking about the wedding now, I presently feel happy and a little worried, and that's how I know that I felt happy about their commitment and a little worried about their future together at the time" (p. 768), according to Debus we would not say that B is being reasonable. B cannot rely on his present experience to determine how he felt in the past – he necessarily has to make use of additional information, for example, that he had a huge smile on his face and dropped a tear during the ceremony. This additional information and inferential reasoning would allow him to determine that he felt happy in that ceremony, and not his present emotions towards that past event. We could formulate the structure that underlies this example as follows: "When thinking about a past event *e*, I feel *x*, and that is

[35]Debus argues with more detail for this third condition in Debus (2010).

why I know that I felt *x* in the past". If it is true that this statement goes against our everyday intuition, it is also true that the equivalent version for perceptual information is also counter-intuitive. When thinking about a past event *e*, it is not because I see *x* that I know that I saw *x* in the past, it is because I remember seeing *x* that I know I saw *x* in the past. The same could be said about emotions, that is: "When thinking about a past event e, I remember feeling x, and that is why I know that I felt x in the past", and this would not be counter-intuitive.

Anyway, we could only retain her main claim and omit her examples, and so establish that for some experience to be a memory the subject has to properly recognize it as a memory, which means that he has to make use of that present experience to judge about how he felt in the past. And because this does not happen with occurrent emotions, emotions cannot be remembered. But this does not happen with occurrent perceptions either; it only happens with past perceptions that are experienced as visual memories. And it is precisely the existence of some analogue to visual memories, a sort of memory-like emotion, which Debus should have considered in her argument. But she did not. Once again we can recognize the circularity of her argument: if we want to analyse whether some experience that seems in a certain way emotional is a memory experience or not and we take as starting point that this experience is an occurrent emotion, there is clearly no argument that can conclude something different from this first assumption. Therefore, the main problem with Debus' argument is a wrong starting point, which does not leave place to doubt and does not permit to interrogate the nature of phenomenal experiences that present themselves with some memory character and with some emotional character. A good way to carry out this research would be to explore the nature of these different aspects, as I aim to do in this and in the following chapter, and not to start with some assumptions about its constitution. As I already mentioned, Debus' herself propose to follow this methodology: "(…) we should aim to capture the phenomenon itself as accurately as possible. In *characterizing* the phenomenon which we want to account for, we should not be guided by any prior preferences for a particular account of the phenomenon." (p. 764). But it seems that nonetheless she let herself to be guided by prior preferences about the nature of emotions (as I will explain in the next chapter) and the nature of emotional personal memories, which she considered as being composed of two distinct experiences: a memory about the past event and an occurrent emotion.

In conclusion, the thesis defended by Debus is the same thesis defended by James, Titchener, Höffding and Claparède: emotions cannot be properly remembered: either they are remembered through a proposition, and thus they lose their emotional character, or what is remembered is the past event, and thus the emotional component associated to the memory is just a present emotional response caused by the memory of the past event.

Coexistence thesis

The second version of the natural thought, that I call the coexistence thesis, defends the idea that emotions can be encoded and retrieved independently of the declarative memory of the event that triggered them. This hypothesis, which is an empirical idea, became popular in the 1990s, even though before that period there were already some findings in the literature in favour of the independence of memory for emotions from the declarative memory system, in particular Claparède's report in 1911 about an amnesic patient who refused to shake his hand even though she did not remember the episode where her hand had been pricked by him[36]. Clearly, the issue of separate memories for emotion and cognition is part of a broader debate about whether emotion and cognition are separate systems. Briefly summarizing the history of this last debate (Leys 2010, 2011), even though in the 1960s Silvan Tomkins (1962) argued that affect and cognition constituted two entirely separated systems, his ideas were overshadowed by Schachter and Singer's (1962)

[36] "(…) I strongly pricked her hand with a pin hidden between my fingers. This little pain was forgotten as fast as the perceptions, and moments after the pinch, she could not remember anything. However, when I approached again my hand close to hers, she withdrew her hand, like in a reflex manner, and without knowing why. If, indeed, I asked her the reason for the withdrawal of her hand, she replied with an air of bewilderment: 'are we not entitled to withdraw the hand?'-And if I insisted, she told me: 'there may be a hidden pin in your hand?' To my question: 'who can make you suspect that I want to prick you?' she resumed her refrain: 'it's an idea that came through my head', or sometimes trying to justify it: 'there are pins sometimes hidden in the hands'. But she never recognized this idea of a pinch as a memory" (1911, p. 85) ["(...) je lui piquai fortement la main avec une épingle dissimulée entre mes doigts. Cette petite douleur a été aussi vite oubliée que les perceptions indifférentes, et quelques instants après la piqûre, elle ne se souvenait plus de rien. Cependant, lorsque j'approchais de nouveau ma main de la sienne, elle retirait sa main, d'une façon réflexe, et sans savoir pourquoi. Si, en effet, je lui demandais la raison de ce retrait de main, elle répondait d'un air ahuri: 'Mais, est-ce qu'on n'a pas le droit de retirer la main ?' —et si j'insistais, elle me disait : Il y a peut-être une épingle cachée dans votre main ?' A ma question : 'Qui peut donc vous faire soupçonner que je veuille vous piquer?' elle reprenait son refrain : 'C'est une idée qui m'a traversé la tête', ou quelquefois elle essayait de justifier : 'Il y a quelquefois des épingles cachées dans les mains'. Mais jamais elle ne reconnaissait cette idée de piqûre pour un souvenir" personal translation]. In fact, in this writing, Claparède used for the first time the implicit/explicit dichotomy to talk about memory, more specifically, about recognition (see p. 88). This is contrary to what Schacter (1987) stated in his article about the history of the term "implicit memory", where he attributed its paternity to William McDougall in his book *Outline of Psychology* (1924), as Francis Eustache and Béatrice Desgranges (1998) remarked (p. 139).

cognitive theory of emotions, which considered that cognitive factors, like context and background knowledge, are the most important factors to determine a state of physiological arousal such as an emotion[37]. Tomkins' distinction was not reconsidered until the 1980s, when Zajonc (1980) presented in a famous article experimental evidence demonstrating that affective discrimination can be made in the total absence of recognition memory, which made him conclude that cognitive and perceptual information does not constitute the basis of emotional information because emotional information depends on a different, independent and faster system than the cognitive system. The thesis of emotion and cognition as separate systems became the mainstream position in the 1980s, and so this conceptualization of emotions together with the boom in studies of implicit memory gave birth in the 1990s to the concept of 'implicit emotional memory' (Christianson & Safer, 1995; Tobias & al., 1992).

Implicit emotional memory is defined as a change in emotional response, such as refusing to shake hands, freezing, fearing, feeling depressed, that is directly attributable to some previous experience, but that cannot be accounted for by an explicit memory of that event. Whereas explicit memory of an emotion is simply considered as a declarative memory that belongs to the episodic memory system, an implicit emotional memory (Levine & al., 2006):

- encodes information about emotional valence and intensity
- is triggered automatically by the presence of specific contextual cues;
- is independent of the conscious retrieval of the emotion-eliciting event;
- elicits an emotional reaction in the present that shares many of the properties of the original emotional experience, such as valence and intensity, so it is experienced as an occurrent emotion.

The main argument for this distinction is that both kinds of memory are organized in different and independent systems: the implicit emotional memory depends on the amygdala, whereas the memory of emotions depends on systems that support conscious memory, like the hippocampus and the related cortex. The thesis of an anatomical dissociation between memory and emotion—understood as emotional behaviour and

[37] Prinz (2004) categorizes Schachter & Singer's theory as hybrid, because they consider that an emotion has a cognitive as well as a noncognitive component: a state of physiological arousal followed by an *emotion* label. Even if this is absolutely correct (Schachter & Singer, 1962, pages 381-382), their theory is commonly considered as a cognitive theory of emotions because the point they are defending is that cognitive factors are the major determinants of an emotion: even if the physiological changes are necessary, it is possible that a high level of arousal does not correspond to an emotional state.

intensity, which is one aspect of the subjective experience of emotion (Anderson & Phelps, 2002)—has been widely supported mainly by studies and models of conditioned fear in rats and other mammals. But also some functional imaging studies as well as some studies in monkeys and a few in humans with specific brain lesions have supported the same thesis: damage to the hippocampal formation and adjacent regions impairs memory but does not affect emotional behavior, whereas damage to the amygdaloid complex has the opposite effect. What is more, "conjoint damage to the amygdaloid complex and the hippocampal formation had no greater effect on memory or emotion than damage to either region alone." (Zola-Morgan & al., 1991, p. 218).

One of the most famous exponents of implicit emotional memories is Joseph LeDoux (2012), whose studies have focused on implicit fear-conditioned memories. Following the prevailing conceptualization of emotions, he considers that emotional experiences or emotional feelings are not really problematic about emotion, but problematic about consciousness, so emotions should better be studied as the end result of information processing occurring unconsciously, at the neural level, as brain circuits and functions that contribute to survival. At this level of analysis, the term *emotional memory* applies in a proper sense to the conditioned emotional responses that have been associated with a specific stimulus and do not depend on conscious awareness. The conditioned emotional response is dissociated from the memory of the emotion and the memory of the emotional event which are simple explicit declarative memories.

Because of this anatomical dissociation, emotional situations are considered to be often stored in both kinds of systems. Taking LeDoux's (1998) example of a subject who had a terrible car accident where the horn got stuck on while he was trapped in the car and in pain, if he hears a sound of a horn, this information in his auditory system will take two different pathways: on one hand, it will go to the amygdala and implicitly elicit bodily responses typical of situations of danger (the amygdala is directly connected with arousal systems and networks that controlled behavioural, visceral and other responses); on the other hand, it will go to the hippocampus and related cortical areas, where explicit declarative memories are activated, such as the fact that the accident was awful, but they do not have obligatory responses associated with them, that is, they do not produce emotional consequences *per se*. In traumatic situations, both systems function in parallel, and in some cases the implicitly processed stimuli can activate the amygdala without activating the related explicit memories. When both of them—the explicit memory and the proper emotional memory—are activated at the same time, they coexist in working

memory: “the fact that I am aroused rest side by side in consciousness with my explicit memory of the accident” (1998, p. 156). However, it is worth remarking that this does not mean that the explicit memory system and the amygdala do not interact at all: sometimes conscious memories can trigger bodily responses through the amygdala, as well as an implicit emotional memory can sometimes facilitate the recovery of contextual details of the event which elicited the past emotion. Therefore, the coexistence thesis does not deny the causal interaction; it just states that it is not necessary because of the independence and parallel operations of both memory systems.

A good example of this dissociation between the implicit emotional memory and the memory of the emotion is the dual representation theory of post-traumatic stress disorder (Brewin & al., 1996; Brewin, 2001). Dual representation theory considers that personally experienced traumatic events are stored in two different systems or representational formats: a propositional format that interacts with the rest of autobiographical knowledge, refers to spatial-temporal information and can be retrieved automatically or through strategic processes, and a non-verbal format that contains information that has been obtained from lower level perceptual processing of the traumatic scene, such as visuospatial and auditory imagery, and of the person’s bodily response to it, such as changes in heart rate, temperature changes and pain (Brewin, 2001). Whereas the first kind of representations would be associated with the hippocampus, the second kind would be associated with the amygdala. This last kind of information can be activated independently of the hippocampus, mainly via visual areas that project strongly to the amygdala. This would explain the relation between visual imagery and the high levels of arousal that characterizes most re-experiencing in PTSD. Dual representation theory is not the only theory to explain PTSD but it is highly supported by empirical evidence (Brewin & Holmes, 2003), as well as other cognitive models of PTSD (Ehlers & Clark, 2000) that without specifying the way in which information is encoded explicitly considered that different kinds of memory representations are involved. In fact, recent empirical data points to this double dissociation: whereas blocking the noradrenergic arousal in the amygdala by a β-adrenergic antagonist reduces the strength of the conditioned emotional response and decreases self-reported PTSD symptoms it does not affect the retrieval of declarative information related to the past traumatic experience (Pitman et al., 2002; Brunet et al., 2003; Vaiva et al., 2003; Schwabe & al., 2013). Also studies done with combat veterans who suffered from brain lesions, included the amygdala, as well as of PTSD left by the war

showed a reduction of the PTSD symptoms intensity due to the amygdala impairment (Koenigs & al., 2008).

In synthesis, the coexistence thesis defend the idea that emotions can be encoded and represented in the implicit memory system, which is different and independent of the explicit memory system, and that is why the memory of the event which elicited the past emotion is not necessary for the implicit memory of the emotion. In Aristotelian terms, although both the memory of the event and the implicit memory of emotion were efficiently caused by a past event, both differ in their formal causes—the first being a proposition whereas the second a physiological response—and also in their material causes, the first being the product of the hippocampal system activation, whereas the second of the amygdala system. On the other hand, an implicit memory of an emotion and a new emotion are both emotional responses, so they do not differ in their material and formal causes; they only differ on their efficient cause: a past event in the case of the memory and a present event in the case of the new emotion. Therefore, we can summarize the coexistence thesis as following: emotions can be encoded in an independent system, and that is why their retrieval is independent of a conscious or unconscious retrieval of the past event. However, when they are retrieved they lose all sense of pastness, and thus the subject experiences them as as occurrent and real emotions.

The coexistence thesis about the relationship between memory and emotions seems to be a better hypothesis than the causal thesis first, because it is supported by some empirical data, and second because in a certain way it is broader than the causal thesis: while it denies that causality is necessary, it does not deny that causality is possible. Nonetheless, the basic idea that lies behind the coexistence thesis, that is, that the amygdala is the neural basis of the emotion system, is questionable.

Much of the scientific study of the amygdala comes from studies on fear, and more specifically, from a simple kind of fear understood as a defence response, as a detection and response to threats, and not for example, as fear of falling in love, or fear of dying, which would be more complex and *cognitive* emotions and may even deactivate the amygdala. LeDoux himself recognizes that much more research needs to be done before assigning the amygdala as the *emotion system* (LeDoux, 2007). What is more, the thesis that the amygdala is essential for emotional behaviour and affective experience has been mainly supported by evidence of drastic changes in emotional behavior following amygdala damage in non-human animals, but little direct evidence of the existence of emotional

dysfunction has been documented in humans. Only in the last years some studies of patients with bilateral amygdala damage have been carried out in order to better understand the role of the amygdala in relation to emotions. Whereas Becker et al.'s (2012) study of twins with the same bilateral amygdala damage revealed that one but not the other could recognize fearful faces and Freeman & Luby (2013) describe a 5 years old boy who shows evidence of anxiety in a social setting, the patient SM analysed by Feinstein & al. (2011) lacks of subjective fear experience and behavioural signs of fear—included when recalling traumatic events—while other emotions are unaffected. Nonetheless, Tranel, & al. (2006) showed in fact that the psychologists who interviewed this same patient, SM, before knowing her condition, did not see any indication of impaired emotions and just classified her as a "survivor", with "exceptional coping skills" and a "strong positive affect". Also a new study done with SM and the twins with bilateral amygdala damage (Feinstein & al., 2013) reported that after CO_2 inhalation all three felt fear and panic accompanied by the corresponding physiological and behavioural responses, and this was a completely novel experience for them. In conclusion, all this evidence shows, first, that the effect of amygdala impairment is specific to the emotion of fear and does not affect other emotions as well as the experience of their respective feelings; and second, that the amygdala could not be the only mechanism that instantiates the emotion of fear, because other pathways can mediate its induction and experience. It seems that "unlike lower animals whose affective responses may be more tied to environmental input, human affective experiences are likely more dependent on internal representations of perceived threats and rewards in the absence of direct stimulation (...) due to the ability to represent affective schema without direct perceptual stimulation, the complexity and richness of human emotional life do not appear to be supported by the amygdala alone" (Anderson & Phelps, 2002, p. 717).

In fact, in the last years, locationist accounts that try to map a particular brain region with an individual category of emotion or with the category of emotion *per se* are becoming more and more out-of-date, whereas the idea that in the brain there is no truly separate systems for emotion and cognition and that each behaviour is cognitive and affective (even if in different degrees) is becoming more and more popular. To give some examples: "(…) there are no truly separate systems for emotion and cognition because complex cognitive–emotional behaviour emerges from the rich, dynamic interactions between brain networks. Indeed, I propose that emotion and cognition not only strongly interact in the brain, but that they are often integrated so that they jointly contribute to behaviour. Moreover, I propose

that emotion and cognition are only minimally decomposable in the brain, and that the neural basis of emotion and cognition should be viewed as strongly non-modular" (Pessoa, 2008, p. 148); Lindquist & al (2012) in their defence of a psychological constructionist approach to the mind: "(…) a psychological constructionist approach hypothesizes that the same brain areas will be consistently activated across the instances from a range of emotion categories and (…) even in non-emotional states, meaning that that brain region is not specific to any emotion category (or even to emotion *per se*)" (p. 126); also Hamann (2012): "neuroimagining studies have identified consistent neural correlates associated with basic emotions and other emotion models. Rather than being specialized for one type of emotion, however, individual brain regions often contribute to multiple emotions, ruling out simple one-to-one mappings between emotions and brain regions and pointing to the need for more complex, network-based representations of emotions" (p. 459). This shows that researchers are attributing "cognitive functions" to brain regions commonly considered as emotional, and "affective functions" to those viewed until recently as merely cognitive. That is the case of the amygdala, one of the most highly connected regions of the brain, that from being conceived as the brain locus of emotion, and then of fear, it is now considered to be primarily involved in the detection and processing of novel and salient stimuli appraised as relevant because of their biological and subjective significance (Sander & al., 2003). But this does not exhaust the role of the amygdala: it seems that it contributes to other functions, like social cognition and simulation of future events (Markowitsch & Staniloiu, 2011). And what is more, if before it was common to think that the amygdala was independent of top-down processes, now it seems it is the opposite: attention and the change of the 'cognitive meaning' of emotionally evocative stimuli affects amygdala responses (Ochsner & Gross, 2005; Pessoa, 2008). Moreover, other brain regions are also believed to be critical for the emotion experience, especially those associated with the psychological operation of categorization and networks supporting language (Lindquist & al., 2012).

In what concerns the role of the amygdala in personal memories, its activation during retrieval, as most of the studies have shown (see for example Markowitsch & al. 2000, 2003), does not nonetheless mean that the amygdala provides to the memory the emotional information that is stored in it. While some studies suggest that activation of the amygdala very early in the retrieval process may guide successful memory recollection of emotionally significant events (Daselaar & al., 2008), others consider that the amygdala may be the responsible for the particular phenomenological properties of emotional loading of episodic autobiographical memories (Greenberg & al., 2005; Schwabe & al., 2013).

To sum up, all these recent empirical studies and reconceptualizations about the way in which the brain seems to work provide evidence against the coexistence thesis: if emotion and cognition are minimally decomposable in the brain and thus there is not a genuine emotion system, it is not possible for all the emotions to be simply encoded as information of valence and intensity independently of the information about the past event associated with them. Therefore, the idea of a dissociation between the proper emotional memory and the memory of the past event is not endorsed by current research in neuroscience. The distinction can only be useful for some—but not all—cases of fear and, in consequence, for cases of PTSD[38], but it manifestly could not be applicable to the rich range of emotions that humans can feel and remember.

Empirical research about memory and emotions in cognitive psychology

In cognitive psychology, there is an extensive empirical literature on the relationship between memory and emotions. However, the assumptions about their nature and their relationship are not made explicit. Therefore, in this section I try to uncover their main and most common premises in order to see whether they differ from the two other theses already presented.

It is possible to get a comprehensive overview of the specific topics of research in cognitive psychology on the relation between memory and emotion by taking a look at the old *Handbook of Emotion and Memory* (1992), or to the more recently edited volume *Memory and Emotions* (2003) or to a recent review article written by Holland and Kensinger (2010) about emotions and autobiographical memory. From this literature, it seems that most empirical research in cognitive psychology is in general concerned with the way in which emotions felt at the encoding phase and emotions felt at the retrieval phase influence some properties of the personal memory, the latter mostly understood as a propositional memory of a past event. To which properties do they refer? Psychologists seem to be mostly concerned with two issues:

a. Influence of emotions felt at the encoding phase on memory:

- How do emotions affect the encoding of central versus peripheral information of the event experienced? (Reisberg & Heuer, 2004; Levine &

[38] However, it is worth remarking that "emotions involved in PTSD are not by any means restricted to fear, helplessness, and horror, or to what was actually experienced at the time of the trauma" (Brewin & Holmes, 2003, p. 345).

Edelstein, 2009)

- Do emotions enhance the feeling of vividness of the remembered event? (Rubin & Kozin, 1984; Wright & Gaskell, 1992, Mickley & Kensinger, 2009)
- Do emotions enhance the confidence or subjective feeling of remembering? (Phelps & Sharot, 2008; Rimmele & al., 2011)
- How do emotions affect the accuracy of the memory of the remembered event? (Kensinger 2007; 2009)
- Do emotions increase the likelihood of an event of being remembered? (Atapattu & Kensinger, 2009; Dolcos & al., 2004)
- Does the valence of the emotion make a difference to the possible influences enumerated above? (Berntsen & Rubin, 2002, Kensinger & Schacter, 2006; Levine & Bluck, 2004)

b. Influence of emotions/mood felt at the retrieval phase on memory:

- Does the valence of the emotion/mood determine the degree of accessibility of selective information according to its valence? (Koole, 2009; Miranda & Kihlstrom, 2005; Rusting & DeHart, 2000)

At first sight, it is possible to see that cognitive psychology seems to be more concerned with the way in which past emotions associated with an event influence the properties of the memory of the event and less concerned with the way in which emotions and memories interact at retrieval. Concerning the properties that cognitive psychologists study, the feeling of vividness is the only one that is highly related to the content of memories, because it refers to a first order phenomenal property of memories. Confidence is a way of measuring the subjective feeling of recollection that accompanies memory and thus is a metacognitive phenomenal property of memories. The other properties, i.e. accuracy, degree of accessibility and likelihood of being remembered, are not properties related to the phenomenology of the memory, but properties that are attributable to memories from an external point of view, when memories are objectified and not when memories are experienced. Therefore, it seems that empirical research is concerned first, with the analysis of the way in which past emotions influence properties of the memory of the related past event that, in a different quantitative degree, are present in all memories for the simple fact of being memory occurrences. Second, except in the case of vividness, these properties do not seem to be concerned with the content of memories.

