Appendix 6

Different Categories of the Role of Medium

BRIDGING: PARAROL 1

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.		Those colorless combinations of oxygen and sulfur		
2.	it (the air)			
3.	sulfates			
4.	a bunch of these droplets			
5.	a cloud			
6.	excess aerosols			
7.	clouds			
8.	the planet			
9.	the water droplets [[...]]			
10.	the available water vapor			
11.		that (the available water vapour)		
12.	equal amounts of table salt and rock salt			
13.	fewer particles [[...]]			
14.		everything else		
15.	the cloud with more droplets			
16.		the physics and chemistry of cloud formation		
17.		it (the physics and chemistry of cloud formation)		

BRIDGING : PARASOL 2

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.				Charlson
2.			a number of subtleties to the parasol effect [[...]]	
3.(eb)		global warming veering		
4.				you
5.				he
6.	A certain amount of aerosol haze			
7.	Twenty-two million tons of sulfur			
8.	its faintly musty smell			
9.	its share (A certain amount of aerosol haze)			
10.	this natural background			
11.	industry			
12.	sulfur			
13.	the element out of the earth...			
14.	oxygen			
15.	sulfur dioxide gas			
16.				Charlson
17.	some 90 million tons of sulfur			
18.		It (sulfur production)		
19.				he
20.	many of the atoms of this gas			
21.	These particles			
22.	they (these particles)			
23.	Only sulfates from the most powerful of volcanic eruptions			
24.	Those produced by human beings			
25.	aerosols			
26.	they (aerosols)			
27.	So Séattle air, [[...]]			
28.		the aerosol concentration		
29.				he
30.	The sky [[they know]]			
31.		visibility		
32.		you		
33.	the sky			
34.				Charlson
35.				you
36.	the sky directly overhead			
37.	it (the sky directly overhead)			
38.	That white sky [[you see]]			
39.	That (that white sky due to aerosols)			

BRIDGING: PARASOL 3

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.	The prototype			
2.	it			
3.	aerosol-laden air			
4.	an electric light detector ...			
5.	a halogen movie-projector lamp			
6.	an electric dectector			
7.				Charlson
8.				
9.	light			
10.	light	the scaterring effeciciency		
11.				Charlson
12.				you
13.	per gram			
14.		a complete measure		
15.				you
16.	the air			
17.	the particles			
18.				
19.	the amount of sulfate...			
20.			the ratio of the scaterring...	
21.			that	
22.				you
23.	X amount of sulfate			
24.	Y amount of scattering			
25.				

BRIDGING : PARASOL 4

No.	NATURAL WORLD ENTITY	NATUARL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.			Some of Charlson's findings ...	
2.	it (dummy)			
3.		some warming effects		
4.				Charlson
5.			The reasons	
6.	sulfates			
7.	almost all manmade aerosols			
8.		almost no such "protection" from man-made sulfates		
9.				Charlson
10.	while the other (hemisphere)			
11.				he
12.	seas			
13.	the warmer southern waters			
14.	the Maldives,			
15.		a rise in sea levels		
16.				Charlson
17.		Much more important (the increase difference in temperature)		
18.				he
19.		That (the increase difference in temperature)		
20.		More frequent occurrence of drought		
21.				Charlson
22.	Or of violent storms			
23.	Or the opposite—less frequent storms			
24.		either chance (Or of violent storms..)		
25.		The thing [[people need to understand]]		
26.				we
27.		more precipitation as rain and less as snow than normal		
28.	And the snowpack			
29.		the balance of snow to rain		
30.				we
31.		a drought		

BRIDGING: ICY 1

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.	Antarctica's ice			
2.	Snow [[accumulating inland]]			
3. (eb)	the continent			
4	ice volumes in the Antarctic			
5.	these shelves			
6.	a lot of ice,			
7.	the shelves			
8.	more ice			
9.	the sea floor close to the shore			
10.	they (the shelves)			
11.	sediments on the sea floor at a position [[...]].			
12.			a complete *sediment record* for a particular period of Earth history	
13.	a drill hole			
14.(eb)	that (the grounding lines of sheets)			
15.	three submarine troughs more than 500 metres deep,			
16.	One site			
17.	which (Amery Ice shelf)			
18.	Each site			
19.	mud and diatomaceous ooze			
20.	The ooze			
21.(eb)	whose skeletons			
22.	They			
23.	countless numbers of them			
24.	no covering of ice			
25.	silty sands and gravels			
26.	these sediment types			
27.	The sediments			
28.(eb)	which (glaciers and ice sheets)			
29.(eb in eb)	that (icebergs)			
30.	fewer diatoms			
31.		the combination of fresh water from the melted ice and low levels of sunlight below the shelf		
32.	the oceans			

