

Political correctness and the death of cultural anthropology

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When we study anthropology and the other human sciences, there is an obvious temptation to be swayed by our basic philosophical and political beliefs, and the fashionable enthusiasms and taboos of our time. But it should also be obvious that the depth of our personal convictions about, say, human equality, or the dignity of Man, or the need to give everything a materialistic explanation, can provide no guarantee that they are actually true, even if they are supported by a cheering crowd of our contemporaries. Reliance on intellectual fashion and the certainties of the thundering herd does not produce any useful debate, but merely a dialogue of the deaf, and the inability to assimilate, or sometimes even to read, the arguments of those who disagree.

The first set of dogmas that obstruct debate in anthropology are those of ‘political correctness’, and the belief in particular that ‘all cultures are born equal’. There has been a growing mania in the social sciences for perceiving ‘discrimination’ and ‘prejudice’ in any dispassionate discussion of human differences, so that we should not be allowed to talk about primitive society, primitive thought, or social evolution, or, for that matter, about the biological basis of human nature. Sociologists and anthropologists frequently misuse the valid principle that human culture is unique to deny that it can be influenced in any way by biology and psychology. Historically, there is no doubt that Darwinian theory was used to defend eugenics, Social Darwinism, and Nazism, and there are those who exaggerate the genetic basis of human behaviour to justify discrimination on the basis of race and gender. But this cannot be a continuing excuse for unreasoning hostility towards attempts to explain any aspects of human behaviour, society, and culture by reference to biology and psychology.

The other set of dogmas that need deflation are those of the extreme reductionist ‘man is just an animal’ school of thought, which has produced a similar mania to ‘naturalize’ the social sciences and humanities by bringing them under the overall control of the natural sciences, and of biology and Darwinian theory in particular. Those in the sociobiological tradition have no problem with the idea of social evolution, or of primitive society. Their aim, however, is to prove that there is nothing special about Man, and that all human culture and society, and its evolution, must be explained in strictly Darwinian terms.

One of the most striking features of both these types of dogmatists is that they are generally unwilling to listen to criticism, or seriously engage with the facts and arguments produced by their opponents, whom they variously dismiss as ‘colonialists’ or ‘creationists’. They are both, in their different ways, fundamentalists and ‘True Believers’ who simply know that their paradigms must be right.

The papers collected in this volume give detailed reasons and evidence to show why these paradigms are in fact illusions, but they are not simply negative. I have used this opportunity to set out my own view of what anthropology is, why human society is indeed uniquely different from any previous biological or inorganic system that has ever existed, and how it has evolved to its present condition. My earlier reference to the human sciences does not in any way imply that I believe in the possibility of a *natural* science of society and culture, a notion which is just as absurd as a social science of physics or chemistry. Science is the enterprise of trying to discover the general principles underlying diversity, and basing these principles on reasoned arguments and relevant factual evidence. The very first step of any science requires it to adjust its methods to the nature of what it is trying to explain, and since human sociocultural systems have some unique properties of their own, the attempt to absorb the social sciences into the physical sciences is basically misconceived.

1. *Social anthropology is the study of primitive society.*

The formative years of my anthropological career were spent in fieldwork, living with the Konso and the Tauade tribes in the mountains of Ethiopia and Papua New Guinea. This experience has been of inexhaustible value in my subsequent thinking on a range of theoretical topics in which I have been interested over the years, particularly primitive society and social evolution, and primitive thought. I consider these to be central to social anthropology (cultural anthropology for North

Americans), which is why they are given a prominent place in this collection of papers. As I show in detail in Chapter 2, 'Is there a primitive society?', primitive societies are systematically different in many respects from centralised states and modern industrial societies, notably in their small size and the predominance of face-to-face relations, simple technologies and subsistence economies, the importance of institutions based on the ascriptive principles of kinship, birth-order, age, and gender, and on ritual, and the lack of monetary economies, literacy, and political centralisation.