The only exception to this last statement would be the way in which emotions affect the type of information that is encoded (central versus peripheral), including the degree of vividness understood this time as the quantity of details. In this case, we could appropriately say that emotions affect the content of memories and thus, that some empirical research is concerned with the way in which the content of memories is modified by the emotions associated to it. Nonetheless, at encoding the content that is affected by the emotional aspect of the experience seems to be the content of perception. The general idea that perception of stimuli that have emotional significance is enhanced is not new: Anderson & Phelps (2002) showed that patients with amygdala damage have no enhanced perception or enhanced perceptual encoding for aversive stimuli, suggesting that the influence of the amygdala on the salience of aversive stimulus events shapes the perceptual experience directly, making them less dependent on attentional resources to achieve awareness. A more recent study (Todd & Talmi, 2012) introduced the idea of emotional salience to account for this enhancement in perception. Emotional salience is a salience that events and objects can have that is different from objective salience and also dissociable from overt attention, but that acts in a similar way to top-down attention: "emotional salience of events is embodied directly in the subjective experience of visual clarity, endowing them with a special salience" (p. 11209). The authors consider that "rather than attending more during emotional events, individuals are attending differently, with less reliance on effortful attentional and executive processes to enhance encoding and memory" (p. 11211), and that this perceptual vividness may contribute to the salience of emotional memories (similar to Hamann, 2001; Murty & al., 2011). These studies thus suggest that emotions experienced at the moment of encoding actually influence the content of memories only in an indirect way, through their direct influence on the content of the perceptual experience itself, giving it more vividness, salience or degree of details. A similar explanation can be invoked to account for the fact that emotions and especially mood seem to trigger selective memories: the research only supports that sometimes information congruent in valence to one's present emotion or mood is more likely to be retrieved (cases of mood congruency), and other times this information is opposite in valence to one's present emotion or mood, as happens in mood repair to avoid prolonging a negative mood state (cases of emotional regulation).

Maybe an example can clarify the most common concerns of cognitive psychology at the moment of studying the relationship between memory and emotions. If I had a serious car accident, cognitive scientists will examine if my memory of the car accident is more

vivid, more accurate and more accessible than a non-emotional memory. They will also examine if I am more confident of the accuracy of my memory of the car accident than I am of the accuracy of non-emotional memories. They will also be interested about the likelihood in which I remember my memory of the car accident in comparison with other non-emotional memories and the relative likelihood of remembering this memory if I am in a bad mood compared to being in a good mood. They would also be interested in whether I remember detailed information about the accident or just peripheral information. But they will probably not analyse the particular way in which I remember the car accident that makes it different not only from the way in which I remember other emotional and non-emotional memories, but also from the way in which, for example, my companion in the car remembers the accident—probably because this kind of analysis cannot easily give rise to any generalization.

In conclusion, in cognitive psychology, empirical research about memory and emotions is mainly focused on the study first, of the way in which past emotions influence occurrent memories of the associated past event, and second, of the way in which these past emotions alter the degree of presence mostly of properties that memories have by virtue of being memory occurrences. The relationship of memories to emotions at retrieval is less analysed—possibly because of the difficulty of achieving empirical generalizations—and the studies that do analyse it focus on the probability of retrieving memories according to the valence of the occurrent emotional or mood state. All these ways of studying the relationship between memory and emotion strongly suggest that what they are assuming is that emotions and memory are two different capabilities that certainly interact and influence each other but keep their distinctiveness in these interactions. At retrieval, the emotional component related with a memory is considered as a real and occurrent emotion or mood state and thus external to the memory. These are the two main premises of what I called *the natural thought*. We can therefore conclude that most empirical research in cognitive psychology centred on the relationship between emotions and memory implicitly assumes the natural thought.

AGAINST THE NATURAL THOUGHT

Even if the natural thought is the mainstream conception of the relationship between emotions and memory, richer interactions have been outlined in philosophy more than one

century ago, when the topic of the existence of an affective memory was the object of discussion mostly among some French philosophers and psychologists. Also more recently, philosophers like Richard Wollheim and Peter Goldie have defended a richer characterization of the emotional memory experience from the perspective of a narrativist account of memory. But even a neuroscientist like J. LeDoux who is the main source for the coexistence thesis has also recognized some sort of interaction between the memory and the emotion at the conscious and thus experiential level. In this section, I describe these three richer characterizations in order to explore what they can teach us about other possible ways of conceiving the relation between emotions and memory.

Emotional colouration

Although LeDoux in *The Emotional Brain* (1998) does make a clear distinction between the memory of an emotion or event and the proper emotional memory, he also mentions briefly at the end of his explanation the notions of *emotional flavouring* and *emotional colouration* to try to account for the interaction of both memories in consciousness. LeDoux explains that because in general the memory of the past event is co-represented in working memory with the emotional arousal that is caused by the activation of the implicit emotional memory in the amygdala, the two components are seamlessly fused as a unified conscious experience for the subject. That is why the conscious memory is not *emotionally flat*: the current emotional arousal gives to it what LeDoux calls an *emotional flavouring*. LeDoux adds that when this happens "this unified experience of the past memory and the arousal can then potentially get converted into a new explicit long-term memory, one that will include that fact that you were emotionally aroused last time you remembered the accident. In this case the memory of the accident did not lead to the emotional arousal. The implicit arousal of emotion gave emotional colouration to the explicit memory" (p. 157). So according to this description, once the memory of the event and the emotional arousal is bounded as a unified representation in working memory, the subject experiences an emotionally flavoured memory, which can be encoded as a new long-term memory and later recalled as a memory with an emotional colouration.

LeDoux does not deepen the description of these two interesting ideas on his book, but in a later article (2008) he explains in more detail the notion of *emotional colouration*,

even though in this text this term has a meaning closer to the idea of *emotional flavouring* mentioned earlier. Here LeDoux is interested in emotional consciousness and not in emotional memories. He distinguishes again between the emotion that is restricted to unconscious processing and the control of emotional responses, and the conscious emotional experience that the subject has when he is aware of the emotion. This later is a *feeling* which is defined as an emotionally coloured cognition. Feelings occur when cognitive information, i.e. sensory properties of an immediately present emotional stimulus and long-term memories that are activated by the stimulus, and emotional information, i.e. the emotional arousal that is being elicited at the same time, are bounded into an unified and multidimensional representation in working memory and when attention is directed towards this representation. Language also influences feelings producing subtle differences in the way the inputs to working memory are processed and how these are evaluated in relation to one's past experiences and a self concept. LeDoux (2012) also gives more details about the genesis of occurrent *emotional feelings* and so about the experience of emotions, without nonetheless making any reference to the notions of *emotional colouration* and *emotional flavouring*: "an emotional feeling is hypothesized to be a representation of a global organismic state initiated by an external stimulus". According to him, this representation formed in the cognitive workspace includes "sensory information about the stimulus and the social and physical context, information about the survival circuit that is active, information about the central nervous system arousal, body feedback information and mnemonic information about the stimulus situation and the state itself" (p. 666). Furthermore, for the emergence of a conscious feeling, this global organismic state is categorized and labelled by the subject. Differences in the components in humans and nonhumans species entail a difference in the resulting state.

This explanation clarifies a little more what would happen when there is no external sensory stimulus and only long-term memories and the emotional arousal fuse in a single representation in working memory. So here it would also appear as a feeling, that in this case would be an emotionally coloured memory, or more properly an *emotionally flavoured memory* to follow the more meticulous distinction outlined by LeDoux in *The Emotional Brain*. These would be the cases where the emotional component is an occurrent emotion that is elicited at the same time as the associated memory. However, cases where there is an emotional component but no emotional arousal, which would correspond to the category of *emotionally coloured memory* according to LeDoux's distinction, are not well explained and remain more in the metaphorical field than in the scientific one. It is unclear what

would be the nature of this element or property, that is added to the memory but is not itself an emotion or a propositional memory of an emotion.

Hans Markowitsch and his collaborators have also used similar terms to LeDoux's in order to explain the especial phenomenological properties that are characteristic of episodic personal memories and that more semantic personal memories and fictitious memories lack: *affective flavour*, *emotionally coloured episodes*, *emotional infiltration*, *emotional connotation* and *emotional tone* are the metaphors indistinctly employed in his articles (Markowitsch & al. 2000, 2003; Brand & al., 2009; Reinhold & Markowitsch, 2009). For Markowitsch and his team, the *emotional tone*—as well as self-related information—is necessary for the formation and retrieval of episodic personal memories: in their studies, this high emotional engagement is shown by a special activation of emotion-related brain regions, like the amygdala. The notion is nonetheless not at all defined in their articles; in personal correspondence (03/06/2013), he explained that the 'emotional colouration' of memories that subjects had to rate in Reinhold & Markowitsch (2009) referred to a "a kind of averaging of the present and the past emotional colourization": emotional details from the time of encoding and the emotional tone of the past event reawakened in the context of retrieval are both involved in the reconstruction of the past event.

Therefore, we can conclude that even neuroscientists like LeDoux and Markowitsch recognize that some personal memories, without eliciting an occurrent emotion, have some sort of emotional component that more semantic memories lack. Notion like *emotional colouration* and *emotional tone* try to precisely account for this content and phenomenology of some personal memories that cannot be reduced to a simple proposition.

The existence of affective memory

The idea that memories can have an emotional component that is not a new emotion or propositional information about a past emotion was already sketched more than one century ago. While James, Höffding, Titchener and Claparède were against the idea of an affective memory, around the same period some mostly French thinkers were staunch defenders of its existence. Théodule Ribot was one of the first. In 1894, he distinguished

two kinds of memory[39]: the concrete or real affective memory and the abstract and false affective memory, the latter being a simple declarative memory of an event and an emotion. This latter memory consists of "a representation of an event and an affective mark –but not an affective state" (p.160), where the affective mark is not felt but known because it is a state of knowledge, a fact that goes with the representation of the event. On the other hand, the real affective memory consists of the reproduction or revivability of the past affective state, and so it is felt. What is the status of a real affective memory? A real affective memory, as with any other memory, has the characteristic of being an occurrent representation: "every memory has to be a reversion through which because the past becomes present, we live presently in the past"[40] (p. 170). To become an occurrent representation, an affective memory has to go with physiological states, which gives rise to an occurrent emotion. So according to Ribot, an affective memory is a real emotion which has the memory label because of some secondary marks, such as repetition and less intensity[41]. Consequently, even if Ribot's position would not in principle differ from James and LeDoux's, he makes in reality another point, that affective memories seem to share at the same time some of the characteristics of memories and some of the characteristics of occurrent emotions. Nonetheless, he does not analyse in depth this idea and finally reduces the memory status of affective memories to what he considers some secondary traits, like the repetition and variability in the intensity. To the question about what is the cause of this affective memory, Ribot answers that affective memories would be characterized by an indirect revivability, because the emotion can only be provoked by the memory of circumstances associated with it. However, in the footnote at the end of the article, Ribot introduces the interesting idea that it is impossible to conceive an example of an affective memory without any ideal component or, in current terms, a cognitive component, because the revivability of an

[39] The article that appeared under the name "Recherches sur la mémoire affective" in the *Revue Philosophique de la France et l'étranger* T. 38, was lately reproduced as a chapter in his book *La psychologie des sentiments* (1896). Because this chapter includes at the end a footnote with some important comments but the rest of the body remains the same, I will cite this text for quotations with my own translations. In this article, Ribot mentions that the only authors that mentioned this subject before are Spencer, Bain, James, Fouillée, Hoffding and Lehmann.

[40] "Tout souvenir doit être une *réversion* par laquelle le passé redevenant present, nous vivons présentement dans le passé." (personal traslation)

[41] That is what he writes on page 162: "If, with the memory of an agony that I have witnessed, grief engulfs me, if my tears flow, my representation is occurrent and only becomes a memory by the addition of secondary marks, including repetition and lower intensity " [Si, au souvenir d'une agonie don't j'ai été témoin, le chagrin m'envahit, si mes larmes coulent, ma representation est actuelle et ne devient souvenir que par l'addition des marques secondaires, entre autres la repetition et la moindre intensité]. However, at the end of the article he quotes a Chateaubriand's memory where he states to feel a more intense emotion when he remembers an offense than when he experiences it. This makes Ribot to state that the intensity of the revivability depends more on internal and cerebral conditions than on the primitive impression (p. 169).

emotion "necessarily brings about the intellectual component that is part of the complex and its support" (1896, p. 170)[42].

Here Ribot outlines two novel ideas concerning the relation between emotion and memory: the revived version of a past emotion first has some different phenomenological properties than a new emotion; and second, it is not simply a bodily change, because a real affective memory is in fact inseparable from the cognitive domain.

After Ribot, there were other French intellectuals who continued defending and developing the notion of affective memory, especially these two ideas suggested in Ribot's article. I will not rehearse them one by one even although their writings are extremely interesting. I will only focus on the ideas that can help in a different conceptualization of the notion of emotional memories.

First, let's deal with the relation between intellectual memory and affective memory. Mauxion (1901), in Ledoux's style, still considers that the true affective memory is a certain disposition gained by the organism more or less independent of the representation, because if it is entailed by the past representation, it is just a new emotion and so a false affective memory: "It is an entirely new phenomenon that appears (...) whose condition of existence is not more based in the past feeling than today's storm in the storm of the past month"[43] (p. 147). However, almost all the authors after Ribot considered that cognitive as well as emotional components are always present in memories, and in every psychological state. Even if for Mauxion a true affective memory has to be in a certain way *pure* of ideal elements, he also admits that feelings are not the opposite of sensations and representations but an extension of them: "the feeling is somehow an extension of the sensation: the rhythm of the sensation, regardless of the pleasure or pain that it causes immediately, naturally tends to inform the general activity and change more or unless the tone; and it is precisely this what the Germans call the tone of feeling (der Gefühlston) of sensation"[44] (p. 144). Pillon (1901) proposes to distinguish not between two kinds of affective memory, true or false, but between different degrees of affective memory or abstraction. Affective memories

[42] "La reviviscence ramène nécessairement l'état intellectuel qui fait partie du complexus et en est le support". (personal translation).
[43] "C'est un phénomène entièrement nouveau qui apparaît et qui (…) n'a pas plus sa condition d'existence dans ce sentiment que la tempête d'aujourd'hui dans la tempête du mois passé" (personal translation).
[44] "Le sentiment n'est en quelque sorte que le prolongement de la sensation: le rythme de la sensation, indépendamment du plaisir ou de la douleur qu'il provoque immédiatement, tend naturellement à se communiquer à l'activité générale et à en modifier plus ou moins la tonalité; et c'est en cela que consiste justement ce que les Allemands appellent le ton du sentiment (der Gefühlston) de la sensation" (personal translation).

are a continuum: the intellectual memory can dominate and so the affective memory only exists in potency, but it can actualize itself due to associations of contiguity. But affective memories have to keep their distinctiveness as past representations and for this they cannot be completely separated from the intellectual element: affective memories have to be localized in time and that is why they need to be related to some idea; if they are completely detached they are no longer recognized as memories. Paulhan (1902) is of the same opinion: every memory has intellectual and affective elements in different proportions, but sometimes memories cannot evoke their affective side. More intellectual memories have a distinctive past mark, because they are vividly and directly denied as occurrent perceptions by the actual perceptions, whereas more affective memories are not completely inhibited by their antagonists, that is, occurrent emotions. In the case of the emotions, Paulhan (1903) considers that it is their internal organization which determines if it is an affective memory or not. Therefore, the relation between occurrent emotion and memory of an emotion cannot be analogous to the relation between perception and memory of perception: that is also shown by the fact that it would be a contradiction to accept an intellectual memory as an occurrent perception, but it is possible to accept memories of emotions as occurrent emotions. Dugas (1904) also considers that intellectual and affective memories are distinguishable because while the former present themselves with a clear difference between present and past, the latter could be classified as a resurrection, because they have a hallucinatory character that intellectual memories lack. But even if they are distinguishable, they never appear in a pure state: "in the restored sensation, like in the original sensation, the condition is given in and with the representation" (p. 639)[45]. The same conception is held by Sollier (1913): the question as to whether the affective memory can or cannot be isolated is not relevant for the question of its existence because it is

[45]"Dans la sensation restaurée, comme dans la sensation originale, l'affection est donnée dans et avec la représentation" (personal translation). And he continues: "The timbre of the voice, the line of the mouth are perceptions, and can, at a pinch, be considered only as such; but these perceptions also have an emotional value, and it is from this perspective that the poet interprets and speaks about it: 'How do you do great loves, Small mouth line?' Even when one is caught by both the perception and emotion, we grab one into the other, or one by the other, we do not confuse them because of that. To have the right to distinguish psychic facts, it is not necessary that I have the power to isolate them. It seems that among psychologists there is in general an excessive tendency to make the existence apart from the affective memory a condition of its existence, or its reality". ["Le timbre de la voix, la ligne de la bouche sont des perceptions, et peuvent, à la rigueur, être envisagés exclusivement comme tels; mais ces perceptions ont aussi une valeur émotive, et c'est de ce point de vue que le poète les interprète et en parle: 'Comment fais-tu grands amours, Petite ligne de la bouche?' Alors même qu'on se laisse prendre à la fois par la perception et par l'émotion, qu'on saisit l'une dans l'autre, ou l'une par l'autre, on ne les confond pas pour cela. Pour avoir le droit de distinguer les faits psychiques, il n'est donc pas nécessaire que j'aie le pouvoir de les isoler. Il semble qu'il y ait chez les psychologues en général une tendance excessive à faire de l'existence à part de la mémoire affective une condition de son existence même, ou de sa réalité". (personal translation].

incompatible with the formation of an affective state, which is always indissolubly tied to the representational element. All memories are more or less intellectual, more or less affective, and if in general we do not recognize the affective element is because it is not as necessary as other elements in the reconstitution of a past mental state or because of its weak intensity, which on the other hand it is useful to not saturate our thoughts with an intensity similar to the occurrent impressions.

Now let's focus on the characterization of the revivability of an emotion and its difference from the occurrence of a new emotion. As in the case of the intellectual element vs affective element, most of authors consider that even if the two components are theoretically distinguishable they are in general both present in a memory experience. Mauxion (1901) considers that the true affective memory and a new occurrent emotion are normally combined in an emotional memory experience. In most of the cases the affective memory present itself during the beginning and then a new emotion different from the past emotion is felt. As Pillon (1901) explains, these new emotions presuppose and are the result of the affective memory, so they cannot be used to argue against the existence of it. For him, even if the occurrent emotion can in certain degree conflict or mix with the affective memory, and both of them can increase the vivacity of the other, the occurrent emotion does not modify the affective memory: they co-exist and remain independent. According to Ribot (1907), the affective memory can appear in a weak form, and in this case it would be more an outline of feelings even if it can be categorized as a specific type of emotion (fear, happiness, etc.); but it also can appear in its live form, and thus the affective memory becomes hallucinatory and it is felt as a real emotion, but it is not felt as a virgin impression because it has the mark of the repetition and thus is recognized as a memory[46]. Sollier (1913) also considers that even if the subject relives the past emotions and feelings with all the sensitive representations, organic sensations, gestures and attitudes that he had felt, and it seems to him to be in the circumstances and in the time when that past event took place, he knows that he is in a different time, i.e. the present time, and so he recognizes his

[46] Ribot recognizes that in some cases the affective memory and the occurrent emotion can be so mixed together that it is impossible to distinguish the two elements. He gives the following example in a footnote: "At Allevard-les-Bains, I was woken one night by an earthquake; I was very scared. The fear grew during the following days and, for several weeks, my fear was revived at the slightest noise. This lasted several months, gradually faded and disappeared as an emotion. The memory of the fact remains very vivid until now, but I no longer feel any fear thinking of earthquakes" (p. 611). ["A Allevard-les-Bains, j'ai été réveillée une nuit par un tremblement de terre; j'en fus très effrayée. La crainte augmenta pendant les jours suivants et, pendant plusieurs semaines, ma peur se ravivait au moindre bruit. Cela dura plusieurs mois, s'effaça graduellement et disparut en tant qu'émotion. Le souvenir seul du fait reste très vif jusqu'à présent, mais je n'éprouve plus la moindre peur en pensant aux tremblements de terre" (personal translation)]

emotional experience as a past already felt. This recognition is in general conceived as a comparison between the two affective states: when the subject discerns a contrast between the renewed emotion and the present feelings, a mismatch with his occurrent emotions and ideas, he can be quite sure that he is having a memory experience. Paulhan (1902) proposes starting with a different approach: instead of focusing on the opposition between affective memory and occurrent emotion (the latter always a combination of emotions already felt), he proposes to focus on the distinction between a narrow sense of memory experience and experiences that are the result of the mental organization and systematization. This distinction is based on the compatibility and incompatibility with the present self. Affective memories correspond to emotions we do not feel anymore, that have disappeared or changed, that is, they correspond to emotions that belong to a self that is not the present one, and so are independent and maybe even contrary to our occurrent tendencies: "remembering one thing is (...) to place it as foreign to the present self and make it appear before him"[47] (p. 560). So the past emotion is recreated not through our present self but through our past self who is in a certain way *resuscitated* by some instants. For Paulhan, this revivability of the past emotion and the past self can serve as a defence in order to abstract ourselves from our life and find refuge in the past; but it can also produce some harmful effects making us relive feelings that are not useful for the present life and constitute a waste of mental resources. On the other hand, the emotions that arise from our mental organization and that express our current self, that is, are part of our system of tendencies, ideas, and desires, are not memories in a strict sense even though they depend on and are based on them. They are not the product of the reproduction of a trace, but of a modification of the mind that has been unconsciously absorbed by our mental life and influences our way of thinking and feeling. This distinction is not unique to the emotions: in the case of beliefs, some of them will also appear as occurrent thoughts, whereas others that had been rejected or for long time forgotten will appear as memories. Concerning the emotions, Paulhan mentions some examples that can clarify the distinction: "If thinking of a person who is dear to me, I feel affection, I will not see there a case of memory, the waking of a previous emotion, but only the natural reaction of my mind in the presence of the idea of this person. And on the contrary, in the case of Littré, feeling excited in his old age, at the very distant memory of the death of a young sister that he had lost in his childhood and

[47] "Se rappeler une chose, c'est (…) la poser comme étrangère à son moi actuel et la faire comparaître devant lui" (personal translation).

whose death no longer excited any emotion in him, we see rather a case of the awakening of a feeling, a case of affective memory, precisely because the feeling experienced, long gone, was no longer considered as a part of the organization of the self"[48] (p. 558). Paulhan (1903) considers that some affective memories can incorporate both perspectives: the perspective of the past self, when for example the memory is adapted to the tendencies of the past self that still remain and in this sense the memory is pleasant; and the perspective of the present self, when the memory is not adapted to the ideas and desires predominant on the present self, and so the memory is also felt as unpleasant. Ribot (1907) also distinguishes affective memories from emotions that have some characteristics of memories, like reproduction and conservation, but lack others, like recognition and determination in time, and so are considered as an acquired disposition or habit. Weber´s (1914) proposal is similar, but he focuses not on emotions tied to a particular event but on general states of distress or pleasure, that are not objectively expressible and do not have any immediate influence on behavior. In these cases, what is relived is an inner world of feelings and sensations, a past affective disposition, a colouration of our consciousness, what he calls *a past cenesthesia*[49]. This relived past self comes suddenly in contact with the present self and for a short time the subject identifies himself with this past way of being. But the recognition of the past self as a self that has disappeared a long time ago happens also immediately, rendering the subject back to his present time, when foreign and incompatible elements with this past self dominate. For Weber, these subconscious cenesthetic memories guarantee the continuity and the feeling of duration of the self: "Intellectual memory, to which we wrongly grant paramount importance, would only play a secondary role in the formation, development and conservation of psychic personality. With the intellectual memory alone, man would only be a conscious automaton,

[48] "Si, pensant à une personne qui m'est chère, j'éprouve un sentiment d'affection, je ne verrai pas là un fait de mémoire, le réveil d'une émotion antérieure, mais seulement la réaction naturelle de mon esprit en présence de l'idée de cette personne. Et au contraire, dans le cas de Littré, se sentant ému dans sa vieillesse, au souvenir très lointain de la mort d'une jeune sœur qu'il avait perdue dans son enfance et dont la mort n'excitait plus depuis longtemps aucune émotion en lui, nous voyons plutôt un fait de réveil de sentiment, un fait de mémoire affective, précisément parce que le sentiment éprouvé, disparu depuis longtemps, n'était plus considéré comme faisant partie de l'organisation du moi" (personal translation).