BRIDGING: ICY 2

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.		the growth of ice sheets		
2.				Miller and de Vernal
3.	shells of calcium carbonate			
4.	the proportion of two isotopes of oxygen (oxygen-16 and oxygen-18) in the carbonate			
5.	the ice sheets			
6.	The link			
7.	water			
8.		a higher level of the lighter isotope, oxygen-16,		
9.		Some of this water vapour		
10.		it (some of this water vapour)		
11.	the polar ice			
12.	The ice			
13.	shells [[...]];			
14.		this tell-tale sign		
15.	they (organisms)			
16.			a record of the balance of oxygen isotopes through time,	
17.			which (a record of the balance...)	

BRIDGING: ICY 3

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.		Similar signals		
2.		short-term increases in the amount of snow at the poles:		
3.	snow lines in regions such as Arctic Canada, Baffin Island and Alaska			
4.	The Greenland ice sheet			
5.	ice			
6.		today's climate		
7.		the melting of ice		
8.	glaciers in most mountain chains			
9.(eb)		that (behaviour)		
10.	some ice shelves on the Antarctic Peninsula			
11.			fears [[...]].	
12.		This confusing, contradictory behaviour		
13.				Domack
14.	glaciers on the Antarctic Peninsula and islands immediately north of the Antarctic Circle			
15.(eb)	ice sheets			
16.			The most likely explanation	
17.	more water			
18.		this (water evaporates and turns into snow)		
19.		the feedback processes [[...]],		
20.(eb)	ice sheets,			
21.(eb)		the effect of air circulation		
22.			the key factor in the growth of ice sheets	
23.(eb)	snow			
24.				Miller and de Vernal
25.		a change to warmer, wetter winters alternating with cooler, dryer summers,		
26.				Domack and his colleagues
27.			other climatic factors [[...].	
28.(eb)		the preservation of snow		
29.				They
30.	that katabatic winds on ice sheets			
31.	These winds			
32.	air [[cooled on high ground]]			
33.	they (the winds)			
34.	fallen snow			
35.	katabatic winds			
36.	the world			
37.		the drop in temperature with height		
38.	the strength of katabatic winds			
39.	more snow			

BRIDGING: HEAT 1

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.				Atmospheric scientists
2.		broad historical cycles of global warming and cooling		
3.				most experts
4.	the earth surface			
5.	the last ice age			
6.	it (dummy)			
7.		these climatic cycles		
8.				Stephen Schneider..
9.	the earth's surface			
10.	the atmosphere			
11.(eb)				we
12.(eb in eb)		our climate		
13.		[[What is new]] (potentially irreversibility of the changes)		
14.(eb)		What (potentially irreversibility of the changes)		

BRIDGING: HEAT 2

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.		Potentially more damaging than ozone depletion, and far harder to control (the greenhouse effect)		
2.		The effect of CO2 in the atmosphere		
3.	the warming rays of the sun			
4.	excess heat			
5.		a global warming trend [[...]]		
6.(eb)	average temperatures			
7.(eb)		the end of the ice age		
8.		the ecological face of North America"		
9.				Schneider,

BRIDGING: HEAT 3

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.	the arena [[.....]]			
2.	it (the atmosphere)			
3.	the earth			
4.	the atmosphere			
5.	the bottom layer of the peel, the troposphere			
6.	it			
7.	air warmed by the earth's surface			
8.	colder air			
9.	the troposphere			
10.	a permanent air flow			
11.	prevailing winds			
12.	the stratosphere			
13.	rising air [[.....]]			
14.			the reason	
15.	ozone			
16.	it (ozone)			
17.	ordinary oxygen molecules			
19.	the oxygen molecule			
20.	some of the free oxygen atoms			
21.		the configuration		
22.	ultraviolet light			
23.	oxygen			
24.	most of these harmful rays			
25.	the ozone			
26.	warm layers			
27.	ozone molecules			
28.	they (ozone molecules)			
29.		regular injections of nitrogen bearing compounds ...		
30.	the gas			
31.	it (the gas)			
32.		regular injections of the nitrogen bearing compounds		
33.	the gas			
34.				
35.	it			
36.				
37.	nitrous oxide			
38.			a recent National Academy of Sciences report	