These characteristics of primitive society are quite unfamiliar to sociologists, political scientists, economists, and modern historians, and if faced with societies organized by patrilineal exogamous clans, age-grading systems, sacred drums, pay-back-killings, and ceremonial pig-feasts and blood-sacrifice, these scholars would be very much at a loss to understand what was going on. This is why it has always made logical sense for the study of primitive societies to form the distinct academic discipline of social (cultural) anthropology. This specialist knowledge has enabled anthropology to make essential contributions to archaeology, classical scholarship, history, and religious studies, for example, because of its unique understanding of primitive societies and their modes of life. In particular, a thorough grounding in traditional social anthropology should also be an essential requirement for sociobiologists, evolutionary psychologists and others who try to apply Darwinian theory to our prehistoric ancestors, but in fact they usually have only the most superficial knowledge of primitive society, as we shall see.

Moreover, understanding the full range of human potentialities involves the comparative study of all societies, but a large percentage of societies across the globe are, or have been in historical times, primitive societies. Cross-cultural studies of aggression, for example, are quite invalid unless they take into account the very large body of anthropological data on primitive warfare. Nor can one hope to understand modernisation in the Third World unless one also understands what those societies were like until recent times, and what it is that is being modernised.

The concept of primitive society was generally accepted by social anthropologists as uncontroversial until around the 1970s, when changes in the political climate of opinion, and the suggestion that social anthropology was 'colonialist', began to make it unfashionable. Contemporary, politically correct anthropology therefore rejects the notion of 'primitive society' as racist and discriminatory, and there are, apparently,

‘no simple or primitive cultures; all cultures are equally complex and equally modern.’ (Hamill 1990:106). According to Edmund Leach, modern anthropological interest in primitive society

...rested on the basic premise that all non-Europeans are stupid, childish, barbarous and servile by their very nature. Even today the technical jargon of anthropology is laden with value-loaded implications which stem from their origins in the context of the colonial world...The contemporary primitive peoples...were not regarded as interesting in themselves but only because of what they might, by inference, tell us about the distant past. They were ‘living fossils’; their savage customs were horrid survivals from antiquity which served to illustrate both the stupidity and the depravity of the beast-like behaviour of our primeval ancestors. (Leach 1982: 16-17).

Since all human cultures are inherently different but equal, the whole idea of social evolution must also be misconceived, and all that has happened in the course of history is that cultures have simply become increasingly different, as the result of varying choices of life-style and historical accidents. (Professor Ingold records that as a Cambridge undergraduate he was actually forbidden by his tutor to read Sahlins’ and Service’s *Evolution and Culture*.)

One anonymous contributor to Wikipedia exquisitely conveys the currently fashionable attitude to social evolution, and the style of thought that goes with it:

There are still others who continue to reject the entirety of evolutionary thinking and look instead at historical contingencies, contacts with other cultures, and the operation of cultural symbol systems. As a result, the simplistic notion of ‘cultural evolution’ has grown less useful and given way to an entire series of more nuanced approaches to the relationship of culture and environment.

Westerners, due to their imperialist past, are also considered especially liable to ethnocentric arrogance, and here the doctrine of cultural relativism has been extremely attractive to egalitarian sentiment. This holds that our modes of thought and beliefs are inextricably moulded by the culture in which we have grown up, thus preventing us from reaching any truly objective understanding of alien societies and the world in general. But if we have no means of proving that our institutions, moral beliefs, or even our science, have any claims to be objectively true or valuable, this effectively removes the possibility of making invidious comparisons between ourselves and other cultures, especially those which have been traditionally described as primitive. ‘Everybody has won, and all must have prizes.’

No reflective person would wish to deny that we are all liable to ethnocentrism, but to exaggerate this into the claim that we are all encapsulated within our own cultures, so that objective knowledge is impossible, is self-contradictory. As the

philosopher Bernard Williams has said, all relativistic theories require a non-relativistic justification, and in Chapter 3, 'Relativism', I show that any strong theory of relativism is unsustainable for this reason, and this applies to moral as well as to cultural relativism.

