

natural logics of the **indian ocean**

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In December 2003, the two authors of this paper, accompanied by Michael Pearson, attended 'Narratives of the Sea: Encapsulating the Indian Ocean World', a conference which took place in New Delhi at the Nehru Memorial Museum and Library.¹ We delivered this paper on the first day, and by the end of the second had discovered that we were the only non-historians, apart from one or two people in the final session discussing strategic studies. This goes some way towards explaining why our paper was received somewhat quizzically. 'From what I understand', said one listener, 'your paper emerges from a kind of philosophical base?' This anecdote does not serve to argue either that the discipline of history has a stranglehold on Indian Ocean studies in the subcontinent or that cultural studies is unknown there.

Our 'strangeness', however, helps us to highlight the fact that interdisciplinary approaches to the Indian Ocean are fairly new, and that ecological topics in cultural studies more generally are also rare. This paper, then, is an attempt to begin discussion on these two fronts, hoping that further research will be able to document it in more detail. For the purposes of the conference, we cast our argument as being both about Indian Ocean stories and a story in itself, and cast it in three parts: the pre-colonial Indian Ocean, the colonial one, and the postcolonial or contemporary situation.

Outlining what we had done so far, we stressed the importance of the category of culture. The argument is that it is as significant a category in the Indian Ocean (perhaps more so because the Indian Ocean has greater historical depth) as it is in Paul Gilroy's *Black Atlantic*, where 'race' emerges so strongly in conjunction with slavery, moving across national boundaries and histories. This topic, slavery, could not be understood simply as a European, or an American, or even African phenomenon; it is, quite rightly, 'oceanic'. And this

particular oceanic *trade* eventually became an efflorescent *culture*: Black modernism in, say, the form of music—jazz, blues, rock—is a cultural effects of what started as an inter-continental trade in human commodities. We have begun this kind of work in the Indian Ocean with the translation and publication of Daniella Police’s essay, the first description of Mauritian slave music (*sega*) published in English.²

— NARRATIVE

Our emphasis on narrative has three aspects. Narratives are first of all formal devices; they provide us with ways of recounting histories according to a kind of logic, a linear one of beginnings, middles and ends, but with the necessary wandering or complication of the plot in the middle of the story where potential variations of the story are explored. In this respect, there is something both universal and natural about narrative structure. Narration is one way in which cultures become second nature to us, tempting us already to break down the nature–culture division and to talk, with Bruno Latour, about natureculture.³

The second aspect of narrative is its theoretical one. This is where we speak of the conceptual content of a narrative, asking ourselves ‘what kind of story about the world is this?’ This is a meta-narrative level, where thousands of oft-repeated stories can feed up into a generic level, so that we identify an imperial narrative, a sacred narrative, a modernist one, or indeed the post-humanist one informing this talk today.

Finally, the third aspect is empirical and material. We are treating narratives as testimony and evidence of the lives of people we encounter who tell us stories about the sea. We want to see how types of story might cluster in one place or get traded from port to port; they are as material as the goods that they accompany, and we are conscious of how commodity value is enhanced with the story accompanying the seller—a good story is a value-adding device.

Our own story for this paper has a typical three-part structure. It starts, in the pre-colonial period, with the natural imperatives of monsoon winds permitting trade and settlement, and with the availability of natural wealth. In pre-colonial times the Indian Ocean was a crucible for a first global economy as Chinese, South Asian and Middle Eastern trade intersected there. Nature was dominant and sacred. Nothing could be done without her help, and her help was solicited with various ceremonies.

In the middle period of colonisation and technological mastery, Nature disappears from view as an ‘actor’ in the network. The main actor, who it seemed, dominated ‘the world’ in the colonial period, was the figure of the imperial ‘Master and Commander’. In this early modern period a conceptual architecture structures the story in ways we now know how to elaborate because of the depth of analysis that has been carried out on European intellectual history.