BRIDGING: HEAT 4

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.	CFCs			
2.	they			
3.(eb)	ozone			
4.	The ClO			
5.		The chain		
6.	100,000 molecules of ozone			
7.				Rowland

BRIDGING: HEAT 5

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.			The notion [[that the "hole did not signify an ozone loss at all,]]	
2.				Dan Albritton,
3.		An interrouption in the movement of air from the tropics, [[...]]		
4.(eb)	most ozone			
5.	more ozone-destroying nitrogen radicals than usual, [[...]]			

BRIDGING: HEAT 6

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.				Scientists
2.	the hole			
3.		the depletion		
4.		the pesuliar nature of Antarctic weather		
5.	the stratosphere over the region			
6.				Cicerone
7.		[[Looking down at the South Pole]]		
8.	fluid			
9.	It (reactor tank)			
10.		All kinds of mischief		
11.				Rowland
12.				you
13.	most of the water			
14.		the temperature		
15.		the rest (clouds)		
16.			surface (little knowledge)	
17.	molecules			
19.	one another (molecules)			
20.		the reaction		
21.(eb)	a surface [[...]]			
22.(eb)	the molecules			

BRIDGING: HEAT 7

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.			to tell whether unusual global warming has indeed began	
2.		the green house effect		
3.	the earth			
4.				Climate Modeler Jeff Kiehl, ...
5.	It (the earth)			
6.		the sun's energy		
7.		the earth's mean temperature		

BRIDGING: HEAT 8

No.	NATURAL WORLD ENTITY	NATURAL WORLD PROCESS	ABSTRACT ENTITY	HUMAN PARTICIPANT
1.		Such changes		
2.				Climatologists
3.		the greenhouse effect		
4.				Roger Revelle
5.		climate		
6.		the changes seen so far		
7.(eb)				we
8.			the theory	
9.				Scientists
10.				V. Ramanathan
11.				ourselves
12.				we
13.				he
14.	This extra heat,			
15.	it (the extra heat)			
16.				Ramanathan
17.				we
18.(eb)			our theory	
19.		it (to stop the heating)		
20.				Schneider
21.				he
22.		The greenhouse effect		
23.	It (dummy)			
24.		One of the most fundamental elements of the Rube Goldberg machine		
25.		The swings, ... its tilt and the shape of its orbit around the sun,		

BRIDGING: HEAT 8 (cont.)

26.		long-term variations in the wobbling of the earth's axis,		
27.		how much solar energy the earth receives		
28.	the earth's periodic major ice ages every 100,00 years or so, as well as shorter-term cold spells			
29.		the surface of climatic change		
30.	veils of dust [[...]]			
31.	sunlight,			
32.	Tropical rain forests			
33.		solar radiation		
34.	the planet			
35.	Clouds,			
36.	about half the earth's surface at any given time			
37.				James Coakley,
38.	the atmosphere			
39.	more water			
40.	clouds			
41.				we
42.	Water vapor			
43.	solar energy			
44.		Which effect		
45.		60% of incoming solar rays		
46.	solar heat			
47.		infrared radiation		
48.	Another contributor to climatic change			
49.	it (the biosphere)			
50.(eb)		the balance		
51.		many of its effects		
52.		and as such (many of its effects)		
53.	enormous amounts of gas			
54.	woody vegetation			
55.	five liters of methane			
56.	The methane			
57.				Environmental Chemist Patrick Zimmerman,
58.	Termites			
59.	the biosphere			
60.	humans			
61.	the Amazon rain forest			
62.	which (the Amazon rain forest)			
63.	the region			
64.	as additional 20% (of the forest)			
65.	the downed trees			
66.	CO_2 and other greenhouse gases			
67.				experts
68.		The same kind of deforestation in Africa		