[49] 'Cenesthesia' is defined as "the general sense of bodily existence (and especially the general feeling of well-being or malaise) presumably dependent on multiple stimuli coming from various parts of the body, including sensations of internal organ activity even though these are not necessarily on a conscious level". Campbell (1989).

wonderfully flexible: thanks to the affective memory, it is also a sensibility aware of himself"[50] (p. 811).

A third idea in this discussion may be useful. Paulhan (1902) considers that in every intellectual and affective state, a part of the phenomenon is produced by the acquired mental organization; the part that has the past mark is the product of memory; and the new elements and details that differ from previous phenomena are the result of the imagination. All the elements are always present, but the proportion in which they are present and their predominance change, and that is what converts a mental state in a specific kind: mental disposition, memory or imagination. But not only are affective memories a combination of different cognitive functions and so a synthesis of old and new elements, but also, as intellectual memories, they are not fixed traces and can evolve and be modified. For Ribot (1907), affective memories are even susceptible to more changes than intellectual memories: "Affective memories do better than firmly condense and organize themselves; they are likely to evolve. We know that mental images are not frozen footprints in us; but that, similar to all living things, they change, even when we believe them as immutable; they undergo additions and losses (...) How this internal work of erosion or expansion or outbreak of parasitic elements should be larger for emotional images which, by nature, are evanescent and fluid"[51] (p. 610). Paulhan (1903) develops an interesting typology of the different kinds of changes that the affective memory can undergo due to ideas and subsequent feelings:

- Intensity: A sad memory, for example, can become more intense by the effect of inner rumination; or an actual adversity can make our happy memories to not feel so happy;
- Purity: The personal elements of the memory start to be eliminated as well as all the discordant elements. The dominant emotion remains, which tends to condense and systematize itself. This stage is followed by

[50] "La mémoire intellectuelle, à laquelle on accorderait à tort une importance prépondérante, ne jouerait qu'un rôle secondaire dans la formation, le développement et la conservation de la personnalité psychique. Avec la mémoire intellectuelle seule, l'homme ne serait qu'un automate conscient, merveilleusement souple: grâce à la mémoire affective, il est en outre une sensibilité consciente de soi" (personal translation).

[51] "Les souvenirs affectifs font mieux que se condenser et s'organiser solidement; ils sont susceptibles d'évolution. On sait que les images intellectuelles ne sont pas des empreintes figées en nous ; mais que, semblables à toutes les choses vivantes, elles se modifient, même quand nous les croyons immuables ; elles subissent des additions et des pertes (...) Combien ce travail interne d'érosion ou d'expansion ou d'éclosion d'éléments parasites doit être plus grand pour les images affectives qui, par nature, sont fluides et évanescentes" (personal translation)

- Abstraction (or idealization, according to Dugas 1904)
- Generalization

Dugas (1904) adds another possible change that he calls *impregnation*. That is when an emotion transforms itself into a disposition, a way of feeling that colours and animates our representations but it is not felt as an emotion. Ribot (1907) considers that pleasant affective memories evolve differently from unpleasant ones: whereas memories of pleasant emotions "weaken gradually, but almost never completely fade, the memory of distressing emotions grows in intensity for some time, reaches a peak during which the renewed excitement in the memory is much more intense than the originally felt; and then the erasing is done and is complete after some time"[52] (p. 611).

To sum up, these richer interactions outlined more than a century ago by the supporters of the notion of affective memory can be summarized as following:

- Some authors conceive that affective memories have always a cognitive or *intellectual* component because of the past marks, and this is the characteristic that distinguishes them from occurrent emotions. But others defend the more original idea that affective memories have always an intellectual component because affectivity and cognition are always present in every psychological state, and so memories are more or less intellectual, more or less affective. For the same reason, an affective state is indissolubly tied to the intellectual component: affectivity is given within and with the representation (present or past). This is finally explained by the conception of feelings not as the opposite of sensations/representations but rather as a continuum.
- In general, affective memories and occurrent emotions are combined in an emotional memory experience, especially at the beginning. A good way to distinguish an affective memory from an occurrent emotion is the recognition of its secondary marks, like repetition, variability of its intensity, determination in time and, a more interesting idea, the incompatibility or contrast with the present self, that is, with our system of occurrent tendencies, ideas, desires and emotions. Sometimes it can be such a mix that it is impossible to separate the new emotion

[52] "faiblit graduellement, mais ne s'efface presque jamais complètement, le souvenir des émotions pénibles croit en intensité pendant quelque temps, arrive à un maximum pendant lequel l'émotion renouvelée dans la mémoire est beaucoup plus intense que celle ressentie primitivement; puis l'effacement se fait et est complet au bout de quelque temps" (personal translation).

from the affective memory.

- Affective memory can appear in a weak form or in its alive form, where it becomes hallucinatory: the relived past self comes suddenly in contact with the present self and for a short time the subject identifies himself with this past way of being and feels the past emotion as real even if he recognizes it as a memory.
- Affective memories are subject to change: they can incorporate new elements, change their intensity, purify themselves of the discordant elements, become more abstract, more general. It seems that even if they cannot be completely the opposite of the original experience, they need not be identical.

Narrative accounts of the emotional memory experience

Residual condition and psychic force

In his 1984 book *The Thread of Life*, Richard Wollheim, in the context of understanding the process that is the person's leading his life, presents a narrative analysis applied to iconic mental states (visual images in my terminology): "an iconic mental state, we can say, arises out of collaboration, though not on equal terms, between an *internal dramatist*, an *internal actor*, and an *internal audience*" (p. 69). Experiential memories, that is, memories of events in the way they were experienced, have in general a first-person point of view: the point of view of the rememberer, who plays the roles of internal dramatist and internal actor at the same time. Besides the *point of view*, the other two essential features of experiential memories are *plenitude* and *cogency*. Both of them are conceived by Wollheim as tendencies: *plenitude* refers to the tendency to remember ones past thinking, experiencing and feeling related with the past event; *cogency* refers to the tendency to find myself in the condition—that can be cognitive, conative and *affective*—in which the mental states remembered would leave me. Cogency is thus considered as a residual condition product of the internal audience, and so, part of the content of the memory. In the case of emotions, or *affections*, the cogency or residual condition of an event-memory would correspond to the tendency to feel or reexperience the emotions and affections that I felt while experiencing that past event. So the memory of the day of my wedding will produce in me a tendency to feel happy again, which does not necessarily

mean that I am actually happy. To better understand this, I will quote Wollheim's (1984) example:

> "On a hot dusty night in August 1944 I drove my jeep, by mistake, into the German lines. This event I remember from time to time, and, when I do, I remember it experientially. I centrally remember driving along a cratered road in the almost pitch-dark, trying to make out the line of the hedgerow to keep myself straight: then hearing a rifleshot, then hearing a fusillade of shots from the side of the road, then trying, and failing, to turn the car round, then hearing the petrol gush out of the car, then a torch was shone in my eyes. And as I remember doing these things, or having them done to me, I remember some of the thoughts and feelings that I had at the time: for instance, thinking that someone had let off his rifle while trying to clean it, then realizing that it must be the enemy, then feeling that I was totally lost, then experiencing utter terror. And as I remember feeling these feelings, the sense of loss, the sense of terror, the sense of being on my own, the upsurge of rebellion against my fate, come over me, so that I am affected by them in some such way as I was when I felt them on that remote summer night. This, as I say, is a recurrent experiential memory, and it displays plenitude, cogency, and egocentricity". (p. 106)

What happens in those cases that the rememberer feels a different emotion towards the past event? Wollheim makes a distinction between the cogency that is part of the content of memory and product of the internal audience, and the *psychic force* that is the causal efficacy that a mental state has in the behaviour, thinking, feeling, believing of the subject, and that is the product of the internal observer. The internal observer is not the same as the internal audience because it does not belong to the memory representation. The internal observer refers to a response or reaction to the event-memory, and so, it falls outside it. Following my last example, if my ex-husband hit me, the memory of my wedding can make me think marrying him was the worst choice of my life and can make me feel regret or sadness. Wollheim (1984) explains it better in his example of the memory of war:

> "For it, as often happens, when I remember this event and in consequence of doing so, I feel relief that in the moment of confusion when the soldiers seized me, they did not kill me; or I am aware that I have never been so terrified before

> since; or I concede that the terror has for me some comforting, some reassuring, side to it; or I suddenly feel ridiculous at having lost my way on a battlefield of all places; or through having done so I transmute myself into a character of fiction in another campaign, on another field of battle –I am Fabrice, I am Pierre, I am the Cornet Rilke—then in any such case, these thoughts, these feelings, which might be of deep importance for me, are not part of the memory itself though it is the memory that provokes them. They are responses to it". (pages 106-107)

If Wollheim's concept of internal audience would correspond to the current notion of first-person point of view, the point of view that the rememberer had in the past, the internal observer seems to refer to a third-person point of view that, according to Wollheim, corresponds in general to the point of view that the rememberer has in the present, but as his example shows above, it can also correspond in some cases to an imagined point of view of someone else.

In summary, and coming back to the relationship between memory and emotions, it seems that for Wollheim in a personal memory the emotional component can be internal to the memory when it is the result of the internal audience, and in this case it would be a tendency to feel and reexperience the past emotion felt; or external to the memory when it is the result of the internal observer, and in this case it would be an occurrent and new emotion felt towards a past event. Because an emotional memory can be described in terms of the internal audience and the internal observer at the same time, Wollheim accounts for the dynamism of our mental life and its possibility of switching perspectives. He also introduces the notion of *tendency to feel*, which would be in a certain way similar to the idea of *emotional colouration* outlined by LeDoux, in the sense that the emotional component would be a content of the memory different from the propositional content without yet being an occurrent emotion. However, it is clear that for Wollheim all the emotions felt related to a past event remembered are always external to the memory: either they are completely new emotions different from the past ones; or they are reexperiences of past emotions: once the tendency to feel what I felt in the past is actualized, it becomes the product of the internal observer, and thus, an emotional reaction external to the memory.

Ironic gap and the fusion through free indirect style

In *The Mess Inside*, his last work published in 2012, Peter Goldie also offers a narrative account of personal memories in a Wollheimian spirit. But unlike Wollheim, Goldie takes into account the possibility that new emotions become part of the personal memory and not just a simple external reaction to them.

For Goldie, because personal memories have a parallel structure to a narrative structure, they have three features: coherence, meaningfulness and evaluative/emotional import. Coherence refers to the causal connection between events. However, a causal explanation is not sufficient to fully grasp the coherence of what happened; to understand a person-narrative necessarily requires understanding its significance and the emotional import. As Goldie says, these features are not optional extras in a successful person-narrative: without them, it "would no longer be a person-narrative as such, it would just be another part of the impersonal history of the universe, structurally no different from the history of its first few seconds" (2003, p.309). Goldie distinguishes two ways in which a narrative can be meaningful and have an evaluative and emotional import: first, by revealing the thoughts, feelings and actions of the actors internal to the narrative, and second, by revealing the narrator's external perspective. In the case of personal memories, these two different perspectives, that are always present in a narrative, are not two perspectives of two different individuals but two perspectives of one and the same individual: "between *you then*, as someone—a 'character'—who is internal to the narrative, and *you now*—the narrator—who is external to the narrative" (2012, p. 37).

In some cases, there is no significant gap between the internal and the external perspective, because the evaluative and emotional import and response are of the same kind. Goldie gives the following example: "My partner and I were both chasing the same lob, and then we hilariously fell over each other in a tangle" (2012, p. 37). This case shows clearly that the narrator still considers what happened as amusing, that is, in the same way as he experienced it.

But in most cases, with time, new knowledge, new evaluations and new feelings arise towards a past event producing a sort of gap between the perspective that one had when one experienced the event and the perspective that one has now. This gap is called by Goldie the *ironic gap*, and this ironic gap can be epistemic, evaluative and/or emotional: "an epistemic gap because one now knows what one did not know then: an evaluative gap

because one can now take an evaluative stance that differs from the stance that one then took; and an emotional gap because one can now have emotions directed towards one's past that one did not have at the time" (202, p. 106). Some autobiographical narratives, and so, memories, keep separate the two perspectives, making new emotions and evaluations external to the narrative, as in the following example: "I was humiliated in a meeting the other day, left feeling deeply embarrassed. But I now realize the way I was treated was inappropriate and unfair, and I am angry and resentful (p. 38)".

However, in other personal memories this ironic gap is expressed using the psychological equivalent of free indirect style, which merges third-person narration with the essence of the first-person speech. In these cases, the use of the free indirect style in the autobiographical narratives expresses the fusion between internal and external perspectives:

> "(…) I went to the office party. Having had one or two drinks too many, during the dinner I stood up on the table and sang 'Love is like a butterfly' at the top of my voice. At the time I felt a kind of heady delight, seeing all my friends thoroughly enjoying the performance. But now, when I tell the story the following day, I tell it how I now see it, with a triply ironic gap. I now realize that they were all laughing at me, not with me as I thought at the time: this is an epistemic ironic gap –I now know what I did not know then. I now consider my whole behavior to have been ridiculous and shameful: this is an evaluative ironic gap –I now think differently of my behavior than I did at the time. And I now feel shamed at what I did: this is an emotional ironic gap –I now have a retrospective emotion that I did not have at the time. (...) I narrate what happened, through free indirect style: 'I shamefully made a ridiculous fool of myself last night, getting up on the table and gleefully singing some stupid song'". (pp 38-39)

In this example, what I know now and what I feel now infuses and colours the entire memory, in a way that I remember the episode as I now feel about it: a shameful and regrettable event of my past. The external perspective, which includes the emotions I did not have at that time, is integrated with the content of the memory through the psychological correlate of the free indirect style: "In this way the feeling that he now has about what he remembers can infuse the episode memory itself, so that the feeling can be

invested both into the content of what is remembered, and into the way of remembering what is remembered, in effect vesting the remembered scene itself with an ominous tone that was not fully appreciated by the subject at the time" (p. 53). In some cases the fusion is such that it is not completely clear whose perspective is reported. In a memory such as this: "Last Saturday I went to the football ground to watch the match, and stupidly bought a forged ticket from a conman. I ended up missing the game and trudging home fifty pounds worse off, wet, angry, and feeling pathetically sorry for myself" (p. 39). It is possible to ask who owns the word *pathetically*, which seems to belong simultaneously to both the actor and the narrator.

What is more, according to Goldie, not only episodic memories from an observer perspective—when I see myself as the character of the narrative—can be infected with the irony, but also field memories, memories remembered *from the inside*, that is, from the perspective of the actor, who in this case is my past self. An extreme example of this last kind would be when one is able to deploy concepts in thought that one could not deploy then, as in childhood memories of sexual abuse. But as Goldie remarks, the possession of new concepts is not necessary for the infection of episodic field memories: the memory of the last moment with a beloved person will be infused by the triple ironic gap once the rememberer knows it was the last time: he will remember it as the last time he saw his beloved, even if that moment was not experienced as such.

Therefore, unlike Wollheim, for Goldie new emotions felt towards a past event are not necessarily external to the memory content; they can be part of the content when they infuse, shape and colour the event remembered. What is more, because narratives express multiple perspectives, and so evaluations and feelings, our memories can have multiple emotional components, some internal and others external to the memory content.

In summary, if Wollheim conceives the possibility that some emotional memories can produce in us a tendency to feel the emotion we felt in the past without actually getting to feel that past emotion (which is similar to the LeDoux's notion of emotional colouration), Goldie envisages that in some cases even new emotions can fuse with the past event in such a way that they become part of the content of the memory of that past event.

FINAL THOUGHTS

In this chapter, I have presented two different conceptualizations about the nature of the interaction between memory and emotion in the act of recollection. The idea that emotions are *transparent* to memory because either we remember emotions in a propositional format or we experience occurrent emotions towards a past event is the most accepted view. It comes in two variants: the causal thesis and the coexistence thesis, and is implicitly assumed by research in cognitive psychology. Nonetheless, the two variants are not exempt of problems. Whereas the coexistence thesis is empirically implausible to explain all the interactions between emotions and memory, the philosophical arguments in favour of the causal thesis are weak. What remains of the natural thought is just a highly intuitive idea whose presuppositions need to be better explored.

On the other side, notions such as *emotional colouration*, *affective memory*, *cogency*, *psychic force*, *ironic gap* and *fusion through the indirect style* suggest that other way of conceptualizing the relation between memory and emotion is possible. However, in the literature no strong arguments are given in order to embrace these views and reject the natural thought. It may also be that a better conceptualization of this view is needed, as well as a better understanding of their assumptions. That is roughly the task that I undertake in the next chapter.

CHAPTER 6: THE RELATIONSIP BETWEEN PERSONAL MEMORIES AND EMOTIONS (II)

In this chapter I deal with the double task foreshadowed in the last lines of the previous chapter. First, I analyse the assumptions that lie behind the natural thought and the opposing views in order to decide which position is more plausible and explicative of our personal memory experiences. Second, I present what I think it is a better theorization of the possible interactions between affection, emotion and memory that is tributary of the other conceptualizations that are opposite to the natural thought and that broadens the comprehension of the senses in which memory can be reflexive.

THE ASSUMPTIONS BEHIND THE TWO ANTAGONISTIC CONCEPTUALIZATIONS

As I already anticipated, a good way to evaluate which of these two antagonistic conceptualizations better explains our personal memory experiences consist of starting with an enquiry about their presuppositions. Because they are both concerned with the relationship between emotions and memory, what probably lies behind these two different characterizations of the interaction is a different conception of the nature of the two mental states that are at stake. Claparède (1911b) had already noticed that the discussion about the existence of the affective memory was based on a difference in the criterion for characterizing memory states, as well as on a misunderstanding of the theory of emotion in vogue in that period, which was the James-Lange theory (p. 364). He concluded that in order to prove the existence of affective memory, it would be necessary to prove the falsity of James-Lange theory of emotions. Also Goldie (2012), referring to imagination, stated that the rejection of the possibility that emotions can have imaginative counterparts could be grounded in a misconception of what a real life emotional experience is and in what its imaginative counterpart might be like (p.82). That is why in this section I will examine the nature of memory and the nature of emotion implicitly or explicitly adopted by these two different antagonistic conceptualizations. As I try to show, conceptualizations against the natural thought are based on more dynamic and more accurate conceptions of the nature of

emotions and memory, whereas the natural thought seems to be deeply rooted in a particular conception of emotion that is arguably both extreme and outdated.

The nature of memory

First of all, concerning the nature of memory, it seems evident that in order to postulate the idea that external perspectives can be integrated into a memory without them stopping being faithful to the past, as it is the case for Goldie (2012), it is necessary to endorse a reconstructive conceptualization of memory. And this is exactly what Goldie does: because he considers—in a similar way to Hacking (1995)—that the human past remains always open for reassessment, the way in which we remember a past event is infused with what we now know and feel about what happened. This is shown especially in our narratives about the past which bond together facts and values through *thick evaluative concepts*, that is, concepts that have some descriptive content but also some evaluative content, like "coward", "lie", "brutal", etc., (Williams, 1985; and more recently Kirchin 2013). That is why for Goldie, memories not only have to be faithful to the past but also faithful to the present –to what one now knows and how one now feels about the past. Along the same lines, Ribot (1896) also defended the idea that memory traces are not fixed and can be modified, especially affective memories, while Paulhan (1902, 1903) and Dugas (1904) developed the different kind of changes that affective memories can undergo with time, like purification, generalization, abstraction, etc. What is more, Paulhan, (1903) and Weber (1914) brought out the idea that different selves can be involved in a memory experience: the past self and the present self (or *cenesthesia* according to Weber's terminology), the latter being sometimes incompatible with the former. Goldie (2012) is of the same opinion: narrative remembering from the ironic external perspective is dyadic because it involves a *you now* thinking about *you then* (p. 106).

In contrast to this, the natural thought does not necessarily have to maintain a reconstructive nature of memory; the assumption of a traditional causal account of memory is sufficient. In the case of James (1890), even if he considers that the brain-traces excited by the event proper and those excited in its recall are in part different, this difference is due to the fact that the retention and survival of an experienced event is not enough for the act of recollection of that event, which has to come with a general feeling of the past direction in time, a particular date where the event is located and the sense that the past event was experienced by the rememberer (chapter XVI). In this sense, the extra elements to the

retention of the event requested by James are to a certain extent similar to the epistemic relevance condition that Debus (2010) postulates in order to consider a present experience as a memory case. Debus defends a traditional causal explanation of memory phenomena with the addition of this condition which demands that the subject must be disposed to make epistemological use of the experience when judging about the past. Therefore, as we can see, these extra elements required belong more to the metacognitive level that to the content of the memory itself, suggesting that neither of these two authors explicitly endorses a reconstructive conception of memory. LeDoux (1998), however, does: he considers that explicit memories are imperfect reconstructions of past experiences at the time of recall, and the state of the brain at the time of recall can influence the way in which the memory is remembered (p. 210). In fact, LeDoux is one of the advocates of the notion of reconsolidation that I already mentioned in chapter 1: it was his laboratory which in 2000 presented data supporting the idea that consolidated fear memories in rats, when reactivated, return to a labile state where the memory trace can be changed before being re-encoded (Nader & al, 2000). The notion of reconsolidation goes hand to hand with the idea that existing memory traces can be modified and new content can be added. Also Linda Levine, a psychologist working on emotional memories, adopts a similar position as LeDoux's; she accepts the general distinction between explicit memories of emotions and implicit emotional memories while also defending a reconstructive nature of memory: "like memories for more mundane events, emotional memories change over time and can be influenced by post-event experience and appraisals" (Levine, 2004, p. 532).