But in the third part of our story Nature returns. Today she is a signatory to the complex 'natural contract' of Michel Serres, which will allow cultural and commercial sustainability under post-industrial and global conditions.⁴ Man has reached the limits of the planetary world, and under the stresses and strains of his activity we hear the protests of Nature. But nature is no single deity, it is best conceived of 'multinaturally'.⁵ There are all sorts of nature-cultures: habitual ways man does things and is permitted to do them by the natural forces which must be taken into account. We always knew nature had laws, but it seems now is the time to start to interpret them. Listening to the ways nature tells of its laws is a way of listening to its arguments.

Man the navigator is carried by his planetary ship hurtling through the heavens: who can know its destiny? Who steers the planet really? There is much activity on the ship, people live and die, their numbers increase and there is pressure: there is pressure towards a social contract so that all on board will live in peace with each other. 'Since remotest antiquity', says Michel Serres in *The Natural Contract*,

... sailors (and doubtless they alone) have been familiar with the proximity and connection between subjective wars and objective violence, because they know that, if they come to fight among themselves, they will condemn their craft to shipwreck before they can defeat their internal adversary. They get the social contract directly from nature.

Unable to have any private life, they live in ceaseless danger of anger. A single unwritten law thus reigns on board, the divine courtesy that defines the sailor, a nonaggression pact among sea-goers, who are at the mercy of their fragility. The ocean threatens them continuously with its inanimate and fearsome strength, seeing to it that they keep the peace.⁶

This illustrates in part the 'natural logic' we wish to deploy in our pursuit of what we might call 'oceanic knowledge', a knowledge that is neither neatly divided into sciences and humanities, nor into geography and history, nor into Vedic verses and Cartesian cogitos. Like the ocean it will cross cultures and paradigms. Is this too ambitious? Let us let the ocean decide by putting its argument as forcefully as it will to the crew of the ship that would navigate its space. The ocean, no longer simply the object of our inquiring gaze, is now treated respectfully as an actor in this network.

— THE RULE OF NATURE

Monsoon patterns are complex natural phenomena, for which physicists can develop models of description and explanation. We aim to develop their cultural aspects a little here, arguing

that these too need to be part of the complex modelling so that the physicist and the humanist can collaborate on just what an understanding of monsoons is valuable *for*.

In 1686 Edmund Halley (of comet fame) hypothesised that the primary cause of the annual cycle of the monsoon circulation was the differential heating between ocean and land caused by the seasonal march of the sun. This caused pressure differences in the atmosphere that could only be equalised by winds blowing from high pressure to low pressure. During the summer months, the winds would blow from the cool ocean to the hot land masses. In winter, as the continents cooled to temperatures lower than the adjacent oceans, the winds would reverse, blowing from the land towards the ocean. Halley added to this the missing physical ingredient of the swirl effect of the earth's rotation about its axis.⁷ Since then, and under the influence of chaos theory, the modelling has become much more complex, but we cannot go into that here.

The monsoon decides to come to Cochin in early June. For Alexander Frater, 'chasing the monsoon', it was 4 June 1987, and he describes the strange phenomenon of *chakara* through the voice of a Captain George:

'When the monsoon bursts ... these mud-banks—lateritic soil lying on the seabed about five miles out—are stirred into a state of viscous suspension. Some unique quality in the mud calms the sea and makes the area over the mudbank a natural harbour. However violent the weather round about, the mudbank water will be smooth ... the mudbanks are still as forest pools,' said Captain George. 'The ancient traders knew this and it was their reason for coming to Cochin. With the seas raging all around, they could lie contentedly far off the coast to load their cargo, take on fresh water, fruit, vegetables and so on.'

'There are shrimps also,' said Captain Matthew.

'Certainly. The mudbank water is seething with them. You can almost scoop them out by hand. The phenomenon is called Chakara and lasts a few days only but, during that time, you can take 40,000 rupees of shrimp in a single catch.'⁸

But we learn a different story from *Business Line*—an online journal—on 9 April 2002:

Fishermen rue scarcity of mud bank formations

C.J. Punnathara

Scientists are still grappling with the origins and existence of mud bank formation, let alone investigate the reasons why chakara has become so elusive and fleeting a phenomenon along the coast of Kerala.