Therefore, it seems clear that the conception of the nature of memory adopted is not the central assumption that leads to different conceptualizations of the relationship between personal memory and emotions at recollection. Although more varied combinations are possible when assuming a reconstructive nature of memory, the natural thought is also compatible with it and does not necessarily have to assume that memories are carbon copies of the experience that created them.

The nature of emotion

Let's turn now to the nature of the emotions to see if here lies the key premise that leads to a stance against or in favor of the natural thought. Starting from the French philosophers and psychologists, even if they did not explicitly defend a specific conception of emotion, they did suggest that an affective state always has a representational element

and that, in fact, emotions and feelings are not the opposite of representations. Peter Goldie defends a similar idea, arguing against the two extreme theories: the non-cognitive conception that emotions are bodily changes and the cognitive conception that emotions are just judgments or appraisals. Even though the two theories are completely antagonistic, for Goldie (2012) they have in common the supposition that an emotion is a kind of mental state or event *at a time* and not a dynamic process that unfolds *over time* (p.58). Goldie tries to place himself on the opposite side of these two theories: according to his view, emotions are processes that persist by perduring and not by enduring, which means that the emotion is not present in its temporal entirety within the confines of the moment and so its identity is not fully determined at every moment at which it exists; its identity depends on spatiotemporal and causal continuity of its parts, neither of which is essential at any particular time[53]. In his book *The Emotions*, Goldie (2000) gives a definition of what emotions are:

- complex: they involve different components, like episodes of emotional experience, including perceptions, thoughts, expressions, different kinds of feelings and bodily changes, and dispositions.
- episodic and dynamic: because it is a process that persists by perduring, the elements that compose it can come and go, wax and wane and change.
- structured: a narrative structure ties together and makes sense of the individual components of the emotion.
- intentional: emotions have a directedness towards an object, which means that all their components—including feelings—are directed towards the same object, not simple brute feelings directed towards the condition of the body. Goldie calls this "*thinking of* with feelings" *feeling towards*: "our entire mind and body is engaged in the emotional experience, and all the feelings are 'united in consciousness' in being directed towards its object: united 'body and soul', 'heart and mind' (…) sexual desire is felt with the whole being—body and soul—for the one we desire. (…) our whole being aches in grief for the one we have lost" (2000, p. 55).

So as it is possible to appreciate, between the notion of emotion as bodily change and the intellectualist notion of emotion as a simple judgment, the French philosophers and

[53] The idea that emotions are processes that perdure instead of endure is explicitly inspired by the distinction between enduring and perduring applied to processes outlined by Hofweber & Velleman (2010). The processes that endure correspond to those whose identity is determined at every moment at which it exists, for example the conscious experience of red, or the water flushing out of the tap.

psychologists and especially Goldie place themselves in the middle of the two extremes: emotions are dynamic processes with heterogeneous components.

What is thus the conceptualization of emotion defended by the proponents of the natural thought? William James (1884) is the most explicit on this subject: "bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion (…) we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble, because we are sorry, angry, or fearful. Without the bodily states following the perception, the later would be purely cognitive in form, pale, colourless, destitute of emotional warmth." (p. 189) And this not only applies for the coarser emotions but also for subtler ones, as moral, intellectual and aesthetic feelings: if they are not coupled with some bodily change, they are just considered as a cognitive act, a mere intellectual perception but not an emotional state (1890, chapter XXV). James together with Carl Lange is generally recognized as the founder of the somatic theory of emotions, which is considered one of the first theories of emotion in modern psychology and was widely accepted at the beginning of the 20th century, including by Claparède. Because James (1884) stated that all the bodily changes are always felt (p. 192), his theory could be more specifically considered as a somatic feeling theory of emotions, as Prinz (2004) categorizes it. One who endorses a pure somatic theory of emotions is LeDoux (1998), who views emotions as biological functions of the nervous system that are mostly generated unconsciously, so that conscious feelings are not necessary to explain them (chapter 1). As I already mentioned, for LeDoux the subjective emotional experience that results when an emotion system of the brain is active is not really a problematic about emotion, but a problematic about conscious experience in general.

Consequently, most of the advocates of the natural thought support a somatic and thus non-cognitive theory of emotion: emotions are physiological changes which can be followed by feelings. And this conceptualization makes perfectly sense with the transparency of emotions thesis: because bodily changes and states are always experienced in the present as occurrent states, and because emotions are reduced to these bodily changes and states or to the experience of them, emotions cannot have a memory or imaginative counterpart, and that is why they are transparent to memory and imagination: as soon as my heart races, my muscles tense, my palms sweat, I am undergoing an emotional state, as Claparède proposed. This can also explain why Debus (2007), who does not define her notion of emotion in her article, bases her conclusion on a circular argument: once the idea

that emotions are physiological arousals is assumed—as she implicitly does—the conclusion that they cannot be remembered *per se* becomes a self-evident proposition.

In conclusion, it seems that the assumptions about the nature of emotions—rather than the nature of memories—are those that explain the divergence between the natural thought and the opposing views. Therefore, an inquiry into the current field of emotion theories will allow us to evaluate which conceptualization of emotions is more accurate and, in consequence, determine if the natural thought or the opposing view is the most plausible and explicative position about the way in which emotions and memory of past events interact in our memory experiences.

A synopsis on current research on emotions

The idea that emotions are bodily changes followed or not by a feeling of those changes seems intuitive, and in fact is quite accepted—sometimes implicitly—among the cognitive science community who especially presupposes it in the way of studying emotions, like the recognition of facial emotional expressions (Leys, 2010; Colombetti, 2013). Nonetheless, the principal thesis that lies behind it is that emotion and cognition, even if they can interact, are two separate and independent systems. As I already explained briefly in the last chapter, even if this conceptualization has a long history—Zajonc (1984) dates it back to Wundt—it was in the the 1980s that the idea of an independent affective system, what is generally labelled as "somatic theory of emotion" (attributed to James, 1884) or "the affective program" (Tomkins, 1962), became the mainstream position in psychology and neuroscience.

It is probably Zajonc (1984) who, in his defence of the primacy and independence of the affective system, better summarizes the main claims of the affective program: "1. Affective reactions show phylogenetic and ontogenetic primacy (…) 2. Separate neuroanatomical structures can be identified for affect and cognition" (p. 119). According to this characterization, emotions, in particular some emotions—such as anger, fear and happiness—that are considered as universal, are thought to be rapid, phylogenetically old, automatic responses of the organism that have evolved for survival purposes and lack the cognitive characteristic of the higher-order mental processes. They are viewed as independent and prior to intentions, meanings, reasons and beliefs, as nonsignifying, non-intentional bodily reactions that, even if they can become conscious, take place below the

threshold of conscious awareness and meaning (Leys, 2011). This sharp distinction between emotion and cognition implies (Leys 2010, 2011):

- A disjunction between our emotions and our knowledge and interpretations about emotions, between affects and appraisals of the affective situation, such that cognition or thinking comes *too late* for reasons, beliefs, intentions, and meanings to play the role in action and behaviour that is completely determined by the affective states: "Appraisal and affect are often uncorrelated and disjoint" (Zajonc, 1984, p. 119);
- A contingent relationship between emotions and objects and other subjects in the external world;
- A dualism between mind and body: body cannot carry meaning, the mind is conceived as completely disembodied, and everything that is cognitive is considered as fully conscious and conceptual.

This last supposition is also shared with those who defend a cognitive theory of emotions, that is, the opposite conception of the somatic (feeling) theory. In this group, it is possible to include mostly philosophers such as Robert Solomon and Martha Nussbaum who identify emotions with judgements (de Sousa, 2010), as well as some earlier psychologists who defended pure appraisal theories or cognitive label theories of emotion; Schachter & Singer (1962) would be an example of this last case.

Nonetheless, the basic claim adopted by somatic theories of emotion, that is, that emotions and cognition are two separate and independent systems, has been widely criticized in cognitive science. On one side, in neuroscience, as I already explained in the last chapter, the idea that predominates is that there is no emotion system because cognition and emotion overlap widely at the brain level (Hamann, 2012; Lindquist & al., 2012; Pessoa, 2008), and thus each behaviour is at the same time cognitive and affective even to different degrees. On the other side, theorists of emotions have mostly defended hybrid theories of emotion which do not identify emotions with a single particular component, like a simple body manifestation or a disembodied judgement (Prinz, 2004; Griffiths, 2013; Mulligan & Scherer, 2012). In fact, almost all current theorists of emotions agree first, that emotions are short-lived affective episodes and second, that they consist of multiple components: appraisals, action tendencies, physiological changes, facial, vocal and behavioural expressions and subjective feelings (Barrett, Mesquita et al, 2007; Lambie & Marcel, 2012; Moors & al., 2013). Although there is disagreement about the way in which these components relate to each other about their definitions and their properties, there is a high consensus about emotions being dynamic episodes with heterogeneous components.

In conclusion, it seems that hybrid theories are the most popular theories nowadays and probably those which capture with more accuracy the variety of experiences that can be labelled as emotions.

This consensus in cognitive science about some characteristics of the emotional states discredits the somatic theory of emotion. Therefore, coming back to my concern in this chapter, it seems that while the natural thought about the interaction between emotions and memories is based in an outdated theory of emotions, the opposing views, outlined by the French philosophers, LeDoux, Goldie and Wollheim, is based in a conception of emotions that is highly accepted in cognitive science. The lack of empirical and theoretical support for the assumption about the nature of emotions that lies behind the natural thought suggests that this reductive way of conceiving the relation between emotions and memories should be abandoned, whereas other characterizations based on more accurate assumptions about the nature of emotions should be further explored in order to better understand the emotional aspect of our personal memories and hence the sense in which they are reflexive. This is the task that I undertake in the next section of this chapter.

A FRAMEWORK TO UNDERSTAND THE RELATIONS BETWEEN AFFECT, EMOTIONS AND MEMORY IN OUR PERONAL MEMORY EXPERIENCES

In this section, I first review the notion of what I consider to be the core of emotions and, more generally, the core of our affections: appraisals. Based on this characterization, I next outline a possible account of the different and richer ways in which a personal memory can be emotional and have an affective aspect.

Appraisals: a definition of the core of affection and emotion

Even though, as it mostly happens in any field, there is no commonly agreed-upon definition of emotions, most emotion theorists in both philosophy and psychology have assumed that in an emotional episode some kind of evaluation, interpretation, or other information processing deals with the relation between the state of the environment and

what is important for the subject that has an emotional impact (Mulligan & Scherer, 2013). This is exactly what the notion of *appraisal* means. Indeed, it seems that appraisals and emotions are conceptually related (Moors & al., 2013) and although, as I explained before, there is disagreement about the role that appraisals play in an emotion, appraisals are considered to be the driving force that lies behind an emotional episode; in fact, it is difficult to find a theory which considers that appraisals are not essential to emotions (Mulligan & Scherer, 2013). Therefore, a better way to understand the sense in which appraisals are essential to all kinds of emotions consists in investigating how this notion has been defined in the literature.

If there is one name that is widely known in the emotion literature for its association to the notion of appraisal it is Lazarus (1984). He explicitly defended an appraisal theory of emotions in his famous discussion with Zajonc in the 80s. According to his perspective, the basic idea behind the notion of appraisal is that emotions "are not generated *per se* by factors in the environment or by intrapsychic processes, but by person-environment relationships that change over time and circumstances" (Lazarus, 1991, p. 819). Emotions are thus essentially relational because they are always about person-environment relationships that involve harms (for the negative emotions) and benefits (for the positive emotions). The evaluations of whether and how what is happening in an encounter with the environment is harmful or beneficial for one's well-being are the appraisals. Lazarus makes a distinction between information and meaning: information is not meaning, because meaning refers to the personal significance of the information and it is constructed by the person. Appraisals refer thus not to information about the environment but to the personal meaning and significance of an encounter with the environment, and that is why emotions are the product of a particular relationship between the person and the environment: "the process of appraisals must reconcile two often contradictory sets of forces: the goals and beliefs (to which one is committed) that are brought to the encounter by the person; and the environmental realities affecting the outcome" (Lazarus, 1988, p. 285). This explains why different emotions may emerge from the same event in different individuals and in different occasions. Because appraisal processes use knowledge and beliefs of the subject, Lazarus considers that emotions are cognitive. However, this cognitive activity that can have the form of reflective judgements does not constitute the emotion itself but just a necessary precondition of emotions, which finally are conceived as action tendencies.

Although the idea that appraisals are cognitive was spread through Lazarus (probably because of his debate with Zajonc), it was actually Magda Arnold (1960) who first introduced the notion of appraisal into the emotion research literature[54] proposing a slightly different conceptualization of it. First, while for Lazarus appraisals were preconditions for emotions, for Arnold appraisals not only initiate the emotional sequence but are part of the emotional experience itself which also includes physiological changes and action tendencies. But furthermore, Arnold emphasizes the fact that emotions are similar to perceptions. Emotions have the same object as perceptions, but this object is perceived or known in a different way: "to perceive or apprehend something means that I know what it is like as a thing, apart from any effect on me. To like or dislike it means that I know it not only objectively, as it is apart from me, but also that I estimate its relation to me, that I appraise it as desirable or undesirable, valuable or harmful for me, so that I am drawn toward it or repelled by it" (p. 171). So for Arnold appraisals would be a type of perception of some external stimulus—not as a thing, as happens properly in perception—but as in some relationship with me, as affecting me as an individual with my particular experience and my particular aims. As well as the fact that perception of an object requires the integration of different impressions and this process is not available for introspection, the judgement of how an object affects us personally is also outside of conscious awareness. That is why appraisals are direct and immediate: Arnold characterizes them as "nonreflective, non-intellectual, automatic, instinctive, intuitive" (p. 175). If there is a deliberative, rational judgment about the situation made by the subject, it is just a secondary evaluation that comes after the intuitive appraisal and often supplements and corrects it, producing a change in the emotional experience.

The idea of appraisals as perceptions of evaluative properties that is implicit in Arnold's account has been also recently defended in philosophy of emotions. Similar to Arnold but in a strong sense, for Michael Tye (2008) appraisals of basic emotions are represented in our basic perceptual experience of the world: like colors and shapes, the evaluative qualities of things are directly given in our perceptual experiences. Tye's thesis seems to be recently supported by a study that defends the idea that percepts are not affect free because the personal relevance and salience of objects do not occur as a separate step after the object is identified, but are part of the object perception itself (Barrett & Bar,

[54] Though ideas reminiscent of modern appraisal theories can be found as far back as Plato and Aristotle (Schoor, 2001).

2009). So as we can appreciate, appraisals need not necessarily be and have not necessarily been conceived as conceptual when conceptual is understood as a conscious and deliberative evaluation produced by a high level of cognitive processing.

What is more, neither do appraisals need to be conceptualized as disembodied: recently Prinz (2004), who also defends a perceptual theory of emotion, considers that emotions represent organism-environment relations by registering bodily changes: "just as concepts of dogs track dogs via furriness, fears track dangers via heart palpitations" (p. 68)[55]. Emotions are thus embodied appraisals because they use our bodies to tell us how the world is affecting us, and that is why emotions can be meaningful without necessarily being cognitive—in the sense of conceptual. For Prinz, even what is generally considered as *higher cognitive emotions* are nothing more than embodied appraisals; the only difference is that they represent a relation to the environment other than what they are evolved to represent by the action of what Prinz calls *calibration files*. Calibration files are mechanisms or data-structures in long-term memory that establish a link between a set of judgments or representations and embodied appraisals: for example, the calibration file "jealousy" establishes connections between judgments about infidelity and the embodied appraisal that usually comprises fear (understood as a pattern of bodily responses), in a way that when the embodied appraisal "fear" is caused by a representation on the calibration file "jealousy" it not only represents a state of fear but also a state of jealousy. However, for Prinz calibration files are not part of the emotion but just its cause[56]. But as Colombetti (2013) has pointed out, considering these judgments as disembodied and so not part of the emotion but just its cause, implies assuming again that there is a sharp distinction between cognition and emotion and that cognition, through the disembodied appraisal, can elicit an emotion in a *linear* way, as if the emotion were just a response to the appraisal, which would be a separate process prior to the emotion. In fact, the overlap of cognition and emotion at the neural level provides empirical evidence against the view that appraisals can

[55] For this purpose, Prinz uses Dretske´s (1981) theory of mental representation, which considers that something represents X (for example "fear") if it is reliably caused by X and has developed and evolved to detect X.

[56]Prinz is quite concerned by the fact that emotions must be a natural kind object of a unified science of emotions, and because instances of an emotion are triggered by different judgments and representations of the calibration file on different occasions, if those evaluations are part of the emotion, first, different instances of an emotion would not be united, and second these emotions would be cognitive and so different from the basic emotions, making it impossible to consider emotions as a natural kind. This is probably the reason that led him to leave calibration files as simple causes of the emotion and not as constituents. Without entering into the debate, I personally consider that different disciplines could all contribute to the understanding of what we commonly labelled as emotion experiences without the need of defending the idea that emotions are a natural kind. For a criticism to the category of emotion as a natural kind, see Griffiths (2013).

be neatly separated from other emotional components as the cognitive component. Similar to Goldie's notion of *feeling towards* explained earlier, Colombetti proposes that appraisals are always structurally and phenomenologically entangled with the body and so are constituent parts of the emotion: bodily feelings and actions are not a simple response to a disembodied appraisal but are part of the experience of appraising an event in certain way: they are means by which the organism appraises emotional significance. From her enactive perspective, it is not accurate to segment the experience as it is lived into two separate and successive segments, one evaluative and one emotional: "evaluating the world and responding emotionally to it are not distinct processes" (p. 132). So when one appraises a situation as threatening the possibility of keeping something one values and so experiences jealousy, for Colombetti the appraisal is already imbued with jealousy, and the bodily changes experienced are also part of the experience of appraising. The same goes for memories: "As I remember hiking in the Alps, I do not first appraise the memory as pleasant, and then feel happy; rather the memory is given as a 'happy memory' from the start; the Alps and my hike are recalled in memory as pleasant events" (p. 127).

As a matter of fact, in her recent book, Colombetti (2013) defends the idea that science works with a narrow conception of affectivity that reduces it to short-lived episodes (emotions) and temporal perturbations (moods) that happen between periods where the mind is in a sort of neutral and non-affective state. She introduces the idea of a *primordial affectivity* to refer to the capacity present in all living systems to be personally affected, to be *touched* when something strikes one as meaningful, relevant and salient; in one word, to appraise the world. This primordial affectivity that is a basic way of sense-making and thus permeates all our mental occurrences would constitute the ground from which moods and emotions can arise. This idea of primordial affectivity is similar to the notion of *core affect* proposed in recent psychological constructionist theories of emotion (Barrett & al., 2007) that refers to the most elementary and bipolar affective feelings of pleasure and displeasure, tension or relaxation, depression and elation (Russell & Barrett, 1999, p. 806). This core affect that needs not to be directed at anything, is always present in all of our experiences, but sometimes instead of being foregrounded and giving rise to an emotional episode, they can be backgrounded, because of the focus of our attention that modulates its intensity via the modulation of the intensity of neural firing (Barret & al., 2007). Nonetheless, there are some differences between this notion of *core affect* and the notion of *primordial affectivity*, as Colombetti herself remarked (2013, p. 36); of these differences,

the most important ones are (i) that the primordial affectivity need not to be conscious; and (ii) is not in itself non-cognitive because it is not conceptualized in terms of the dichotomy between cognition and affection. That is why the notion of *primordial affectivity* seems to better capture the primal sense in which affect permeates all of our mental occurrences than the notion of *core affect*.

Therefore, this notion of primordial affectivity explains the sense in which appraisals—understood in a generic sense as a capacity of being positively or negatively affected by something happening in the environment—could be considered as the essence of emotions, their driving force. This does not mean nonetheless that emotions can be reduced to or are synonymous with this primordial affectivity because, as I already explained, it is mostly unanimously agreed that emotions are characterized by including more components, being directed to an object and enduring a specific amount of time. But it *does* mean that these different elements—that are discriminable and may be causally related in different and possibly controversial ways—are united by the fact that they are part of the experience of appraising some stimulus or event. This in turn means that all of them are non-neutral with regard either to the world or to the self and thus carry and refer to the personal meaning and significance that an encounter with a stimulus or event has for the subject.

Neither can appraisals be reduced to or are synonymous with this primordial affectivity that characterizes our mental life. I already showed through the exposition of different characterizations of the notion of *appraisal* that appraisals need not to be necessarily understood as conceptual and disembodied as it is in general thought, because they can also be automatic, unconscious, embedded in the experience and embodied in physiological changes. In fact, besides the primordial and thus generic sense in which the notion of appraisal can be conceived, it seems that there can be different appraisals according to different criteria. Although most appraisal theories distinguish appraisals according to the emotion they give rise to (Roseman & Smith, 2001), other distinctions are focused on generic kinds of appraisals that are grouped independently of the associated emotion. Scherer (in Mulligan & Scherer, 2013) proposes to distinguish two types of relevance of objects and events: relevance with important implications for our well-being, which can be the product of the novelty of the object and event, or of its intrinsic pleasantness, goal relevance or coping potential; and relevance in terms of morality and self-image, which are associated with our internalized moral code and social values and

rules. The distinction between primary and secondary appraisals is another example. I already mentioned that for Lazarus the distinction between primary and secondary appraisals is focused on their content: establishment of the meaning of the event for the organism and coping strategies (direct actions or cognitive reappraisal processes) respectively (Lazarus, 1991, 2001). For Lambie and Marcel (2002), it is not only the content that distinguishes the two but also their level of consciousness, which reminds us of Arnold's distinction (1960): if primary appraisals are more frequently automatic and unconscious, secondary appraisals require awareness.

As Mulligan in Mulligan and Scherer (2013) has probably fairly remarked, the notion of appraisal and the subsidiary notions of relevance and concern are too generic and refer to different phenomena: in fact, almost everything can be a matter of concern for humans, so all these notions probably would require further clarification. I do not aim here to undertake this task but simply first, to clarify the sense in which the notion of appraisal can constitute the essence of what emotions are, as I already tried to do; and second, on this basis, to propose an account of the different ways in which a personal memory can have an emotional aspect. For this purpose, I will next clarify the way in which different appraisals can be conceived depending of their level of consciousness according to Lambie & Marcel (2002), who are probably the emotion theorists that have most deeply worked on this issue in their model of emotions. Lambie & Marcel have also explicitly introduced in their model the idea that emotions can be intentional directed more towards the self or more towards the world, a distinction that proves to be useful to my inquiry, as I will show in the following section.

Lambie and Marcel's (2002) model of the microgenesis of an emotion state can be summarized in this schema:

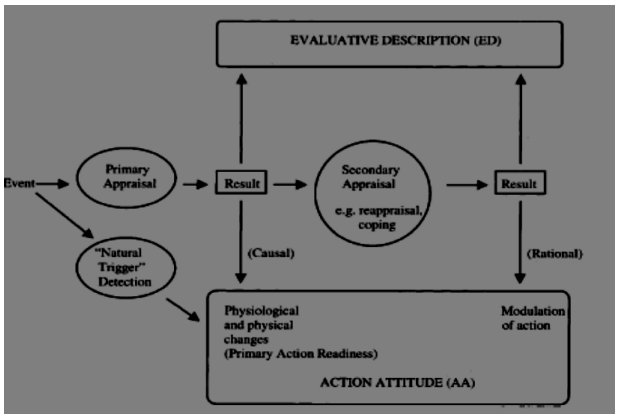

Fig. 10 The microgenesis of emotion states (Lambie & Marcel, 2002, p. 232)

Whereas the primary appraisal of an event or circumstance (i) consists in its relevance or implication for one's concerns or one's self (this last case especially in reflexive emotions such as shame); (ii) results in physical and physiological changes that can lead to an action (primary action readiness or AA); and (iii) leaves a record or description of itself (evaluative description or ED), secondary appraisals are not necessarily present in all emotion experiences. They serve to reappraise what has already elicited an emotion via primary appraisal. Whereas secondary appraisals also leave a record in the form of an ED (which may be a modification of an initial ED produced by a primary appraisal), they lead to a strategic and coping action and/or to an analytic representation of the eliciting circumstance (action attitude or AA).

If the first-order phenomenology of the emotion experience corresponds to the primary appraisal process, the second order awareness corresponds to the secondary appraisal process. The first-order emotion experience consists in the immediate aspects of what it is like to be in an emotion state. Their phenomenology depends mainly on directedness to the self or to the world. If it is directed to the self, it can reflect the evaluated self, which takes the form of internal experiences of the body, as when in sadness one's body is experienced as diminished; but it can also reflect the possibilities and impossibilities and imminences of the actions of that body, as when in sadness one experiences action tendencies as heavy or weak. If the first-order emotion experience is directed to the world, the experience consists in what it is like to perceive the world in terms of its attracting or forbidding one's actions towards and away from it, that is, in terms of affordances[57]. So in the case of sadness, one may experience the world as empty, closed, lacking of attractiveness, etc.

The second-order emotion experience can be an awareness of the primary phenomenologies of the emotion experience, conscious emotional thoughts or/and

[57] In fact, Lambie & Marcel (2002) use the term *gerundival perceptions* and distinguish this concept from the Gibsonian notion of *affordances*, basically because it is not a phenomenological one: "For him [Gibson], they are invariant features of the ecological world, but not of the experienced world". However, "contra Gibson himself, affordances can be seen as phenomenological features, because they are for the perceiver in that what is afforded is specific to the perceiving creature and its needs or intentions. Nonetheless, Lambie and Marcel prefer to use the term "gerundival perceptions" because "gerundival perceptions are typically determined by events and are short lived relative to affordances (…) The most important difference between affordances and gerundival perceptions is that the former are possibilities, whereas the latter are imperatives" (p. 240). Even though I understand their point and agree with the existence of a difference, I will continue to adopt a loose concept of *affordance* understood in a non-Gibsonian way.

awareness of one's emotion as emotion. The kind of awareness depends on three aspects of the focal attention. First, the mode of the focal attention can be analytic when attention is directed to the components or synthetic when it is directed to a whole; and it can be more detached or more immersed on the object of attention. Second, the attention can be more self-focused or more world-focused, one being the figure the other being the ground. Third, the attention can also be focused on the bodily and behavioral aspects of the emotion, that is, on the action attitudes (AA), or on the evaluative aspect (ED). The awareness of the first-order phenomenology can be either non-propositional, or propositional when it is synthetic and focused on the ED: in this case, it takes the form of emotional thoughts. When the emotion experience is experienced as a specific emotion, the attention is highly synthetic and self-focused.

So I propose to consider that the interoceptive sensations, action tendencies and affordances of the world constitute non-propositional and non-conceptual emotion content (in the sense analysed in chapter 2), whereas affective-evaluative concepts, emotions concepts and thoughts constitute the propositional and conceptual emotion content of an emotion occurrence.

A question that can arise after the presentation of this distinction between two main kinds of appraisal is where the notion of *primordial affectivity* or *core affect* enters, if it enters, into this schema. I suggest that it can fit in if we consider that emotions, but more broadly affectivity, can present itself into consciousness in different degrees—according to the focal attention that regulates its intensity. Whereas it is evident that awareness of the primary phenomenologies of the emotion experience, conscious emotional thoughts and awareness of one's emotion as emotion are cases of reflective awareness—with an increase of self-awareness, as I will explain later—where the emotion or some aspects of the emotion is objectified while being experienced, the first-order phenomenology as well as the primordial affectivity are clearly cases of pre-reflective (self-)awareness because they are not attended to as an object. Nonetheless, because we want to maintain a conceptual difference between the primary appraisal that would be a sort of mark of the beginning of an emotion and the primordial affectivity that would permeate all the mental occurrences, the distinction made by Colombetti (2011) between foreground and background pre-reflective self-awareness could be useful. To paraphrase Colombetti (2011), an affective content can be backgrounded and foregrounded and still be pre-reflective; they only differ in the degree of self-presentation or self-intimation: whereas the primordial affectivity can

be experienced pre-reflectively at the background of our consciousness—or can even remain completely out of the reach of consciousness—the different components of the primary appraisal can be less recessive and more present, coming to the front of awareness, without nonetheless being reified.

On these grounds, thus, I propose to keep in mind the conceptualization of emotions sketched above in terms of appraisals—these ones understood in all the senses explained earlier—as well as the notions of *primordial affectivity* and the distinction between primary and secondary appraisals. In the next subsection of this chapter I will make use of all of them to outline a possible account of the different and richer ways in which a personal memory can have an affective aspect in line with the ideas delineated by the French philosophers and psychologists, LeDoux, Markowitsch, Goldie and Wollheim. I will use from now on the term *affective aspect* and leave behind the term *emotional aspect* to avoid signifying that this aspect necessarily refers to an occurrent emotional experience.

Different senses in which our personal memories can be affective and emotional

Broadly speaking, and for clarification purposes, we consider that the affective aspect of a personal memory:

- can be a real and occurrent emotion or not;
- can be part of personal memory or external to it;

For the natural thought, the affective aspect of a personal memory is always a real and new emotion and thus external to the memory, either because it is a consequence or a reaction to the memory or because it is a parallel state that is produced by an independent memory system. Some other authors took into consideration the possibility that new emotions felt towards the past event can be part of the personal memory (French philosophers/psychologists, Goldie) and the possibility that while remembering something from the personal past, the affective aspect need not to be a new and occurrent emotion, even though the nature of this aspect is not very well specified (LeDoux, Wollheim, French philosophers/psychologists). In this section, using the conceptualizations and terminology explained before, I present a more rigorous analysis of the ways in which the affective aspect of our personal memories can either be a real and occurrent emotion or not, and can be either part of the personal memory or more peripheral to it.

Affective aspect: internal or external?

As Lazarus (1988) mentioned, there seems to be a difference between information about something in the environment and the personal significance or meaning that something in the environment has for a subject, that is, the environment-as-appraised. If the information refers to something that is given in the environment (though this can be questioned, as I explain next when considering relational properties), appraisals refer to the way in which what is given in the environment affects a subject in terms of harms and benefits or in terms of morality and self-image, that is, they refer to person-environment relationships. Therefore, as I anticipated in chapter 1 when I pointed to one use of the distinction between intentional object and ontological object, it seems that our personal memories can be directed towards information about an event, an object, a person, a place, etc.—what I prefer to call *facts* about an event—or they can be directed towards *appraisals* of those events, objects, persons, etc. Facts about an event, an object, etc., refer to information about an event that could be empirically corroborated by any person who has witnessed or participated in the same event. For example, for the event "last week party", the number of people who assisted, the color of the balloons, the time it started, all of these are facts about the event. Correspondingly, *appraisals* about an event, object, people, etc., refer to the personal significance and meaning that an event has for a particular subject, which unlike the *facts*, cannot be corroborated by any person who has witnessed or participated in the same event. For example, whether I found the party boring, or had fun at the party, does not give any information about the party in itself, that would be empirically corroborated by any other participant to the party, but it reports evaluations of the event made by a specific subject, and this expresses a relationship of personal meaning between the self and the world.

It could be considered that this proposed distinction between facts and appraisals about an event, object, person, place, etc., could be similar to the distinction between relational and non-relational or intrinsic properties generally made in the literature. Broadly speaking, it is conceived that relational properties are properties that an object has because it bears some relation to a non-part of itself (Weatherson & Marshall, 2012). Keeping just this working definition, and avoiding a complex discussion about its appropriateness or its relation to the extrinsic/intrinsic distinction about properties, appraisals about events could be compared to relational properties when referring to properties an event has because it

bears a relation to a subject. However, this analogy seems to be inadequate because it runs the risk of including properties that are not related to the personal significance and meaning in terms of harms and benefits, morality or self-image that an event has for a subject, as would be the case of physical and spatial properties that are also generally conceived as relational properties. In fact, Fernandez (2008) considers that all our memories are memories of relational properties of events, objects, etc., because perception itself is relational. For him, this guarantees a certain form of self-awareness in perception and in memory, that is, "awareness of being in a certain relation to the remembered [or perceived] event" (p. 119). The idea that perceptual experience not only provides information about the environment but also self-specifying information goes at least back to Gibson (1979) and Neisser (1988) who defended that in perception, the self, or what Neisser called the *ecological self*, is directly perceived, because the visual experience also provides information about the body that impose an invariant structure on the field of vision, information about the movement of the perceiver and about the possibilities of action and reaction that the environment affords the perceiver. More recently, Bermudez (2000) defended this same idea and called this content of the perceptual experience *non-conceptual first-person content* which, according to him, provides a degree of self-awareness, though only minimal in comparison with other richer forms of self-awareness that occur at more conceptual levels. Hence, if we admit that perception supplies self-specifying information, it seems necessary to support a conceptualization of self-awareness in terms of degrees, as defended, for example, by Morin (2005)[58]. Therefore, coming back to the distinction I proposed, in the case that perception and memory are always relational, the self-awareness that we would have to admit when we remember facts about an event would be minimal in comparison with the self-awareness we can gain when appraisals are at stake, especially when the appraisals are more focused on the self who appraised than on the world appraised by a self. To consider some examples, imagine that the intentional object of my memory is the time when I was in Kuala Lumpur and looked at the Petronas Twin Towers. When I remember how high the Petronas Twin Towers were, I am remembering a property of the towers generally conceived as relational. However, my past self is only minimally represented: it could easily be replaced by an impersonal human self who would only have to represent the human average height of 167cm that is necessary in

[58] Morin (2005) has considered the advantages of conceptualizing consciousness and self-awareness in terms of degrees.

order to find that a building of 450m is very high. Therefore, when the relational properties are physical and spatial, the presence of the past self is almost invisible and markedly impersonal and so, only a minimal degree of self-awareness can be at stake. When the intentional object of the memories are appraisals, the presence of the own self becomes more evident, and thus, the self-awareness in memory is richer. When I remember how impressive the great height of the Petronas Twin Towers was, I remember an attribution that my self affected by its great height ascribed to the towers. In this case, the intentional object of the memory is the event-as-appraised by my past self, so my self is undeniable present, in a substantial way, even if implicitly, because the focus of my memory is not in the self but in the world. Here my self refers to more than just an impersonal human self who looked at the building; it is a self who had a particular history and was in a particular situation[59] who found the towers impressive, so it could not be replaced by any other self[60]. When the focus of my memory is on the self who appraised, as for example, when I remember how astonished I felt in front of the great height of the Petronas Towers, my past self is not only substantially present but undeniably explicit in my memory and so my self-awareness is even greater and richer. In conclusion: because some properties of an event, object, etc., that are generally conceived as relational, such as the height of the towers, are not related to the meaning and significance in terms of benefits and harms, morality and self-image that an event or object has for the subject, I prefer to drop off the notion of *relational properties* and keep the distinction I proposed between facts and appraisals of something in the environment, a distinction that is based on the possibility of not corroborating the truth of the corresponding proposition by anyone who has participated in or witnessed the same event. *Anyone* refers to an average human being of our globalized society who has average capabilities and average conceptual tools: even though it is true that a Pirahã person[61] would not be capable of determining if there had been 100 people at

[59] By "particular situation" I refer to other contextual factors that are necessary to attribute the qualifying 'impressive' to the building. It could refer to the past mood, the company, the atmosphere, etc (all factors that at the same time are dependent on other factors). If I had a big dispute with my husband just when we were looking at the Petronas Twin Towers, I may not remember the towers as impressive.

[60] It is certainly logically possible for a particular self to be replaced by a different and more abstract self; but this self would have to fulfil so many requirements (past knowledge and experience, mood, situation, etc.) that (i) it could not probably refer to any real and existing self; and (ii) if it does, the selves would be reduced to only a few cases, and this would not contradict the fact that the self-awareness present in memories of appraisals is much higher than in those memories of relational properties about events, where the self is mainly impersonal.

[61] The Pirahã are an Amazonian tribe who have no linguistic method of expressing any exact quantity, even "one". However, as Frank & al (2008) showed, "despite this lack, they are able to perform exact matching tasks with large numbers of objects when these tasks do not require memory. These results militate against the strong Whorfian claim that learning number words creates the concept of exact quantity" (p. 820). "In

the party or not, (i) numerical systems in living languages are very common, so not having a numerical system is clearly the exception and not the rule; (ii) if he had had the concept, he would be in position to determine the truth of the proposition at stake; and (iii) according to Frank & al.'s hypothesis (2008), it seems plausible that he could understand exact quantities and behave in accordance even without having number concepts. The same could be said for some colors and navigation words that are common to some languages but absent in others. There are probably other particularities about the grounds of my distinction that should need to be examined (such as vague objects, vague properties); for my purposes, I will nevertheless leave them unresolved and just use this general framework for distinguishing appraisals from facts about events, objects, people, etc., without entering in more details.

So coming back to the aim of this subsection, it seems that the intentionality of the personal memory would be a good way to evaluate if the affective aspect is internal or external to the memory, taking into consideration that the difference between internal and external must be considered more as a gradient that goes from being in the centre of the experience to being at the periphery, and not as an *all or nothing* dichotomy. So when the intentionality of a memory are facts about an event, object, people, etc., if there is an affective aspect, this affective aspect would be a non-propositional affective content that is external in the sense of being at the periphery of the memory experience, because facts and not appraisals are the centre of our attention. Because the affective content is not attended to as an object, we are aware of it in a pre-attentive and pre-reflective way, which means that we are not yet conscious of it, and not necessarily that it is unconscious. This would correspond to the primary appraisal in Lambie & Marcel's framework, whose affective content and thus phenomenology can vary depending on the salience of the self or the world. If the self is more salient than the world, the affective content can take the form of interoceptive bodily sensations when the focus is on the evaluated self, or it can take the form of action tendencies or urge to act (action readiness) when the focus is on the possibilities, impossibilities and imminences of bodily actions. Getting back to the 'party'

both of these domains, as well as in our work on number, language plays a fundamentally compressive role, allowing the efficient encoding of information about quantity, color, and spatial orientation. However, in cases where the appropriate code is suppressed or not useful, speakers perform in the same way as speakers of languages that do not even possess the relevant vocabulary. The color, number, and navigational vocabularies of different languages thus do not seem to alter the underlying cognitive or perceptual processes of speakers of those languages directly. Instead, like other technologies such as alphabetic writing, languages give their users a new route for the efficient encoding of experience" (p. 823).

example, if the intentional object of my personal memory is the description of the building in which the party in which I had so much fun took place (I could be trying to explain this to someone who did not go to the party), I could also experience in a pre-reflective way my body as enhanced and energized, or experience a felt urge to raise my arms and dance. If the world is more salient than the self, the affective content consist in what it is like to experience the world in terms of its affordances, that is, in terms of its attracting or forbidding one's actions towards and away from it. In this case, the first order phenomenal experience related with the memory of the party focused on the description of the building, would be a pre-reflective experience of the party as an open and inviting space to dance and have fun.

Before continuing, I would like to make two remarks about this first-order phenomenal experience of the affective content of personal memories. First, these three distinctions between affordances (or gerundival perceptions) of the past event, action tendencies of the self and interoceptive sensations of the self should again be interpreted more as a continuum where the self is every time more salient than as a mutually exclusive taxonomy. Let's remember that what are at stake in this first-order phenomenal experience are appraisals, and appraisals are relations between the self and the world, and so the self and the world are always present: their relationship need to be understood as a figure/ground relationship (Lambie & Marcel, 2002, p. 235) and not as a mutually exclusive relationship. Thus, even in the pre-reflective phenomenal experience of the affective content where the world is more salient (in the sense of affordances and, to less extent, actions tendencies), the self will also be in a certain way present. To underline this idea a distinction made by Colombetti & Ratcliffe (2012) between preattentive noematic bodily feelings and preattentive noetic bodily feelings would probably be useful. Whereas in preattentive noematic bodily feelings it is the body which is pre-reflectively experienced, preattentive noetic bodily feelings refer to the feelings that arise when the body is felt as that through which something else, that is, the world, is experienced (p. 147). The view that even when the affective content are action tendencies but more especially affordances of the world, the body is not absent, because it is the body through which we experience and appraise the world, gives more emphasis to the idea that the embodied self and world have to be always understood as a figure/ground relationship.

The second remark concerns Colombetti's (2011) distinction between background and foreground pre-reflectivity that I mentioned earlier. The background/foreground

distinction is useful to better understand the dynamism and fluctuation of all the elements in an experience, included the affective content: while my memory is focused on the description of the building of the party, interoceptive sensations, action tendencies and/or affordances of the party can be very recessive in my memory experience, and thus not attended to at all or just attended to in a pre-reflective manner; but they can also be passed to the foreground of my memory and thus be more present in my experience though still without being attended to as an object. These differences in the level of consciousness of the affective contents, and thus their presence in our experience, could account for the distinction—that is probably more conceptual than experiential—between a primordial affectivity and a pre-reflective emotion.

Having clarified the nature of the affective aspect of personal memories whose intentional object are facts of the past events, people, etc., it is time to clarify the nature of the affective aspect of personal memories whose intentional object are appraisals of the past events, people, etc. In these last cases, the affective content is objectified and thus becomes the focus of attention of the memory, and it is in this sense in which must be understood the idea that the affective content is internal to the memory experience. In these cases, the affective content can take different forms: it can be non-propositional or it can be propositional. As I explained, in Lambie & Marcel's framework the affective content depends on the aspects of focal attention. So if the attention is highly analytic, our awareness of the first-order phenomenology will be non-propositional. So coming back to the party example, if the intentional object of my memory experience is directed towards the self-aspect of the appraisal, it can take the form of awareness of my enhanced and energized body or awareness of a felt urge to raise my arms and dance; if it is directed towards the world-aspect of the appraisal, it can take the form of awareness of the party as an open and inviting space to dance. When the attention is synthetic, it gives rise to propositional awareness of the appraisals. Once again, following my example about the party, if it is directed towards the self-aspect of the appraisal and focused on the evaluative description, it can take the form of "I enjoyed dancing all night at the party"; if focused on the action attitude, "I wanted to dance all night" would be a good example. If it is directed towards the world-aspect of the appraisal and focused on the evaluative description, it can take the form of "The party was great fun"; if focused on the action attitude: "The catchy music of the party made me dance all night". When the attention is highly synthetic and focused on the evaluative aspect of the self, we are aware of a past emotion as an emotion:

“I felt happy at the party” would be an example of this case. It is worth mentioning that the awareness of this propositional content can be accompanied by non-propositional affective content and its respective first order phenomenology. This means that they are not mutually exclusive; in fact, it is possible that propositional content like conscious emotion thoughts influence the non-propositional affective content in a sort of loop. This accounts once more for the dynamism and heterogeneity of the affective contents, and the contents in general, of personal memories. Therefore, whereas in the cases of non-propositional awareness, the intentional object of my personal memory is the affective content of my memory—which is non-propositional—in the cases of propositional awareness, there may be two different kinds of affective content: the propositional one, which is the intentional object of my memory, and the non-propositional one, even if the two are in general related and determine each other in a sort of loop. It could also be the case that the awareness of the subject moves freely back and forth between these two affective contents. Cases of distressful emotional episodes, where a person in the midst of cries and tears verbalizes at the same time his emotional thoughts about a disturbing recent event, could be a good example.

Having explained my understanding of the external/internal dichotomy applied to the affective aspect of personal memories, it could be asked how I would explain in this framework the cases typically analysed by the causal thesis of the natural thought. For example, I remember how my father physically looks and this memory awakes in me a feeling of love or a feeling of sadness for his passing. My answer would be the following: the memory of the physical appearance of my father has already some non-propositional affective content, so the emotion felt afterwards would not be the cause of my previous memory but just a sort of objectivation—that can come in different forms—of what was already in the background of my personal memory.

Because it is widely accepted in the literature that personal memories, especially those that are meaningful for the sense of self or personal history of the subject, are composed of great detail and affect and include emotional information (Alea & Bluck, 2003), I would like to close this section mentioning some empirical data that supports the view that first, personal memories have in general non-propositional affective content, and second, that personal memories have in general propositional affective content.

Concerning the non-propositional affective content, the details and vividness of personal memories, as well as the sense of reliving, are associated with the presence of imagistic content, particularly visual images (Brewer, 1995; Holmes & Mathews, 2010;

D'Argembeau & Van der Linden, 2006; Greenberg & Knowlton, 2014). And there is now a growing body of evidence that provides support for the idea that imagery has more powerful emotional consequences than representations in verbal form. A recent review made by Holmes & Mathews (2010) considers that mental imagery can evoke affective and emotional content in at least three ways. First, by a direct influence on more emotional brain regions which are responsive to sensory signals, including those generated by images, due to the fact that brain areas activated during imagery overlap very considerably with those involved in processing the equivalent sensory stimuli. Second, by a possibly less direct way in which sensory images are interpreted as being similar to external sensory stimuli because of this overlapping of activation patterns between imagery and perception, which is probably more evident in psychological disorders. And third, in a more indirect way, by activating other information encoded about the past event, object or people remembered that includes the associated feelings and emotions experienced before, and that may reinstate the same emotion.