KOCHI, April 8

MONSOON is the season when the bounties of the sea swell and the fishermen come home with their nets and boats laden with plentiful catch.

‘But the fortunes of the rains and seas have waned today,’ mourns Mr Appukuttan, a fisherman from Cherai beach. ‘And the rewards for fighting the surge and swells of the turbulent oceans have trickled to a pittance.’

For the fishermen, the advent of the monsoons meant the season of *chakara* or mud banks, where fish in their millions congregate and frolic, which promises of rich harvests for thousands of fishermen.

‘Just one day’s good catch could make or break the season of the fisherman and could convert paupers into millionaires,’ the 57-year-old Mr Appukuttan said.

It has been a long time since a good and bountiful *chakara* has come to the Cherai coast.⁹

The combination of Indian Ocean, monsoon and *chakara* is a complex argument which science is ‘grappling with the origins and existence of’. Is it because we have pushed nature off balance or to its limits that *chakara* dropped off dramatically in 2002? Is there some other reason? In any case, should science provide the answer, it won’t necessarily be able to find the associated values, which depend on another argument in a cultural complex: the means of distribution, the recipe for shrimp curry, the hungry customers and the good taste of shrimp.

How do we tell the story about how humans value things? We know that the monsoon is celebrated in verse and sacred ceremony, and we know how, pragmatically or scientifically, it brings relief to farmers’ parched fields. The weather, in Indian medicine, strongly mediates peoples’ bodies:

The macrobiotic medicine of Indian includes a sophisticated doctrine of the relationships between mankind and the environment based on the seasonal pulsation of the sun’s track across the sky. The year is divided into a period of Release (rains, autumn, winter) when the moon frees all saps (*rasa*) and a period of Capture (frosts, spring, summer) when the sun takes all saps back. The beginning of monsoon time is seen as the period when the sun and the wind dominate and together destroy the softness of the world, human beings lose their strength. Ayurveda as practiced in Kerala even today considers June–July and Oct–Nov (when the climate is moderate in Kerala) are the best months of the year for purifying treatments.¹⁰

So, the weather represents a life-giving power of increase, which is why anthropologists talk of ‘increase ceremonies’, even in relation to monsoons. Cultural participation in nature,

as in songs in praise of the monsoon, are like literary increase ceremonies. Consider Alex Frater, again, at his hotel in Cochin when the monsoon arrives late in the afternoon, and a meeting of executives breaks up excitedly to run outside and greet the rain:

They made for the jetty, strolling, laughing out loud, calling, revolving slowly in a kind of dreamlike gavotte. In the gazebo they stood knee-deep in seething water while the wind blew spiralling flumes of rain up over the peak of the disintegrating roof; the flumes united there in a fountainhead which, along with the tiles, kept getting snatched away. Buffeted by the gusts, unbalanced by the waves, the Spices Board Executives clung to each other with water in their eyes and looks of sublime happiness on their faces. A young woman in a soaked and flapping gold-coloured sari laughed at me and clapped her hands. 'Paradise will be like this!' she shouted.¹¹

To this almost erotic participation in nature, this sublime excessiveness, corresponds a breaking down of barriers between nature and culture which man has erected. In joy there is an indifference to nature's destructiveness, and the fluidity of wind and water surge through all things alike. Similarly in Palo Alto, California, Michel Serres did not fear the earthquakes, he enjoyed the shocks and trembling of a living earth.

Natural systems are complex systems, and as a consequence the laws are complex and open-ended, as chaos theory has shown. The systems are not just complicated; that would mean that they can be described by finite formulae with no stray or loose factors which may or may not enter the system. A television set is complicated, but not complex, they say, because its function is the sum of the functions of its parts; but a monsoon is complex in its swirling unpredictability. So a part of the natural-cultural scenario that is the south-west monsoon is the *megha papeeha* (pied crested cuckoo, or the songbird of the clouds), which for peasants heralds the arrival of the rains. The cuckoo migrates from East Africa, taking advantage of the monsoon winds, and flies across the Indian Ocean and the Arabian Sea to arrive on the western coast of India a day or so ahead of the rain-bearing clouds. It then flies at a more leisurely pace inland and is usually sighted in Delhi about fifteen days after the monsoon has broken over the Western Ghats.¹²

So a peasant knows when the monsoon is on its way, but an educated person may not know because they have not watched the weather forecast on that complicated apparatus the TV. Or the peasant may be concerned that he has not yet spotted a cuckoo, because he sees it as a necessary part of that complex which is the south-west monsoon. Meanwhile, the person relying on the TV weather forecast is not concerned about the absence of the monsoon report because the TV schedule follows a quite different rhythm, obeying a much simpler distributive logic to do with ratings, advertising and fixed daily and weekly programming.

We started this section with a global image of a planet reaching its natural limits, approaching exhaustion. The planet is, in a way, indifferent to its main parasite, man, and if indeed the warming of the Indian Ocean has killed off a lot of the coral reefs, then no doubt some other life forms will flourish in the warmer waters. One of the natural laws is, of course, the natural tendency to equilibrium, as in water finding its own level. Men struggle to contradict such natural laws, so they build dams, to great effect, at least in the short term. Such natural laws spill over into the social laws which society has made; 'they get the social contract directly from nature', says Serres as we had him describing earlier the necessary arrangement for peace on board ship. Similarly a social revolution is a surging tide of humanity insisting on re-establishing a lost equilibrium in the case of a ruling class appropriating the mass of goods and privileges. Agency might be restored to the people until some jungle law of violence reinstalls hierarchy and the struggle goes into another cycle.

— MAN DOMINATES NATURE

In its burning heat, history remains blind to nature.

Michel Serres, *The Natural Contract*¹³

Tom Griffiths, in a paper on the roaring forties, begins: 'Moving air is a powerful element. We inhabit a swirling, gaseous soup that is animated by the heat of the sun and the spinning of the earth.'¹⁴ Men constructed pretty efficient machines—the famous clippers—for harnessing this energy and traversing the Indian Ocean with large cargoes, from Cape Town to Fremantle in three weeks. But the forces of nature are unpredictable and set a timetable that does not always suit the rhythm of progress. With the invention of the steam engine in the age of industry, technology, man's invention, enabled us to cut ourselves off from nature. But this divorce did not happen without a conceptual change, what we might call a change to the conceptual architecture of the new story man was learning to tell about himself. Man put himself at the centre of this story, as he made himself powerful with his technical extensions, like a many-armed Ganesh. But Ganesh, along with many other gods around the globe has been displaced by the new secular humanism.

On the topic of steamships, Michael Pearson notes, disarmingly for the ecologically minded:

The greatest advantage of the modern steamers was that they were able, to a very large extent, to conquer nature. They promised regular passages, unaffected by the monsoons which for so many millennia had acted as a straight jacket on Indian Ocean sailing.¹⁵

Early steamships, before the invention of the compound engine, were not particularly efficient; they could 'gobble up a ton of coal every hour', creating all sorts of expense in the establishment and stocking of special refuelling depots. These machines offset their inefficient exploitation of nature against the cultural value of the spectacular display, on

whose heels follows a narrative of superiority: one of the first steamboats to make the passage from England to Kolkata, in 1825, carried the new governor-general.¹⁶ The dominant motif for this period of history is therefore the hierarchy. God, conceived of as singular and above us all, has his singular representatives governing lowly populations, themselves hierarchised into civilisations ranked according to their technological capacities. Below these man-made worlds lies a feminised nature with whom man has only a one-way contract. Nature gives without receiving much care in return; the peasant knowledges of nurturing are swept away as technology bulldozes the land in preparation, eventually, for monoculture and agribusiness. In this story technology has become a sacred line, since it is supposed to free man from the exigencies of nature, and at the same time so-called social sciences are invented which codify the social contract to the exclusion of natural laws. What Serres says about social sciences hits hard:

... the information given by social science remains banal, for it repeats what everybody knows about everybody; the information given by natural science, on the other hand, can be calculated and is proportional to rarity, and we call it knowledge.¹⁷

This then was the modernist arrangement, the modernist story: putting man at the centre of the world, surrounded by an 'environment'. We have to rethink the word 'environmentalism' to the extent that it still pictures human society at the centre surrounded by nature. We need a figure of interlocking reciprocal relationships.