But not only does recalling personal memories have in general an affective content, but also retelling personal memories in general shows a propositional affective content. What people tell about a past experience and how they tell it depends on their goals and the audience, that is, it is pragmatically-sensitive. A large number of memory experiments use laboratory free recall tasks that emphasize the accuracy and quantity of the information remembered (Marsch, 2007), but there are fewer studies focused on conversational retellings. Nonetheless all these studies point in the same direction: in conversational retelling, people tend to recall more evaluative and affective information about past experiences than the sensory details and other kinds of descriptive information. Hyman (1994) found out that regardless of instructions (memory of the story or personal reactions to it), the content of conversational remembering—in opposition to an experimental setting situation—is fundamentally evaluative and affective information about an event. Similar results about the primacy of the affective over the sensory information were found in conversational joint remembering (Edwards & Middleton, 1986; Tenney, 1989; Pasupathi & al., 2002) and in entertaining retellings to an experimenter (Dudukovic & al., 2004). Hyman (1994) suggested that this kind of information that makes connections between the individual and the world plays a crucial role because first it is that one which establishes meaning for a person; second, it is central for future behavior and planning for which it is not enough to simply know what has been done before, but "what works what does not

work, what is good, and what is bad must also be known" (p. 64); and third, it is that one which communicates more information about the self. Also Alea & Bluck (2003) acknowledges that memories rich in emotional information signal caring and intimacy as opposed to neutral memories, which allows the listener to relate to the story being told and enhance the likelihood of an empathic response. More and better in this line of research is needed, especially because there is a tendency to split the propositional memory content in descriptive information and evaluative and affective information, without considering the possibility of thick concepts, like "coward", "lie", "brutal", etc., (Williams, 1985; and more recently Kirchin 2013), which would allow through the discourse the fusion of emotions and memory that Goldie (2012) talked about.

Affective aspect: memory-like or occurrent emotion?

As I already explained, the essence of affections and emotions consist in being relational, which means that they are not only about feelings of internal changes of the body (as in pain) and external percepts; they are about person-environment relationships that involve how one's concerns or one's self has been affected by some stimuli. Affections and emotions thus necessarily involve a self affected by an event. I already mentioned in chapter 4 that personal memories present a dichotomy between the present self who remembers and the past self who experienced what the present self is remembering, which is best understood as corresponding to different conceptual selves, that is, to different whole configurations of self-schemas, self-images, goals, beliefs, desires, etc., of a human being at different times. Taking these different selves into consideration, it seems that in a personal memory with some affective aspect the self affected by the past event is ambiguous: it can refer to the present self who remembers, or it can refer to the past self who directly experienced what is remembered. Due this complexity of selves that is at stake, I propose to consider in general terms that when the self affected by the past event is a past self, the affective content has a memory-like character and thus it is not experienced as an occurrent emotion; whereas when the past event is still of concern for the present self, the affective content is an occurrent emotion.

I propose to consider the following possible cases, acknowledging also that the present self can identify or distance himself from the past self:

A. The past event is still of concern for the present self in terms of harms and benefits, morality or self-image and the appraisal made by the present self is the same as that one made by the past self. In this case, there is an identification of the present self with the past self, and even an illusion of a single self present in both times. In narrative terms, the point of view of the present self corresponds to the first-person perspective, that is, the perspective of the actor, or of what Scheff (1981) has called the *underdistanced audience*, that is, the audience that identifies with the characters to the point of experiencing their emotions. Borrowing Ribot's (1907) ideas, this identification can be weak, but it also can take a live form and become hallucinatory: the past self is *resurrected*, *relived* for a short time in the present self (Paulhan, 1903; Weber, 1914) and the past emotion is reexperienced, reenacted. These extreme cases are perfectly adequate descriptions of traumatic memories related to post-traumatic stress disorder (PTSD). PTSD is characterized by a strong sense of reliving that is reflected in a distortion of the sense of time: the traumatic event seem to be happening in the present rather than belonging to the past, as in the case of ordinary memories (Brewin & Holmes, 2003). In fact, individuals suffering from PTSD not only report that their flashback images seem real but also sometimes respond as if the traumatic event is happening again, by exhibiting signs of terror, autonomic symptoms, like sweating, and even invoking some behavior, such as ducking as if to avoid a blow (Holmes & Mathews, 2010). Whereas some psychologists consider that the cause of reliving in traumatic memories associated with PTSD is due to their low *cognitive-emotional distinctiveness*, that is, to the small degree to which the emotions associated with an event are separated in the representation of that event –or in my terms, the extent to which facts and appraisals of an event are separated (Boals & al., 2008; Boals & Rubin, 2011), other theories, such as dual representation theory, that emphasize the role of imagery in personal memory, consider that the imagery that characterizes the PTSD may be responsible for the re-experience. This is not only because of its direct links with the amygdala but also because it may still convey a sense of immediate perceptual experience that makes the individual momentarily process them as real and as a real threat (Brewin & Holmes, 2003; Holmes & Matthews, 2010). This relation between intrusive memory imagery and reexperience has also been explored as a characteristic of depression and grief.

Nonetheless, traumatic memories associated with PTSD are not the only kind of memories which are still open to the rememberer and "not still behind him" (Beike & al., 2004). There are more common memories that are stressful for the rememberer and are also

relived, even if with less intensity than PTSD. I propose to consider one example of stressful memory: the discovery that my partner is cheating on me; or to be more graphic and focus in one specific and single episode to which a specific visual image can be associated, the experience of seeing my partner entering a hotel with his colleague in a suspicious way. At that moment, I experience a mixture of anger, sadness and humiliation. Each day after that episode, the memory of my husband getting into the hotel with his colleague intrudes my mind; so even if there is no actual external stimulus in my environment that produces in me anger and sadness, because I identify with my past self who witnessed the cheating scene, I re-experience again sadness, anger and humiliation, in the same way as if the past event was occurrent and not past. This does not mean that my occurrent emotion is an exact replica of the emotion felt in the past; it just means that it belongs to the same 'category' of emotion and that the appraisal has not changed.

The intentional object of a stressful memory as this one would probably be the appraisal about the past event, and so the affective aspect would be the emotional content that is at the centre of the memory. As I explained in the previous section, the emotional content can take different forms: it can be nonpropositional and take the form of awareness of my body as disminished, pushed back, compressed (interoceptive body sensations), or awareness of a mixture of feeling immobilized and a felt urge to take action and dispense punishment to my husband (action readiness), or awareness of the cheating scene as a threatening and burdening event (affordances). But it also can be propositional, focused on the self: "I have been cheated" (evaluative description), "I do not want to see him anymore" (action attitude); or focused on the world: "My husband cheated on me", "He is an unfaithful bastard" (evaluative description), "He deserves punishment", "He does not deserve to be spoken to" (action attitude); or I could have an emotion thought: "I hate him", "I am angry with him and at the same time sad about what happened". Nonetheless, the intentional object of my memory could be some facts about the cheating scene, like the sign with the name of the hotel, the clothes they were wearing, the people who were passing by, and the emotional component could be in the background of my memory experience in the form of interoceptive body sensations, action readiness or affordances.

B. It can also happens that the past event is still of concern for the present self in terms of harms and benefits, morality or self-image, but the appraisal made by the present self is different from that made by the past self. Therefore, in this case there is no identification with a past self but a feeling of distance, of *not-me* (Libby & Eicbach, 2002),

even if this feeling can appear in different degrees. There is no reexperiencing of the past emotion, but just a new and different emotion. A new appraisal is certainly the product of new knowledge, evaluations and feelings concerning the past event, what Goldie called *the triple ironic gap* (2012). Coming back to my last example, let's suppose that after what I consider the "cheating scene" I discovered that in fact my husband and his colleague were going to the hotel for a meeting with some businessmen, and that the "suspicious" attitude I thought I saw was just a product of my mind, which recently got caught up in jealousy and a feeling of insecurity about my husband's love towards me. After this discovery, I do not remember anymore my husband entering a hotel with his colleague as the "cheating" scene, but as a simple meeting with businessmen; and I do not feel anymore anger and sadness but relief. The same situation could be used to give another example: after feeling anger and sadness when discovering that my husband cheated on me, I realized that in fact our marriage was a long time ago already broken, that he did not love me anymore and I did not love him either, and that in fact seeing him entering a hotel with another woman was just a way of witnessing with my own eyes something that was already existent and was implicitly evident for both of us. Instead of reexperiencing anger and sadness, I feel frustrated and disappointed. I remember thus the scene of my husband entering a hotel with his colleague as the moment of revelation of the failure of my marriage.

These cases, which are still cases of open memories because the past experience is still of concern for the present self —even if in a different way —suggests that the subject is an observer and has adopted an external perspective. Nonetheless, he is not a detached observer, because he is still in certain way an actor —even if different from the past actor — in the sense of still reinterpreting and resignifying what happened. This perspective has in general been omitted in the literature, included the narrative accounts of memories considered earlier, which have adopted the dichotomy between first-person or internal perspective and third-person and external perspective. Probably a distinction between different kinds of external perspectives would be needed to better account for our still emotional personal memories.

In fact, it is also possible that because of the openness of these kinds of memories, the subject may be at the same time actor and observer of the past event, and thus, simultaneously experience the past emotion and the new emotion. Going back to the last example given, after realizing that our marriage was broken, I can remember the cheating scene and feel frustrated and disappointed *at the same time* that I reexperience some of the

anger and sadness felt in the past. Scheff (1981) has called this way of distancing *aesthetic distance*: "*re-living* the past is underdistanced, one is entirely a participant. *Remembering* the past is overdistanced, one is entirely an observer. Aesthetic distance corresponds to *returning* to the past; one is both participant and observer, simultaneously" (p. 47). This idea of the adoption of two simultaneous perspectives would better account for the complexity of real life events which often carry several meanings and give rise at the same time to several appraisals, sometimes even to opposite appraisals (Fridja, 2013).

C. Another possibility refers when the past event is not anymore of concern for the present self in terms of harms and benefits, morality or self-image. It is in this case that the present self adopts a real observer and external perspective: he is just a spectator of his past experience, of how his past self was affected by the past event, but certainly not an actor; the present self is not appraising the past event anymore. Because highly emotional memories are rare, emotionally closed memories are more the rule than the exception (Beike & al., 2004). Whereas in some cases the absence of emotion of a memory can be the result of a pathological overdistancing perspective that corresponds to a state of repression, the most frequent cases of personal memories without an occurrent emotion refer to cases where the subject has already achieved an evaluative and emotional response about the past event that he considers appropriate, which means that he has arrived to an optimal distance. In these cases, the emotion has faded and the past event is thus emotionally closed. Coming back to my example, when I arrive to a personal understanding about why our marriage was not working long before the cheating scene[62], the memory of the cheating scene would probably become an emotionally closed memory. Time may pass by, I may reconstruct my life and even have new relationships; so every time I remember this event, I will remember it as the moment of revelation of my failed marriage, without necessarily feeling frustrated and disappointed. However, the fact that I do not feel an occurrent emotion does not mean that this memory lacks an affective aspect; in my example, the past appraisal is so intertwined with the facts about such a significant event that it actually constitutes the intentional object of my memory of the event. This does not mean either that the affective content of an emotionally closed memory can only be propositional; action tendencies, affordances but also interoceptive body sensations can also be part of the memory content without their presence implying that the subject is

[62] I do not mean that we are able to achieve emotional closure in just a simple brief interval in time. The emotional closure of meaningful events of our lives probably resemble to a process that develops through time rather than some sort of mental act that happens in some hours or days.

undergoing an occurrent emotional experience, as the advocates of the natural thought would suggest. This presence could be interpreted either as a sort of *primordial affectivity* that permeates all our mental occurrences (Colombetti, 2013), or an *emotional colouration* (LeDoux, 1998) or *residual condition* (Wollheim, 1984) left by the high emotional intensity of the past event and the subsequent thought processes and rumination around that event.

Nonetheless, as the term of *cogency* or *residual condition* coined by Wollheim entails, there is a tendency in some personal memories, even if they are emotionally closed, to make the remembering subject feel and reexperience the emotions and affections felt in the past that are part of the memory. As it is very explicit in the same term, this is just a tendency, a residual condition —whose best metaphor would probably be a comet's tail — and not an occurrent emotion; but this tendency can be certainly actualized[63] and give rise to an occurrent emotion. In my example, this would happen if after time passed by and I reconstructed my life and even had other partners, while remembering the cheating scene I suddenly feel frustrated; or even more: I suddenly feel anger and hate towards my ex-husband. This could be possibly explained in two ways: (i) it is just a case of emotional contagion, and so the distinction between the past and the present selves is still kept, as well as the observer perspective; or (ii) this shows that probably because of particular situations and mood of the present self (for example, a big fight with the current partner, or a new failed marriage, or a very pleasant encounter with my ex), the past event became emotionally *opened* again in a way that is actually appraised by the present self, giving rise to an emotional memory of type A. Probably this last example is useful to exemplify with more clarity the transitions and dynamisms between different perspectives and between identification and distance with the past self. It also questions the idea that the emotionally closure of memories is a definite property that memories can acquire.

D. Sometimes while remembering a past personal event which is considered as emotionally closed a new affective aspect can arise, an affective aspect that is in fact an occurrent emotion. This can happen, in some cases, when the intentional object of the memory is focused on the past self and not on the past event, that is, when the memory is self-focused and not world-focused. Coming back to my example, while remembering the cheating scene, I can feel pity for my past self who lost the innocence about what a real relationship is and discovered in a quite shocking way that Prince Charmings do not exist

[63] In Wollheim's terminology, this could be the product of the *psychic force* of mental states, that is, of the causal efficacy that mental events have in the behaviour, thinking, feeling and believing of the subject.

and that love must not be idealized. Or I can ironically laugh at my past self because of his innocence and his naïve belief in an idealized love. This affective aspect of my memory, i.e. the pity or the *ironical* amusement, is clearly an occurrent emotion. In this particular case, the new occurrent emotion is not directed to the past event but to the past self, in a similar way as a person would feel an emotion towards another subject, or even towards a fictional character. In her defence of autobiographical past directed (APD) emotions as new emotional responses, Debus (2007) correctly observed that a remembering subject can feel two kinds of emotions towards his past self: empathetic and non-empathetic emotions: "while empathetic APD-emotions help the subject to understand her past experiences and actions, non-empathetic APD-emotions help the subject to evaluate her past experiences and actions for her present point of view" (p. 774). However, she wrongly considers the empathetic emotions only correspond to a first-person point of view. As this last example shows, the present self can feel empathetic emotions towards his past self while adopting an external and so third-person perspective, in the same way as he would feel non-empathetic emotions, in the same way as he would feel any kind of emotion directed towards another person, real or fictional.

However, what really distinguishes these cases from A and B is the fact that the past event is not of concern anymore for the present self. We can think about occurrent emotions directed not towards a past self but towards the past event, and even towards the past event-as-appraised, without necessarily implying that the past event is still of concern for the present self in terms of harms or benefits, morality or self-image. Probably one of the most common cases are personal memories about unpleasant events that are almost irrelevant for a sense of self or personal identity that, when retrieved, individually or in a social context of retelling, produce in us amusement. If I remember or retell now the time that while taking a subway in Paris my shoe fell down onto the railway and I had to walk back against the crowd with a bare foot to the box office, I will probably laugh and appraise the event as a funny episode in my life, although at that past moment I did not feel that it was funny and instead felt embarrassment.

We can conclude that cases like these last two are cases where the rememberer takes the perspective of a detached observer, probably not very differently from the observer perspective adopted towards a fictional character or a fictional story. Because we see ourselves as others, and consider what happened to us in the same way as if it has happened

to others, it is in cases like these that the external perspective acquires its real and deepest sense.

E. The last case that I would like to briefly consider is the case of personal memories emotionally closed that have an affective aspect that is an occurrent emotion but, because of the particularities of the emotion, the perspective adopted is not one of a completely detached observer. These are the cases of nostalgia. Nostalgia is in general considered as a sentimental longing for one's past that cannot be fulfilled because of its the irretrievability and irrecoverability (Ribot, 1907; Sedikides & al., 2008; Howard, 2012). It is characterized by a simultaneous expression of happiness and sadness, by a juxtaposition of positive and negative elements that give rise to the bittersweet affective character that is often attributed to it. What is interesting about nostalgia is that the rememberer is not appraising some episode that happens in the past from an internal perspective, as happens in cases A and B, but is appraising the episode or —probably with more frequency —a chain of events, repeated events or lifetime periods, and even people and places, as a whole that he would desire to instantiate again and relive. And it is because of this desire of re-incarnation of the past self, or this desire of re-instantiation of a past that is quite often idealized and need not to have been necessarily experienced as positive and joyful, that the perspective adopted by the rememberer cannot be considered as completely external and detached, as in cases C and especially D.

Probably more would need to be said about the specificities of different emotions that are related to past memories, especially because this connection has been quite neglected not only in research on memory but also in research on emotions. This would contribute to a better comprehension of our personal memories as well as undoubtedly improve our understanding of what emotions are and if they are a natural kind.

FINAL THOUGHTS

In this chapter I have analysed the assumptions that lie behind two distinct and opposite ways of considering the relation between personal memories and emotions. I have shown that the natural thought is based on an out-dated and not very well empirically grounded conceptualization of what an emotion is. Based on a more accurate and highly

consensual notion of the nature and core of emotions and affect that emphasizes their relational essence: affects and emotions are about subject-object relationships, I have proposed a framework to better understand the many senses in which our personal memories are affective and emotional and, in consequence, reflexive and reflective. As I explained, our personal memories are not always directed towards the external past world. Sometimes we remember this past world as appraised, that is, we remember its past—or still present—impact in terms of harms and benefits, morality or self-image. Other times the focus of our personal memories is not on the past world but on the past self and the way in which he was affected. Because it seems that the intentionality of our personal memories can be directed to any point of a sort of continuum between the past external world, the past external world as appraised, and the self who appraised, our personal memories can be more or less reflexive and thus convey a low or high degree of self-awareness. But this is not the only sense in which personal memories can be reflexive and reflective; personal memories can also be reflective because in many cases part of their content is affective, that is, part of their content is constituted by information corresponding to the way in which the past self has been affected by the past experience, or by information corresponding to the way in which the present self is still affected —in a broad sense —by the past experience. In synthesis, the sketched framework proposed here, far from adopting a reductionist conceptualization like the natural thought does, has highlighted the reflective nature of our personal memories and accounted for the different nuances in which the affective aspect of our personal memories can be conceived.

SYNTHESE EN LANGUE FRANÇAISE

Cette thèse a pour objectif d'analyser de façon approfondie un phénomène mental qui a été amplement négligé dans les débats philosophiques récents : les souvenirs personnels. « Souvenir personnel » est le terme générique que j'emploie tout au long de cette thèse pour faire référence dans un sens large à tous les types de souvenirs de notre passé personnel. Il est vrai que cette notion générale inclut des souvenirs qui, selon mon analyse, vont s'avérer très différents, comme le souvenir de l'endroit où j'ai laissé les clés hier soir, le souvenir de mon dernier voyage à la plage, ou le souvenir de l'aspect physique de mon père déjà mort. Néanmoins, l'indétermination du terme « souvenir personnel » ne constitue pas un problème parce que c'est précisément le but de cette thèse d'analyser et déterminer avec plus de précision les différents phénomènes mémoriels qui à première vue ont en commun le fait de faire référence à ou inclure celui qui se souvient d'une manière qui est totalement absente du souvenir-connaissance que nous avons sur les faits impersonnels du monde. De ces points communs résulte le choix du terme « souvenirs personnels », choix également guidé par la volonté d'éviter la terminologie utilisée dans ce domaine qui a déjà une connotation forte ou bien établie, comme les notions de « souvenir épisodique » et « souvenir autobiographique ».

L'analyse des souvenirs personnels que j'entreprends ici constitue une analyse philosophique. Mais elle a été largement inspirée par les théories de la mémoire et par des concepts sur la mémoire provenant des sciences cognitives. Donc, mon approche est très interdisciplinaire et de nombreux arguments sont basés sur l'état actuel de la recherche scientifique. J'ai explicitement choisi cette méthode parce que je crois fermement que les débats philosophiques actuels sur l'esprit ne peuvent pas être fructueux s'ils ignorent les recherches effectuées dans d'autres domaines académiques sur le même phénomène mental, i.e. les souvenirs. Par ailleurs, cet éclectisme peut également s'apprécier dans les branches philosophiques ainsi que les philosophes que je mentionne et discute: la philosophie analytique, la phénoménologie, certains philosophes non classés largement oubliés, tous eux défilent le long de cette thèse. A l'origine de cette approche, il y a également la croyance dans l'importance de mettre en rapport différentes traditions philosophiques et de récupérer des idées reléguées à l'oubli, surtout ces jours-ci où la pensée philosophique anglo-saxonne prévaut partout dans le monde.

La thèse est divisée en deux parties. La première partie présente un cadre général pour mieux comprendre ce que sont les souvenirs personnels, la façon dont nous accédons à notre passé personnel et ce que nous accédons de notre passé personnel.

Le chapitre 1 présente les théories traditionnelles de la mémoire : realisme direct et représentationalisme, et défend un certain type de représentationalisme que j'appelle « sophistiquée ».

Tout d'abord, je présente différentes versions et théories de la conception réaliste directe de la mémoire: réalisme naïf direct, présentations, réalisme épistémologique direct et théorie relationnelle de la mémoire, ainsi que certaines objections auxquelles elles ne peuvent pas faire face.

La version naïve du réalisme direct, défendue principalement avant la révolution cognitive, par des philosophes comme Reid, Alexander et Laird, considère qu'on est directement conscient de l'évènement passé sans l'intervention d'aucun intermédiaire, comme une représentation mentale. Nonobstant, cette conception naïve du réalisme direct est problématique, puisqu'elle doit adopter une conception problématique de la causalité, i.e. qu'il existe un écart temporel entre la cause et l'effet (a), aussi bien que sur le temps et l'existence, comme c'est le cas de l'éternalisme (b). Elle adopte aussi implicitement une conception conservatrice sur la nature du soi et le rôle qu'il joue dans une expérience mémorielle : il est absent, invisible, et doit rester toujours identique à soi-même (c). Mais si ces objections sont de nature ontologique et montrent que le réalisme direct fait des suppositions controversées qui auraient besoin de justification, d'autres types d'objections de nature épistémique mettent en doute son pouvoir explicatif : il n'arrive ni à expliquer la faillibilité et le changement du souvenir (d), ni à donner un critère pour distinguer la mémoire de la perception (e), ni à expliquer le sens dans lequel on reconnaît la marque du passé dans une appréhension directe d'un évènement (f). Mais le réalisme direct présente un problème plus général en tant que projet pour expliquer le phénomène mémoriel : le réalisme direct seulement affirme qu'on peut avoir de la connaissance sur des évènements passés mais n'explique pas comment on peut avoir une capacité mentale qui nous permet d'appréhender directement des évènements passés. Et cela se passe parce que l'explication de la mémoire que le réalisme direct offre omet toute référence à des explications qui invoquent le mental et l'activité de l'esprit humain (g).