But as Michel Foucault remarked, the idea of 'man' has been of short duration, it is neither the oldest nor the most significant problem that has been posed for knowledge, and it is curious that he had this thought in conjunction with the sea as he closed his famous book, *The Order of Things*:

If those arrangements were to disappear just like they arose, if some event ... were to cause them to crumble, as the ground of classical thought did ... then one can certainly wager that man would be erased, like a face drawn in the sand at the edge of the sea.¹⁸

Now that we have moved beyond the inefficient steam age, and into the age of mega-container ships, nature has diminished even more in significance, crushed to the point of invisibility. What is crushing nature is no longer man's 'sacred' technological capacity, which is now without question, but the way in which this technological capacity gives him the weight of numbers:

According to the philosophers of old, men formed a great animal by assembling through a social contract ... [this] ... living Leviathan, had merely biological efficacy and merely brute thought. By means of the great animal, we have so fully won the struggle for life against other

species of flora and fauna that, having reached a threshold, we fear that victory, suddenly, will be overturned into defeat ...

By growing beyond Leviathan, past a critical mass, the collective moves up from monster to sea, while falling from the living to the inanimate, whether natural or constructed. Yes, the megalopolises are becoming physical variables: they neither think nor graze, they weigh.

Thus the prince, formerly a shepherd of beasts, will have to turn to the physical sciences and become a helmsman or cybernetician.¹⁹

This is Serres's way of saying, forget social scientific solutions, we must pay attention to natural laws and their interpretation through the physical sciences, and through philosophy. Only by thinking with a grandeur encompassing planetary problems can man's inventive-ness be once again connected to natural laws. We can no longer afford the piecemeal specialisations of the individual disciplines: 'Global history enters nature; global nature enters history: this is something utterly new in philosophy'.²⁰

As we move towards the third part of our story, and urge 'men' to think of themselves as *connected* to nature, then this is not something that has to be empirically proven. We are, have always been, intimately connected, in naturecultures. It is just that for the purposes of symbolic dominance we haven't told the story that way. We could consider ourselves, for instance, as 'companion species' to other beings—not only to our pets, as little King or Jackie are loved as members of the family, but much more broadly. Here is Michael Pearson on the bluefin tuna:

The southern bluefin tuna is a magnificent fish. Their average weight is 25 kgs, and they can live for up to 40 years. They breed in the waters south of Java, and then go down the coast of Western Australia. There they separate, with some going across the Indian ocean to the waters of Southern Africa, and others across the Great Australian Bight, around Tasmania, up the east coast, over to New Zealand, and then north and west and so back to Java to spawn.²¹

Our friend Michael loves the bluefin, as if it were a companion to him. To the fishermen who follow it around, one swarm following another in the Indian Ocean, or off Port Lincoln in the Great Australian Bight (they have a curious annual festival where there is a competition to see who can throw the fish—now plastic, out of respect—the furthest), the bluefin is certainly a companion species, 'co-constitutive' in its relationships. As Donna Haraway has said:

none of the partners pre-exist the relating, and the relating is never done once and for all. Historical specificity and contingent mutability rule all the way down, into nature and culture, into naturecultures. There is no foundation; there are only elephants supporting elephants all the way down.²²