D'autres conceptions du réalisme direct qu'on pourrait considérer comme plus sophistiquées sont aussi atteintes par ces objections. C'est le cas de la notion de

présentations, défendue par Stout, Woozley et plus récemment Wilcox & Katz, qui a été utilisée pour expliquer que les souvenirs du passé ne sont pas des représentations de l'évènement passé mais de véritables présentations de l'évènement. Cela est possible puisque la réalité d'un évènement ne s'épuise pas au moment de sa perception mais se déploie dans les temps dans des étapes successives. C'est dans ce sens que l'idée de notre connaissance d'un évènement passé comme immédiate sans pourtant être immédiatement vécu doit être comprise. Cependant, à la notion de présentation s'appliquent presque les mêmes objections que celles qui s'appliquent au réalisme direct naïf.

Il est possible aussi de défendre une version plus légère du réalisme direct qui évite tous les problèmes métaphysiques : cela serait le cas d'une version épistémologique du réalisme direct qui affirme seulement que la mémoire fournit des croyances basiques sur le passé, c'est-à-dire, des croyances dont la justification est automatique et ne demande pas d'autres croyances comme garantie parce qu'elles sont directement fondées sur l'expérience passée du sujet. Nonobstant, cette version épistémologique du réalisme direct n'évite ni les objections épistémiques mentionnées ci-dessus (d-f) ni l'objection plus générale concernant l'omission de toute explication en rapport avec l'activité cognitive du sujet (g). En plus, elle ne donne pas non plus une bonne explication de la croyance mémorielle et de la connaissance mémorielle.

La version qu'on pourrait considérer la plus sophistiquée est la théorie relationnelle de la mémoire, récemment défendue par Debus. Selon cette conception, quand on se souvient d'un objet passé, l'objet passé fait partie constitutive de l'expérience mémorielle, c'est pourquoi l'objet est immédiatement disponible pour le sujet qui s'en souvient. Cependant, l'examen de cette version du réalisme direct sous la considération de l'état actuel de la recherche empirique dévoile qu'elle n'est pas compatible, comme on le prétend, avec la notion de traces mentales ; et que le disjonctivisme ne peut pas être invoqué pour expliquer les souvenirs faux, puisqu'il est peu plausible du point de vue empirique. Ces incompatibilités expliquent aussi les raisons pour lesquelles la théorie relationnelle de la mémoire ne peut ni donner un critère acceptable pour distinguer la mémoire de la perception ni expliquer la faillibilité de la mémoire.

La conclusion générale tirée de l'analyse du réalisme direct est qu'aucune de ses versions ne peut répondre avec succès aux objections énumérées ci-dessus, principalement parce qu'elles omettent toute référence à l'activité mentale du sujet et sont incompatibles avec l'état actuel de la recherche en sciences cognitives.

Une fois écartée toutes les versions du réalisme direct, j'examine la théorie opposée de la mémoire : le représentationalisme. Si pour le réalisme direct il y a une relation directe entre le sujet et l'évènement passé, pour le représentationalisme naïf la relation a lieu entre le sujet et une représentation de l'évènement passé (Locke, Hume). C'est pourquoi le représentationalisme est compatible avec une théorie causale du souvenir et échappe aux objections métaphysiques (a-c). Néanmoins, cette version naïve du représentationalisme qui conçoit le souvenir comme une relation dyadique est atteinte par les objections épistémologiques (d-f).

Mais si la version naïve pose également des problèmes insurmontables, la version sophistiquée que je défends, principalement due à Russell et surtout Broad, semble proposer une explication du phénomène mémoriel qui peut faire face aux objections épistémologiques (d-f), surtout parce qu'elle est compatible avec une explication naturaliste et scientifique de la mémoire aussi bien qu'avec une explication causale qui fait appel à la notion de trace mentale. Cette version repose sur deux distinctions largement oubliées en philosophie contemporaine : d'un côté, la distinction entre contenu et objet ; d'un autre, la distinction entre objet intentionnel et objet ontologique. La première distinction signale le fait que dans une representation il y a quelque chose qui est présenté au sujet : une image, une proposition, etc., à travers laquelle quelque chose d'autre est représenté. Cette distinction entre contenu et objet est utile puisqu'elle permet de concevoir qu'un même objet peut être rappelé à travers différents moyens représentatifs. La deuxième distinction porte sur l'objet intentionnel et l'objet ontologique. L'objet intentionnel correspond à l'objet de notre état mental, i.e. du souvenir, tandis que l'objet ontologique correspond à l'objet qui existe indépendamment de notre esprit et auquel l'objet intentionnel fait référence. La distinction entre objet intentionnel et objet ontologique permet d'expliquer des cas où l'objet intentionnel ne correspond pas à un simple objet ontologique. Cette manque de correspondance un à un a lieu dans trois cas. Le premier, quand l'objet intentionnel est plus abstrait et général, par exemple, le souvenir d'un voyage à Malaisie, et donc, l'objet intentionnel ne fait pas référence à un seul évènement passé mais à une succession d'évènements passés. Le deuxième, quand l'objet intentionnel correspond à une relation sujet-environnement, c'est-à-dire, quand le souvenir fait référence à la signification personnelle que le sujet attribue à un évènement passé. Le troisième, quand des objets intentionnels différents correspondent à un même objet ontologique, c'est-à-dire quand des descriptions différentes voire opposées ont un même référent passé.

Une fois esquissé ce cadre représentationaliste basé sur la distinction entre contenu, objet intentionnel et objet ontologique d'un souvenir, les deux chapitres suivants explorent les contenus possibles des souvenirs personnels (chapitre 2), et leurs objets intentionnels (chapitre 3).

Le chapitre 2 commence par une approche plutôt historique : une exposition de ce qui a été historiquement considéré comme le contenu de nos souvenirs personnels. Jusqu'au début du 20e siècle, les images mentales, c'est-à-dire des représentations quasi-picturales de nos perceptions passées, ont été conçues comme le contenu de base de nos souvenirs personnels. Russell et Bartlett ont explicitement défendu la priorité des images par rapport aux mots et propositions. Cependant, à partir de 1920 la notion d'image mentale a commencé à décliner du fait de la multiplication de ses critiques. Alors que quelques critiques soulignaient le problème de la distinction entre une image mémorielle et une image imaginative, d'autres questionnaient le rôle presque unique que les images mentales jouaient dans l'explication du contenu du souvenir. Nonobstant, les critiques les plus fortes considéraient qu'elles ne peuvent constituer le contenu ni de nos souvenirs ni de nos pensées puisqu'elles n'ont aucune signification par elles-mêmes : elles ne peuvent avoir une référence que quand elles sont emboîtées dans des descriptions propositionnelles. Ces critiques aussi bien que l'apparition du behaviorisme et du cognitivisme ont éliminé la notion d'image mentale de la psychologie pendant des décennies. Cependant, le rôle privilégié que les images occupaient avant a été pris par la notion de proposition. Les souvenirs, aussi bien que tous les autres actes mentaux, ont commencé à être conçus comme étant essentiellement propositionnels, susceptibles d'être réduits à une proposition du type « Je me souviens que *p* », où *p* représente une proposition qui a une valeur de vérité, sans perte de contenu. Parmi les facteurs généraux qui ont contribués au propositionalisme se trouvent non seulement l'avènement du cognitivisme et des modèles computationnels de l'esprit, mais aussi le langage de la pensée développé par Fodor et le programme chomskyen de grammaire générative. On pourrait aussi mentionner d'autres facteurs plus spécifiques aux théories sur la mémoire, comme la conceptualisation faite par Tulving des souvenirs personnels en tant que déclaratifs, l'emphase mise sur la quantité d'information retenue, la conception philosophique des souvenirs comme connaissance ou croyances acquises. Néanmoins, le propositionalisme qui perdure encore de nos jours répond plus à une certaine tradition intellectuelle qu'à une enquête profonde sur la nature de nos expériences mémorielles. De plus, les arguments philosophiques qui défendent

l'exclusivité du contenu propositionnel dans les souvenirs ne sont pas suffisamment forts: ni la « supposée » priorité ontologique des évènements, ni la possibilité d'exprimer nos souvenirs à travers une proposition, ni la variabilité et la difficulté à analyser l'aspect phénoménologique des souvenirs ne semblent donner de raisons suffisantes pour adopter une conception propositionnelle de la mémoire.

En fait, les études scientifiques actuelles considèrent que les souvenirs personnels ont une nature multimodale et hétérogène: l'imagerie visuelle, spatiale, auditive, olfactive, gustative et tactile, le langage, et l'émotion, chacun comporte un type particulier d'information, et chacun a des bases neurales différentes ainsi que des propriétés phénoménales et comportementales particulières. Le modèle de la mémoire épisodique proposé par David Rubin est particulièrement pertinent puisqu'il présente de données empiriques convaincantes qui supportent l'idée que les contenus des souvenirs personnels sont hétérogènes, parmi lesquels on trouve des contenus non-propositionnels. Les aspects phénoménologiques de chaque type de contenu diffèrent entre eux, et doivent être distingués de l'aspect phénoménologique qui a un caractère métacognitif et qui est propre au mode « souvenir ». Le contenu linguistique mérite une analyse spéciale puisqu'il peut être étroitement lié à des images, il peut être utilisé pour décrire des images ou même finalement les remplacer.

Une question importante est de savoir si le contenu non-linguistique doit être considéré comme conceptuel ou non-conceptuel. Il y a deux points qui doivent être analysés : le premier, si les concepts sont nécessaires pour avoir ces contenus mentaux hétérogènes ; le deuxième, si ces contenus peuvent être réduits aux concepts sans perte de contenu. La première question est controversée et les possibles réponses reposent plus sur des hypothèses que sur des études empiriques. Cependant, l'hypothèse développée par Martin Conway est prometteuse : les concepts ne seraient pas nécessaires pour l'encodage d'information dans des modalités sensorielles mais seraient nécessaires pour encoder l'information de façon à être ultérieurement récupérable. Cette hypothèse permettrait de rapprocher les enfants des animaux et d'expliquer la relation dialectique entre l'acquisition des concepts à travers les sens et le changement opéré par l'acquisition des concepts dans l'encodage et la récupération de l'imagerie sensorielle. Concernant la deuxième question, quelques arguments en faveur de la notion de contenu non-conceptuel pour la perception peuvent s'appliquer au cas de l'imagerie sensorielle. C'est le cas de l'argument esquissé par Dretske entre signe analogue et signe digital. L'imagerie sensorielle représenterait un signe analogue qui contient plus d'information sur l'évènement passé que celle contenue

dans une proposition du type « S est F » : l'image visuelle des clés laissées sur la table comporte plus d'information (l'emplacement exact des clés, sa forme, sa couleur, etc.) que la proposition « Je me souviens que les clés sont sur la table ». La notion de « ressemblance structurelle » développée par O'Brien et Opie, c'est-à-dire, l'idée que l'imagerie sensorielle représente des propriétés d'un évènement passé en conservant certaines relations physiques de ce qu'elle représente, et l'idée de Cummins et Poirier que la représentation de beaucoup de dimensions de façon simultanée empêche de juger ces représentations en terme de vérité/fausseté, constituent aussi de bons arguments contre la réduction du contenu non-linguistique des souvenirs au contenu conceptuel sans perte du contenu.

Mais si les contenus mnésiques examinés jusqu'ici sont exclusivement internes, à la fin du chapitre, j'explore d'autres types de contenus possibles souvent négligées dans la littérature: le contenu incarné et le contenu externe. En ce qui concerne le contenu incarné, dans cette section j'analyse particulièrement le cas des mouvements corporels et laisse le cas du contenu intéroceptif pour les derniers chapitres. Certains mouvements corporels comme des actions guidées par des souvenirs ou des mouvements qui aident la récupération d'un souvenir sont mieux compris comme des actes cognitifs incarnés en ligne, puisqu'ils sont pertinents pour l'accomplissement d'une tâche donnée dans une situation externe et ont seulement sens dans ce contexte particulier. Cependant, d'autres types de mouvements corporels, comme l'imitation d'un mouvement ou d'un comportement passés ou l'emploi du corps pour exemplifier un concept ou de l'information précédemment donnée dans une autre modalité, ne sont en rapport avec aucune tâche externe, alors il s'agit proprement d'un cas de cognition hors ligne. En plus, leur signification est indépendante de l'environnement où les mouvements ont lieu. C'est pourquoi ils méritent d'être considérés comme de véritables cas de représentations mémorielles incarnées. D'autre part, la question sur le contenu mnésique externe se divise en deux questions, à savoir, si quelques artefacts manipulés pendant la réminiscence peuvent être considérés en tant que contenu mnésique externe, et si la manipulation de ces artefacts fait partie d'un acte de mémoire ou si elle est juste un signal ou une aide. La première interrogation est répondue par l'affirmative : des documents de registre, comme quelques photographies, des enregistrements auditifs et visuels et quelques documents écrits, peuvent être considérés comme de véritables souvenirs externes, puisqu'à la différence d'autres types d'artefacts, ils ne sont pas uniquement des icônes, mais aussi des index immédiats du passé, dans le sens où ils sont indépendants des croyances du sujet qui a participé à la création de l'artefact. Concernant la deuxième question, sans considérer que ces représentations externes ont la même nature

que les représentations internes, on peut les considérer comme complémentaires, ou soutenir que la manipulation de ces artefacts dans un acte de réminiscence fait partie d'une mémoire de travail étendue.

Le chapitre 3 analyse les possibles objets intentionnels dont ces contenus hétérogènes nous permettent de nous souvenir. Puisque les événements sont le type d'objet intentionnel qui a reçu le plus d'attention dans la littérature philosophique aussi bien que scientifique, je consacre la plupart du chapitre à leur analyse. J'examine d'abord la discussion philosophique sur la possibilité de se souvenir des événements passés en tant que tels, ou tout simplement de se souvenir des faits sur ces événements passés. Il y a trois critères qui permettent de distinguer ces deux types possibles de souvenir. Le critère grammatical est basé sur les différents types de l'objet grammatical du verbe « se souvenir », mais il n'arrive pas à constituer un bon critère pour distinguer différents types psychologiques de souvenirs. Pour le critère causal, si le souvenir est fondé sur une croyance ou connaissance passée, il s'agit d'un souvenir factuel, tandis que s'il est fondé sur une perception passé, il s'agit d'un souvenir de l'évènement au juste sens du terme. Cependant, ce critère ne semble pas être utile pour distinguer deux types de souvenirs des évènements vécus. Le dernier critère est basé sur la présence ou absence du contenu non-linguistique et la phénoménologie qui l'accompagne. Ce critère phénoménal, qui semble le plus plausible, est nonobstant critiqué dû à la difficulté de mesurer et considérer comme valides les rapports introspectifs. L'impossibilité de trouver un bon critère a mené quelques philosophes à considérer que les seuls souvenirs qu'on peut avoir sur des évènements passés sont des souvenirs factuels.

Alors que les discussions philosophiques ne semblent pas donner une réponse satisfaisante à ce débat, des conceptualisations psychologiques de la façon dont nous nous souvenons des événements passés proposent de meilleurs critères, principalement en raison de la prise en compte de la complexité qui caractérise les événements passés que nous pouvons nous rappeler. Ces conceptualisations psychologiques correspondent à la notion de « mémoire épisodique » développée par Tulving dans ses deux versions, la version contextuelle et la version expérientielle, et à la notion de mémoire autobiographique développée principalement par Conway.

La version contextuelle de la mémoire épisodique considère qu'un souvenir d'un évènement passé est toujours épisodique puisqu'il contient trois types d'information caractéristiques d'un souvenir épisodique : le « quoi », « où » et « quand » de quelque chose

de passé. Mais cette formulation du souvenir épisodique est problématique puisqu'elle ne fait référence à un évènement que dans un sens minimal. En plus, l'information contextuelle d'un évènement ne semble ni nécessaire ni suffisante pour se souvenir de l'évènement lui-même.

Ces critiques de la notion du souvenir épisodique ont été perçues par Tulving lui-même. C'est pourquoi il a proposé une reformulation du caractère épisodique d'un souvenir d'un évènement fondée non sur le type d'information mais sur la phénoménologie : conscience autonoétique, voyage mental à travers le temps, et chronesthésie sont les termes utilisés par Tulving pour exprimer le type caractéristique de phénoménologie métacognitive qui caractérise les souvenirs épisodiques. Cette définition expérientielle finit avec l'équation entre mémoire épisodique et mémoire des évènements : on peut se souvenir des évènements passés de manière épisodique mais aussi sémantique. Si Tulving défend le critère phénoménologique esquissé et critiqué par les philosophes, sa défense est fondée sur l'existence de différents systèmes neuropsychologiques de mémoire. C'est pourquoi on peut dire que Tulving donne une réponse satisfaisante au débat philosophique. Cependant, la conception expérientielle proposée par Tulving ne dit pas si la phénoménologie propre des souvenirs épisodiques est nécessairement associée à un type particulier d'objet intentionnel ou pas. Cela est problématique, et laisse dans une sorte de limbe de possibles cas de souvenirs qui auraient la phénoménologie caractéristique de la mémoire épisodique mais qui n'auraient pas comme objet un évènement particulier du passé. C'est bien le cas des souvenirs des évènements plus généraux ou des périodes de nos vies, qui ne semblent pas être analysables avec justesse par la catégorie de « mémoire sémantique ». Cela montre que le concept de mémoire épisodique est encore trop étroit pour tenir compte de toutes les façons dont nous nous souvenons des événements passés.

Les modèles de la mémoire autobiographique essaient de compenser cette absence. Ces modèles introduits dans les années 80 présentent une meilleure explication du fait que nos souvenirs personnels peuvent être dirigés vers des événements qui ont différents niveaux d'abstraction : tandis que quelques évènements sont proches du registre de l'expérience vécue, d'autres sont beaucoup plus abstraits, et peuvent faire référence même à une période de nos vies. Parmi les modèles de la mémoire autobiographique, celui de Conway est le plus sophistiqué. Il suppose, en premier lieu, que même la représentation des évènements la plus sommaire et fragmentaire est toujours contextualisée, donc que des connaissances plus génériques sont toujours impliquées dans la construction des souvenirs

des évènements. Deuxièmement, il considère que l'objet intentionnel de nos souvenirs de tous les jours ne reste pas fixé dans un seul niveau d'abstraction mais varie.

Néanmoins, des données empiriques récentes suggèrent que les souvenirs d'événements à différents niveaux d'abstraction ont des particularités qui rendent leur analyse impossible à partir seulement de ces deux notions: mémoire épisodique et mémoire autobiographique, surtout quand la notion de « mémoire autobiographique » est considérée comme un sous-genre de la mémoire sémantique : des évènements répétés, des faits autobiographiques, des concepts ou narrations significatifs du point de vue autobiographique ne semblent pas avoir de propriétés similaires et donc, ne peuvent pas être subsumés sous une même catégorie psychologique. C'est pourquoi plus de recherche philosophique ainsi qu'empirique devrait être faite dans cette direction. La relation entre le mode, le contenu et l'objet intentionnel devrait aussi être objet de plus de recherche puisqu'il n'est pas clair quelles sont les relations de détermination entre ces différents aspects d'une représentation.

Après avoir examiné le cas des évènements, d'autres objets intentionnels possibles de nos souvenirs personnels qui ont été en général négligés dans la philosophie ainsi que dans les sciences cognitives sont brièvement analysés : souvenirs de pensées, d'imaginations, de rêves, d'objets et de personnes. Tandis que les souvenirs purs de pensées seraient moins fréquents que les souvenirs des pensées liées à des évènements, les souvenirs d'imaginations, surtout des plans et projections futurs, semblent être similaires à ceux des évènements passés. Les souvenirs de rêves correspondent à des rapports de rêves, tandis que certains souvenirs de personnes et objets peuvent être considérés proprement comme objectuels.

La deuxième partie de la thèse explore un aspect de nos souvenirs personnels qui a été omis dans la première partie: les sens dans lesquels notre passé personnel est appréhendé comme personnel. L'aspect personnel de nos souvenirs peut faire référence à la manière dont celui qui se souvient modèle ses souvenirs mais aussi à la manière dont celui qui se souvient est d'une certaine façon présent en eux. Alors que le chapitre 4 analyse le premier point, les chapitres 5 et 6 se concentrent sur le deuxième point à travers une analyse de nos sentiments et émotions liés à des souvenirs.

Le chapitre 4 examine brièvement la manière dont le «soi», conçu dans un sens large, intervient dans la construction de nos souvenirs personnels. Tandis que la

caractérisation du souvenir épisodique faite par Tulving fondée sur l'idée du « voyage mental dans le temps » implique l'assomption implicite de l'idée que c'est la perspective du soi-même passé qui est adoptée par le sujet présent au moment de la réminiscence, le développement de la notion de « mémoire autobiographique » réalisé par Conway propose explicitement l'idée opposée. En fait, selon le dernier modèle de Conway, les souvenirs sont des constructions mentales générées dans ce qu'il appelle le « système de mémoire/soi-même », qui est un système émergent qui résulte de l'interaction entre le soi de travail, le système de mémoire épisodique, la base de connaissance autobiographique et le soi conceptuel. Le soi de travail est une notion introduite par Conway, qui ne semble pas être tout à fait nécessaire, mais qui est conçue comme un sous-ensemble de la mémoire de travail focalisé dans le traitement et la poursuite d'objectifs. Le soi de travail a une relation réciproque et dynamique avec les autres systèmes. D'un côté, le soi de travail est restreint par sa propre histoire et ses propres conceptualisations de soi-même, dans le sens que ses objectifs doivent être réalistes et en accord avec ces autres systèmes afin de ne pas être pathologiques. D'un autre côté, le soi de travail à travers sa structure d'objectifs détermine quelle information est encodée, quelle information peut être récupérée et comment les souvenirs sont reconstruits, et donc, restreint les autres trois systèmes. Tandis que le système épisodique fait référence à des tranches d'expérience courtes, la base de connaissance autobiographique inclut les souvenirs plus conceptuels, comme les évènements généraux et les périodes de notre vie. Le soi-même conceptuel est une notion introduite pour inclure les connaissances abstraites sur le soi-même, telles que les schémas de soi-même, les scripts de soi-même, les possibles soi-même, les images de soi-même, etc. Il inclut aussi la notion de schéma de notre histoire de vie qui a été introduite par Bluck et Habermas pour faire référence à l'organisation mentale qui est utilisée pour produire la narration de vie qui proportionne un cadre théorique à la construction de nos souvenirs et qui filtre l'information à encoder. Cette division tripartite entre ces trois systèmes est assez compatible avec la recherche empirique, spécialement pour le cas de la connaissance de soi et des traits de personnalité qui semblent être indépendants des autres systèmes. Le cas de la base de connaissance autobiographique est plus controversé, puisque ce terme semble réunir des notions qui présentent des différences, comme les souvenirs des évènements répétés et les souvenirs de faits autobiographiques déjà mentionnés.