— THE NATURAL CONTRACT

We turn now to the final chapter of our story, where man more modestly assumes a non-central philosophical position; he stops looking *up* to a singular god, or a singular ruler, or *down* to lower species and nature. He is no longer at the cutting edge of a forward-marching triumphant modernity, but part of a global world: ‘Are our thoughts, until recently rooted exclusively in their own history, rediscovering geography, essential and exquisite? Could philosophy, once alone in thinking globally, be dreaming no longer?’²³

We are conscious that this third part of our ‘sea narrative’ will be less descriptive, and more forward-looking and rhetorical. In it we want to integrate the all-important concept of value. In Indian Ocean trade commodity value is obviously crucial, and it governs the movement of goods. We will do a case study, for instance, of ivory. Ivory was in abundance in Africa to the extent that it was used for palisades in villages in the pre-colonial period. This non-luxury use meant that traders from India could do good business, distributing it around the then-global economy centred in the Indian Ocean, where it would be transformed into a luxury commodity at many times its original value. So here a natural material, abundant in certain areas, is converted through the manifold addition of cultural value into a rare material. But today, a new set of values assert themselves via the argument that is put by elephants, so to speak, through their human advocates. They argue (as humans interpret it, having listened to the arguments put by all their companion species) about sustainability and ecological balance in African national parks and rural areas. So when we speak of integrating the concept of value, we want to argue that cultural values (like an appreciation of the beauty of a carved ivory artefact, or, conversely, the compassion for elephants criminally slaughtered) need not contradict or compete with the businessman’s argument about the need to make a living. The businessman does need to be convinced, though, about the unsustainability of a purely exploitative relationship with nature where the value flows only one way and is assumed to be without limit.

— ACCOUNTING FOR THE NATURAL

Partha Dasgupta of St John’s College in Oxford helps us think about the economic contours of any ‘narrative of the sea’. Since every story is told towards some ‘good’ (towards some value), then a narrative of a place is in some sense algebraic; it is a set of calculations working towards a positive outcome. But, ‘economic statisticians interpret wealth narrowly’, says Dasgupta.

Wealth should include not only manufactured capital (roads and buildings, machinery and equipment, cables and ports) and what is nowadays called human capital (knowledge and skills), but also natural capital (oil and minerals, fisheries, forests and, more broadly,

ecosystems) ... I use the term 'inclusive investment' for this broader definition of wealth and contrast it with the narrower scope of 'recorded investment'.²⁴

The logic of natural capital is one of complexity and interconnectedness, and this logic is destroyed by the imposition of the grid pattern of ownership of parcels of land, where the 'free services' provided by nature, as in a stream flowing through a number of properties, or the bounty of the sea, do not enter into the calculations of economists:

Those who destroy mangroves in order to create shrimp farms, or cut down forests in the uplands or watersheds to export timber, are not required to compensate fishermen dependent on the mangroves, or people in the lowlands whose fields and fisheries are protected by the upland forests. Economic development in the guise of growth in per capita GNP or improvement in the Human Development Index can come in tandem with the decline in the wealth of some of society's poorest members.

Rural communities in poor countries recognised the local connectedness of nature's services long ago and devised mechanisms to cope with the problems created by it. A pond or a woodland is a system of organic and inorganic material, offering multiple services. This feature of ponds and woodlands makes them unsuitable for division into private property.²⁵

Dasgupta, by adding another variable ('nature's services') to the formula for an inclusive calculation of wealth comes up with a result which contradicts the misplaced optimism about the rise of wealth in developing economies. India, for example, is supposed to be growing at a healthy 2.3 per cent of GNP per head, but on the inclusive calculation the average Indian is getting poorer at a rate of 0.5 per cent.²⁶ We scarcely need to add that the warming of the Indian Ocean, with its effects on reefs and fish, has produced an immediate reduction in natural capital.

Another example, as we try to rejig the system of values in our narrative of a natural contract, is to try to think again about competition in naturecultures. It is the law of the ocean, is it not, that the smaller fish will be eaten by the larger ones and so on up the line? We hear, in corporate boardrooms, metaphors like 'food chain' and 'bottom feeders' used to deride the less successful and justify warlike competition. Sharks and lions, supremely destructive, show no compassion; nor do corporate raiders. But nature provides other images, laws and metaphors. Maybe the more discerning dolphins have something to teach the sharks, like the philosophers, who don't yet have a place on the board of directors.

In early Indian Ocean trade, the peaceful practice of the Jains and Banians has been noted by the historians, who have also gone on to point out that the Europeans brought another kind of configuration to trade when they started to blockade ports to try to force monopolies: their ships had cannon. Henceforth trade competition was a war, and it still is, over oil for

instance. 'If we move from war to economic relations', says Serres, 'nothing notable changes in the argument'. Here Serres notes that in the pantheon of Roman gods there resided Quirinus, the god of production, and Hermes, the god of communication or exchange, as well as the warlike gods Jupiter and Mars.

Mars calls war what the first two call competition: the pursuit of military operations by other means—exploitation, commodities, money, or information. Even more hidden, the real conflict reappears. The same schema is renewed: by their ugliness and by the filth they accidentally spread around, chemical factories, large-scale livestock raising, nuclear reactors, and supertankers bring on objective global violence once again, with no other arms than the power of their size, no end other than the common and contractual quest for domination over men.²⁷

After the economic battles have been waged, with all their waste and inefficiency, a contract might be signed between the warring parties to divide the remaining spoils. Nature is no signatory to this social and economic contract between men, usually men, and they have forgotten the natural contract they have with the world. They have forgotten where they came from. They have forgotten their mothers, with whom, of course, they had a natural bond. Since we have written this in Australia, we would like to illustrate this with an ancient practice of the Australian Aborigines.

In the old days when a Ngarrindjeri child was born its navel cord was dried and treated, bundled in feathers and sent in exchange to another group of people with a newborn child. The two children, thus linked, then had a special lifelong relationship: 'Gifts of food and weapons accompanied the exchanges, but the main role of the partners was to act as intermediaries in trade relations between their respective groups'.²⁸ Linked by their navel cords, as it were, they regulated the exchange of goods, which may include knowledge.

Lest this seem a sentimental and idealist celebration of ideas and practices long past, we might remind you that Aborigines are the longest surviving living culture in the world, and that they achieved this through sustainable practices (food distribution, birth control, etc) with a philosophy which did not have a nature–culture division, and where people and other living and inanimate things were linked in a cultural network of kinship which did not place man at the centre. In comparison, the European philosophy dominating the world today has only been hegemonic for a small amount of time. It may be dangerously out of control, but has produced as much wisdom as foolishness.

We have found such wisdom in Michel Serres, in his plea for global philosophy to counter the dangers of globalisation, and we have seen it also with Ilya Prigogine, the Nobel–prize winning physicist whose remarks about Rabindranath Tagore actually sparked the idea to bring a kind of ecological cultural studies to the Indian Ocean arena. When discussing the

different views of the world that emerged in Tagore's discussions with Einstein, Prigogine says that science is evolving towards Tagore's ideas.²⁹ Einstein retained until his death a kind of realist philosophy, which held that entities have well-defined objective properties even in the absence of any measurement. This is a view held by many leading scholars even after the Copenhagen position developed in the 1930s by Bohr, including the famous uncertainty principle of Heisenberg, who said: 'The laws of nature which we formulate mathematically in quantum theory deal no longer with the elementary particles themselves but with our knowledge of the particles'.³⁰ And in the new humanities we are familiar with similar positions on how our views of the world are mediated by our position as observers: the epistemological problem of knowing what we know through representation, through our forms of expression. So we have these objectivist and subjectivist positions, which both hold apart the observer and the observed, mind and reality. Tagore did not hold with that dualism which continues to separate the sciences and the humanities and impede powerful globally orienting thought. 'What we call truth', he said to Einstein, 'lies in the rational harmony between the subjective and objective aspects of reality, both of which belong to the super-personal man'.³¹ Einstein tries to insist on a duality: 'there are two different conceptions about the nature of the universe—the world as a unity dependent on humanity, and the world as reality independent of the human factor ...' Tagore demurs: 'This world is a human world—the scientific view of it is also that of the scientific man. Therefore, the world apart from us does not exist; it is a relative world, depending for its reality upon our consciousness.'³²