En tout cas, il semble donc que la construction des souvenirs faite par l'interaction entre le soi du travail, le système épisodique, la base de connaissances autobiographiques et le soi conceptuel est guidée par deux principes opposés : d'un côté, la correspondance

avec la réalité passée; d'un autre, la cohérence avec le soi-même présent. Dans un système sain, les demandes de ces deux principes doivent être satisfaites de manière appropriée et équilibrée. Cependant quand une des demandes prédomine sur l'autre, comme la compatibilité avec les structures du soi-même et des croyances afin d'éviter le changement –spécialement le changement des objectifs et du soi conceptuel–, les souvenirs deviennent pathologiques. C'est le cas des souvenirs très généralisés, des souvenirs dénaturés et des souvenirs réprimés.

En conclusion, pour Conway, puisque la construction des souvenirs est déterminée par la configuration du soi-même présent –qui dépend au même temps des demandes du contexte– le sujet adopte cette perspective au moment de se remémorer, même si cette perspective doit être négociée avec le principe de correspondance avec le passé.

Cependant, il est nécessaire de donner un cadre plus théorique afin de rendre compatible l'idée que les sujets qui se souviennent voyagent mentalement dans le passé en même temps qu'ils construisent leurs souvenirs selon leur présent et même, quelque fois, qu'ils se distancient de leur soi-passé. Il est aussi nécessaire de rendre compatible ces deux idées avec la notion d'identité numérique entre le moi présent et le moi passé qui est à la base du concept du souvenir. S'il est vrai qu'un cadre de ce type demanderait une analyse détaillée des questions métaphysiques assez complexes, il est possible d'esquisser un cadre théorique minimal afin de donner une conceptualisation basique où ces affirmations trouveraient toutes une place sans se contredire les unes les autres. Dans ce but, je propose de considérer l'idée d'identité entre le soi-même présent qui se souvient et le soi-même passé qui a fait l'expérience de ce qui est rappelé non comme similitude psychologique mais comme appartenant au même être humain qui se prolonge à travers le temps, et qui implique une continuité numérique aussi bien que quelque degrée minimale de continuité psychologique. Les différentes configurations psychologiques du même être humain à de différents moments correspondraient à de différents soi-même conceptuels dans la terminologie de Conway, c'est-à-dire, aux différents configurations des schémas de soi-même, images de soi-même, croyances, objectifs, désirs, etc. Les relations entre un soi conceptuel présent et un soi conceptuel passé peuvent aller du rapprochement et de l'identification jusqu'à l'éloignement qui se traduit dans un sentiment de « pas moi ». Par ailleurs, dans un système de mémoire sain, la prise de distance et une certaine perspective semblent être nécessaires au moment de se souvenir du passé de façon évaluative. Pour conclure, ce cadre –même si simplifié– permet de comprendre les sens dans lesquels on

peut dire que les souvenirs personnels sont caractérisés par une identité entre celui qui se souvient et celui qui a vécu ce qui est rappelé au même temps que par une différence.

Cependant, l'idée que les différentes constructions et configurations du soi-même, passé et présent, interviennent dans la construction du souvenir personnel n'explique pas les affirmations faites par des psychologues sur le caractère réflexif de nos souvenirs. Ce caractère réflexif se traduit de deux façons : les souvenirs peuvent contenir des informations qui font référence à soi-même, ou les souvenirs peuvent avoir le soi-même comme objet intentionnel. Cette réflexivité mérite d'être analysée en profondeur. Puisque nos sentiments et émotions constituent l'aspect le plus subjectif du contenu de nos souvenirs, c'est-à-dire, l'aspect qui est plus en rapport avec le soi-même, j'entreprends son étude dans les chapitres 5 et 6.

Le chapitre 5 constitue une introduction plutôt historique aux différentes conceptualisations trouvées dans la littérature sur l'aspect émotionnel des souvenirs. A grands traits, il y a deux conceptions sur la relation entre les émotions et les souvenirs qui ont un sens opposé. La première conception, la plus traditionnelle et la plus mentionnée dans la littérature, aussi bien que la plus intuitive –au moins à première vue–, est appelé « pensée naturelle ». La pensé naturelle considère que les émotions et la mémoire sont deux types strictement différents de capacités mentales, et donc que s'il y a quelque chose de nature émotionnelle dans un souvenir personnel, cette composante émotionnelle est toujours une émotion réelle et actuelle, une réaction extérieure au souvenir de l'évènement passé auquel elle est liée. Cela implique qu'il ne peut pas y avoir un souvenir avec un aspect quasi-émotionnel : ou bien l'émotion passée est remémorée de façon propositionnelle, ou bien l'émotion est vécue à nouveau comme une nouvelle émotion. Les émotions seraient donc transparentes à la mémoire.

La pensée naturelle est présentée dans deux versions : la thèse causale et la thèse de la coexistence. Selon la thèse causale, les émotions liées au souvenir d'un événement passé sont toujours causées par le souvenir de cet événement. Cette version causale de la pensée naturelle a été défendue pour la première fois par James. Mais d'autres auteurs, tels que Höffding, Titchener mais aussi Claparède, ont été de la même opinion. Cependant, cette version constitue plus une déclaration qu'une thèse philosophique défendue avec des arguments convaincants. Plus récemment, Debus a défendu la même thèse, c'est-à-dire, que les émotions ne peuvent pas être rappelées, avec une argumentation claire et précise. Cependant l'argumentation présentée par Debus n'est pas tout à fait satisfaisante. D'un

côté, elle utilise des analogies inappropriées pour démontrer que des émotions liées à un souvenir ne peuvent pas revêtir un caractère mémoriel et doivent être des émotions actuelles. Mais d'un autre côté, et plus fondamentalement –et c'est pourquoi ces exemplifications s'avèrent aussi problématiques–, son argumentation est essentiellement circulaire : elle suppose dès le début que la composante émotionnelle liée à des souvenirs est une émotion actuelle et présente, et non un composant dont la nature doit être spécifiée à travers son analyse. Son point de départ ne laisse pas de place à l'interrogation, et c'est pourquoi finalement son argumentation est faible. De cette façon, on peut conclure que de la version causale de la pensée naturelle il ne reste qu'une idée très intuitive dont les présuppositions devraient être mieux examinées.

L'autre version de la théorie causale est constituée par la thèse de la coexistence. Selon cette thèse, de nature plus neuropsychologique, les émotions peuvent être encodées et récupérées indépendamment du souvenir déclaratif de l'évènement auquel elles sont liées. Cette indépendance est possible puisque l'information sur la valence et l'intensité émotionnelle est encodée dans un système indépendant du système de mémoire déclarative : le système émotionnel implicite, qui dépend principalement de l'amygdale. Cependant, quand cette information encodée est récupérée, elle est vécue comme une émotion présente et actuelle ; elle ne présente pas de différence avec l'expérience d'une nouvelle émotion. Les théories des représentations duelles des troubles de stress post-traumatique, qui sont assez soutenues par les évidences empiriques, constituent un cas précis en faveur de la dissociation entre le souvenir émotionnel implicite et le souvenir déclaratif de l'évènement qui lui est lié. Comparée à la thèse causale, la thèse de la coexistence semble être une thèse plus plausible, au moins à première vue. Nonobstant, un examen plus précis montre le contraire : chaque fois plus d'études et de théories empiriques nient l'existence d'un système d'émotion tout à fait indépendante de la cognition. C'est pourquoi l'idée d'une dissociation entre le souvenir proprement émotionnel et le souvenir de l'évènement passé ne fait pas de consensus : si elle était applicable pour certains souvenirs qui sont en rapport avec la peur, comme les troubles de stress post-traumatique, elle ne pourrait pas expliquer le riche éventail d'émotions humaines qui peuvent être associés à des souvenirs du passé.

La pensée naturelle, dans son idée générale, est aussi implicitement présupposée par les recherches empiriques sur la relation entre mémoire et émotion réalisées en psychologie cognitive. Une revue de la littérature empirique sur ce sujet permet d'établir que le principal intérêt de la psychologie cognitive porte sur la manière dont les émotions passées

influencent certaines propriétés des souvenirs des évènements liés à ces émotions passées, propriétés que ces souvenirs ont en vertu d'être une occurrence mémorielle, telles que la confiance sur la véracité du souvenir, le degré de fidélité, la probabilité d'être récupéré, etc. La relation entre les souvenirs et les émotions présentes est moins analysée –peut-être en raison de l'impossibilité d'en tirer des généralisations empiriques–, mais les études qui s'y consacrent spécifiquement analysent la probabilité de récupérer des souvenirs selon la valence de l'émotion ou de l'humeur présentes. Cette approche suggère que les émotions liées à un souvenir sont considérées comme des émotions présentes et donc externes et indépendantes au souvenir. Ces deux présupposés constituent les deux prémisses de la pensée naturelle.

La deuxième conceptualisation qui s'oppose à la pensée naturelle fait référence à des idées qui, même si elles appartiennent à différents domaines de pensée, ont en commun l'adoption d'une caractérisation plus riche de l'interaction entre les émotions et les souvenirs.

On peut mentionner premièrement, l'idée de «coloration émotionnelle» et des idées similaires proposées par les neuroscientifiques Joseph Ledoux et Hans Markowitsch. Selon LeDoux, même si l'émotion et l'évènement lié à cette émotion sont encodés dans des systèmes différents, et même si avec le temps l'activation physiologique disparaît, l'information sur le caractère émotionnel de cet évènement passé donne à son souvenir une coloration émotionnelle qui l'empêche d'être vécu comme émotionnellement plat. Pour Markowitsch, le ton émotionnel d'un souvenir constitue une espèce de moyenne entre l'émotion passée et l'émotion ou sentiment que le souvenir soulève au moment de sa réminiscence.

La deuxième idée qui fournit une caractérisation plus complexe de la relation entre émotion et souvenir est la notion de «mémoire affective», notion qui a été défendue particulièrement par des penseurs français du début du 20e siècle, tels que Ribot, Pillon, Paulhan, Dugas, Sollier et Weber. Ces auteurs ont quelques points en commun dans leur défense de l'existence d'une mémoire affective. En ce qui concerne l'aspect affectif et l'aspect cognitif –ou intellectuel– du souvenir, ces auteurs considèrent que les deux sont toujours présents dans nos souvenirs personnels, et que ce qui varie est le degré de présence de chaque aspect qui détermine si nos souvenirs sont plus ou moins intellectuels et plus ou moins affectifs. C'est pourquoi aussi un état affectif est toujours lié à la composante intellectuelle : l'affection est donnée avec et dans la représentation. Et cela se passe parce que les émotions ne sont pas considérées comme l'opposée de la représentation mais

comme un continuum. Par ailleurs, ces auteurs envisagent que les souvenirs affectifs et les nouvelles émotions sont en général tous les deux présents dans un souvenir. Si quelques fois ils ne peuvent pas être distingués, d'autres fois ils peuvent l'être selon quelques marques secondaires, comme l'incompatibilité avec le soi-même présent. Ces auteurs soulignent deux autres points intéressants : d'un côté, ils considèrent que le souvenir affectif peut devenir hallucinatoire quand le soi présent rentre subitement en contact et s'identifie avec le soi passé ; d'un autre, ils remarquent que les souvenirs affectifs peuvent changer avec le temps et même incorporer des nouveaux éléments.

La troisième conceptualisation provient des explications narratives des souvenirs, principalement de deux auteurs : Richard Wollheim et Peter Goldie. Wollheim introduit deux idées intéressantes : l'idée que nos souvenirs ont une condition résiduelle et produisent en nous une tendance à sentir et vivre à nouveau l'émotion sentie dans le passé ; et l'idée qu'ils ont une force psychique, c'est-à-dire, une efficace causale sur l'état animique de celui qui se souvient et peuvent lui faire sentir une nouvelle émotion. Par ailleurs, Goldie met l'accent sur le fait que des émotions et sentiments nouveaux qui peuvent apparaître à partir de la prise d'une nouvelle perspective sur un évènement passé peuvent fusionner avec le souvenir de l'évènement passé lui-même à travers le discours indirect.

En résumé, ces trois conceptualisations provenant de ces trois domaines différentes visent toutes les trois la même conclusion : les émotions semblent être étroitement liées à nos souvenirs personnels et ne peuvent donc pas être simplement considérées comme une conséquence de la réminiscence, comme un état mental indépendant et parallèle au souvenir.

Afin de récapituler un peu le chemin parcouru jusqu'ici, le chapitre 5 montre que les deux variantes de la pensée naturelle ne sont pas exemptes de problèmes: alors que la thèse de la coexistence est empiriquement invraisemblable pour expliquer toutes les interactions entre les émotions et la mémoire, les arguments philosophiques en faveur de la thèse de causalité sont faibles. Ce qui reste de la pensée naturelle est juste une idée très intuitive, pas plus justifiée que les autres conceptualisations plus riches des interactions entre les souvenirs et les émotions. Une bonne façon de déterminer quelle position est la plus plausible et explique mieux nos souvenirs personnels consiste à explorer leurs présupposés, implicites ou explicites, sur la nature des souvenirs aussi bien que sur la nature des émotions. Je m'engage dans cette tâche dans le chapitre 6.

En ce qui concerne la nature des souvenirs, il semble que la nature reconstructive des souvenirs est un présupposé nécessaire pour défendre l'idée que de nouvelles émotions peuvent être intégrées dans le souvenir, tandis que la nature reconstructive n'est nécessaire à la pensée naturelle, ni dans sa version causale ni dans sa version co-existencielle. Cependant, la nature reconstructive du souvenir n'est pas du tout incompatible avec la « pensée naturelle », et il y a même des gens qui défendent les deux. En fait, ce sont différentes conceptions sur la nature des émotions et non pas sur la nature des souvenirs qui expliquent la divergence entre la pensée naturelle et les autres caractérisations plus riches sur l'aspect affectif des souvenirs. Une revue de la littérature montre qu'alors que la pensée naturelle conçoit les émotions comme des changements physiologiques, suivis ou non d'un sentiment conscient, et adopte alors une théorie somatique des émotions, les autres caractérisations sont fondées sur une conception des émotions plus riche, qui inclut des composantes représentationnelles. A ce sujet, Goldie est celui qui assume explicitement une conception des émotions en tant qu'épisodes dynamiques avec des composants hétérogènes. Si la nature des émotions est à la base de la divergence entre ces deux façons différentes de concevoir la composante émotionnelle du souvenir, une revue sur l'état de l'art dans l'étude philosophique et psychologique des émotions permet de déterminer la théorie des émotions qui est la plus consensuelle. En fait, l'état actuel de la recherche empirique et théorique n'offre pas de support à la thèse que les émotions sont des changements purement physiologiques, mais est favorable à l'idée que les émotions ont des composants multiples. Cette revue suggère que ce n'est pas la pensée naturelle, mais les autres conceptualisations fondées sur une caractérisation des émotions plus plausible du point de vue empirique et théorique qui devraient être mieux explorées afin de mieux comprendre l'aspect émotionnel et affectif de nos souvenirs personnels, et donc le sens dans lesquels nos souvenirs peuvent être réflectifs.

A la fin de ce sixième chapitre, j'entreprends cette exploration et propose un cadre conceptuel qui permet de comprendre les différentes façons dont un souvenir personnel peut avoir un aspect affectif et émotionnel.

Bien qu'il y ait un consensus sur l'hétérogénéité des composantes d'une émotion, il n'y a pas de consensus sur une définition précise des émotions. Cependant, il est indéniable que presque toutes les théories des émotions ont présupposé que dans un épisode émotionnel il y a une sorte d'évaluation, d'interprétation qui fait référence à l'impact positif ou négatif qu'une rencontre avec l'environnement a pour le bien-être, l'image de soi-même ou la moralité de l'individu. Cela est précisément la définition de la notion d' « évaluation »

(*appraisal*). Même s'il y a des désaccords sur le rôle que les évaluations jouent dans un épisode émotionnel, les évaluations sont presque indéniablement considérées comme sa force motrice et constitutive. Puisque les émotions et affections sont toujours sur les relations sujet-environnement, les émotions et affections sont essentiellement relationnelles. Même si la notion d'évaluation a été originairement définie comme conceptuelle, les évaluations ne doivent pas être nécessairement considérées comme conceptuelles : elles peuvent être données directement dans la perception et même incarnées dans des changements corporels ; elles peuvent être automatiques et inconscientes ou conscientes. Elles peuvent être aussi considérées à un niveau plus élémentaire comme une sorte d'affectivité primordiale qui pénétrerait toutes nos occurrences mentales et qui constituerait la base à travers laquelle nous donnons du sens au monde.

Prenant en considération ces idées autour de la notion de l'évaluation, j'esquisse un cadre qui permet de concevoir les différentes manières dont un souvenir personnel peut avoir un aspect affectif : cet aspect affectif peut être d'un côté, le centre de l'expérience mémorielle ou se trouver plutôt dans sa périphérie ; d'un autre côté, il peut être une émotion actuelle ou avoir un caractère mémoriel.

La première dichotomie dépend de l'objet intentionnel du souvenir personnel. Si le souvenir personnel a comme objet des faits portant sur un évènement passé, c'est-à-dire, de l'information sur un évènement qui pourrait être facilement corroborée par n'importe quel sujet qui a participé à ou été témoin de cet évènement, l'aspect affectif, s'il y en a, serait plutôt à la périphérie de l'expérience, en arrière-plan, puisqu'on en est conscient de manière préréflexive. Ce contenu affectif ne peut avoir qu'un caractère non-propositionnel, qui se traduirait dans des sensations intéroceptives, des tendances à l'action et des affordances, selon que le point saillant est dans le soi-même ou le monde. D'une autre côté, si le souvenir personnel a comme objet intentionnel des évaluations (*appraisals*) sur un évènement passé, c'est-à-dire, des significations personnelles que l'évènement a pour le sujet qui ne pourraient pas être corroborées par n'importe quel sujet qui a participé à ou été témoin de cet évènement, l'aspect affectif serait dans le centre de l'expérience et appréhendé consciemment. Ce contenu affectif peut avoir un caractère non-propositionnel, quand les sensations intéroceptives, tendances à l'action ou affordances sont objectifiées et deviennent l'épicentre de notre attention ; mais il peut aussi être de nature propositionnelle. Dans ce dernier cas, le contenu peut prendre des formes différentes suivant que la focalisation est dans le monde ou dans le soi-même. En fait, des données empiriques

soutiennent l'idée que les souvenirs personnels ont en général du contenu non-propositionnel aussi bien que du contenu propositionnel. Il faut souligner que différents types de contenu non-propositionnel aussi bien que du contenu propositionnel peuvent être présents dans une expérience mémorielle, ce qui rend compte de son dynamisme et de son hétérogénéité.

La deuxième dichotomie dépend du soi-même affecté par l'évènement rappelé. Le soi-même doit être compris dans le sens de Conway, comme un soi-même conceptuel qui englobe différentes configurations de schémas de soi, images de soi, croyances, etc. Alors, puisque les émotions et affections sont relationnelles, c'est-à-dire, portent sur la relation entre un sujet et l'environnement, on peut dire que quand le soi-même affecté par l'évènement passé est le soi passé, le contenu affectif a un caractère mémoriel et n'est pas vécu comme une nouvelle émotion ; quand le soi-même est le soi présent, le contenu affectif est une émotion actuelle. Comme le soi présent peut se rapprocher ou se distancer du soi passé, ces combinaisons donnent lieu à cinq cas différents. Premièrement, il peut arriver que le soi présent soit encore affecté par l'évènement passé et que l'évaluation faite soit la même que celle faite par le soi passé. Dans ce cas, le soi présent s'identifie avec le soi passé et vit à nouveau l'émotion ressentie dans le passé. Le trouble de stress post-traumatique, mais aussi d'autres souvenirs stressants encore « ouverts » pour le sujet constituent de bons exemples. Deuxièmement, le soi présent peut être encore affecté par l'évènement passé mais l'évaluation faite peut être différente de celle faite par le soi passé. Dans ce cas, il n'y a pas d'identification avec le soi passé mais un sentiment de détachement ou « pas moi ». Il ne s'agit pas non plus d'une émotion ravivée mais d'une émotion nouvelle et différente. Si le passé est toujours ouvert pour le sujet comme dans le premier cas, le sujet a nonobstant adopté une perspective externe qui n'est pas pleine puisqu'il continue encore à signifier et réinterpréter le passé. Le troisième cas fait référence aux souvenirs qui sont émotionnellement clôturés, c'est-à-dire, quand l'évènement passé n'affecte plus le soi présent. Ici le sujet est juste un spectateur de son expérience passé et adopte donc une véritable perspective externe. S'il y a quelque contenu affectif, ce contenu affectif a un caractère mémoriel, même si non-propositionnel. Le quatrième type d'aspect affectif est constitué par des émotions actuellement ressenties en rapport avec un évènement passé même si cet évènement passé n'affecte plus le soi présent. L'émotion la plus commune est probablement l'amusement. L'objet peut aussi être le soi passé : on rigole de nos soi-passés de la même manière qu'on rigolerait d'un personnage fictionnel. Comme on considère notre soi passé comme un autre, la notion de perspective externe dans ce cas acquiert son plus

profond et réel sens. Le dernier cas fait allusion à des souvenirs émotionnellement clôturés qui donnent lieu à une émotion sans pour autant adopter une perspective externe et détachée. Ce sont les cas des souvenirs nostalgiques, où est sous-jacent le désir de réinstantiation d'un passé perdu.

Pour finir cette présentation en français de ma thèse, j'aimerais souligner les deux intentions générales de ce travail. Tout d'abord, j'essaie de montrer à la communauté philosophique qu'il y a encore beaucoup à dire et à discuter sur les souvenirs personnels en tant que phénomènes mentaux, non seulement pour mieux comprendre le fonctionnement de la mémoire, mais aussi pour clarifier les débats philosophiques qui omettent toute référence aux souvenirs ou ne les mentionnent que de façon superficielle, tels que les discussions sur l'intentionnalité, la phénoménologie, le contenu mental et les émotions. Deuxièmement, je mets l'accent sur l'importance d'inclure dans les discussions philosophiques actuelles sur l'esprit des idées provenant de différentes traditions philosophiques ainsi que des conceptualisations et données empiriques issues de la recherche scientifique, en particulier quand la philosophie se conçoit comme un champ qui peut faire une véritable contribution à la compréhension de notre esprit.

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