Now, this consciousness is the 'super-personal man', which Prigogine glosses as 'the common structure of consciousness of all humans'.³³ Here modesty requires that we not try to grossly summarise the words of these giants of thought in the twentieth century, but merely note that they seem to lend support to the idea of a networked natureculture, neither objective nor subjective in essence (Tagore: 'The Universe is like a cobweb and minds are like spiders; for mind is one as well as many') which may go some way towards our project to listen to the arguments of nature as we elaborate our 'oceanic knowledge'.³⁴

And since he speaks of the sea in one of his last poems on 27 July 1941, a few days before he died, we can't help but give the last word to Tagore:

The last sun of the last day
Uttered the question of the shore of the western sea,
In the hush of evening—
Who are you?
No answer came.³⁵

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 2. Daniella Police, 'Mauritian Sega: The Trace of the Slave's Emancipatory Voice', *UTS Review*, vol. 6, no. 2, 2000.
 3. Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy*, trans. Catherine Porter, Harvard University Press, Cambridge, Mass., 2004.
 4. Michel Serres, *The Natural Contract*, trans. Elizabeth MacArthur and William Paulson, Michigan University Press, Ann Arbor, 1995.
 5. Latour, p. 29.
 6. Serres, p. 40.
 7. Jay S Fein and Pamela L Stephens (eds), *Monsoons*, John Wiley and Sons, Washington DC, 1987, p. 8.
 8. Alexander Frater, *Chasing the Monsoon*, Alfred A Knopf, New York, 1991, pp. 81–2.
 9. <<http://www.blonnet.com/2002/04/09/stories/2002040900591700.htm>>.
 10. F Zimmerman, 'Monsoon in Traditional Culture,' in Fein and Stephens, p. 61.
 11. Frater, p. 88.
 12. Khushwant Singh, cited in Fein and Stephens, p. 46.
 13. Serres, p. 8.
 14. Tim Sherratt, Tom Griffiths and Libby Robin (eds), *A Change in the Weather: Climate and Culture in Australia*, National Museum of Australia Press, Canberra, 2005.
 15. MN Pearson, *The Indian Ocean*, Routledge, New York, 2003, p. 206.
 16. Pearson, p. 202.
 17. Serres, p. 68.
 18. Michel Foucault, *The Order of Things: An Archeology of the Human Sciences*, Vintage, New York, 1973, p. 387.
 19. Serres, pp. 18–19.
 20. Serres, p. 40.
 21. Pearson, p. 8.
 22. Donna J Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness*, Prickly Paradigm, Chicago, 2003, p. 12.
 23. Serres, p. 9.
 24. Partha Dasgupta, 'Arrested Development', *Australian Financial Review*, 14 December 2003, p. 6.
 25. Dasgupta, p. 6.
 26. Dasgupta, p. 7.
 27. Serres, p. 15.
 28. Diane Bell, *Ngarrindjeri Wurruwarrin: A World that Is, Was and Will Be*, Spinifex Press, North Melbourne, 1998, p. 493.
 29. Ilya Prigogine and Isabelle Stengers, *Order out of Chaos: Man's New Dialogue with Nature*, Heinemann, London, 1984.
 30. Werner Heisenberg, *The Physicist's Conception of Nature*, Hutchison, London, 1955, p. 15.
 31. Quoted in Dipankar Home and Andrew Robinson, 'Einstein and Tagore: Man, Nature and Mysticism', *Journal of Consciousness Studies*, vol. 2, no. 2, 1995, p. 175.
 32. Quoted in Home and Robinson, p. 174.
 33. Prigogine and Stengers, p. 175.
 34. Quoted in Home and Robinson, p. 175.
 35. Quoted in Home and Robinson, p. 179.