A central principle of what has become known as the Standard Social Science Model (SSSM) is the dogma that biological, genetically based factors can have no influence on culture, which floats in an autonomous realm of its own, so that the idea of a basic human nature and psychology is not only false, but has distinctly sinister political implications. So, for example, the psychologist Paul Ekman conducted research showing that certain facial expressions signify the same basic emotions in all cultures, obviously suggesting that they are primarily biological in origin (e.g. Ekman 1973). 'When Ekman began to present his findings at a meeting of anthropologists in the late 1960s, he met with outrage. One prominent anthropologist rose from the audience shouting that Ekman should not be allowed to continue to speak because his claims were fascist.' (Pinker 1997:366)

There is also a strong view that 'science' must mean 'natural science', and that since attempts by scholars such as G.P.Murdock to establish scientific laws about society by statistical comparison were failures, the only alternative for social anthropology is to regard itself as one of the humanities. According to Edmund Leach,

Social anthropologists should not see themselves as seekers after objective truth: their purpose is to gain insight into other people's behaviour, or, for that matter, their own. 'Insight' may seem a very vague concept, but it is one that we admire in other contexts: it has the quality of deep understanding which, as critics, we attribute to those whom we regard as *great* artists, dramatists, novelists, composers...'.(Leach 1982:52)

The social anthropologist as literary critic is unlikely to produce much theory worth the name, and not surprisingly we have Evans-Pritchard, at the end of his career, enquiring plaintively:

But where do we go from here? The body of general theory which could alone make facts significant seems to be lacking. It was at one time provided by the idea of social evolution and for a short time by a rather vague and functionalist theory. Are we then faced with mere empiricism, an endless collection of facts which can, in the absence of a theoretical framework, scarcely be related to each other...? (quoted in Singer 1981:x).

Apparently we are, and the current situation where anthropologists endlessly document the variability of different cultures has been amusingly and brutally satirized by Tooby and Cosmides:

Mainstream sociocultural anthropology has arrived at a situation resembling some nightmarish short story Borges might have written, where scientists are condemned by their unexamined assumptions to study the nature of mirrors only by cataloguing and investigating everything that mirrors can reflect. It is an endless process that never makes progress, that never reaches closure, that generates endless debate between those who have seen different reflected images, and whose enduring product is voluminous descriptions of particular phenomena. (Tooby and Cosmides 1992:42)

It is also, of course, the duty of anthropologists to ensure that their descriptions of other, non-Western cultures, should always be laudatory, and avoid negative stereotyping of ‘savagery’ at all costs. Cannibalism is a prime example of a negative stereotype, so it is not really surprising, in the new political climate of anthropology, that Professor Arens, in *The Man Eating Myth* (1979), and published by Oxford University Press, should have tried to dismiss the claim that some primitive societies practised cannibalism, as a racist fiction invented by white men. While, to be fair, there were some adverse reviews, the book is still in print and much quoted, while Arens himself has written the articles on cannibalism in two anthropological dictionaries¹. (Indeed, Arens has been strongly supported by Obeyesekere in his *Cannibal Talk: the man-eating myth and human sacrifice in the South Seas*, 2005.)

When I published my paper on primitive warfare in 1973, (Chapter 7) that topic also carried a whiff of the politically incorrect, and did so twenty years later, when C.Spring, writing on *African Arms and Armour*, observed that ‘Museum curators are still apprehensive about the idea of displaying African weapons for fear of the negative connotations of “savagery” which might be evoked’. Robert Edgerton, in *Sick Societies. The Myth of Primitive Harmony* (1992) observed that ‘...the conviction has persisted that before the social disorganization and cultural confusion brought about by foreign contact, the lives of traditional populations must have been, if not quite idyllic, then at least harmonious and meaningful’, a belief that his book comprehensively refutes. Not surprisingly, when my *Bloodshed and Vengeance in the Papuan Mountains* (1977) described Tauade society and culture as remarkably violent and dysfunctional, academic anthropologists were predictably outraged, and there were suggestions that it be formally censured by the Ethics Committee of the American Anthropological Association.

The net result of all this political correctness and moral fervour for equality is that, while sociocultural anthropology still loves to describe itself as a ‘discipline’, it has actually abandoned any semblance of intellectual discipline, with neither a coherent body of theory nor even any area of distinctive factual expertise. The idea that it has a

special interest in 'primitive' or 'tribal' societies, as we have seen, is quite outmoded, and social anthropology is now supposed to be the study of the whole human race and its endless diversity, and to be relevant to the political and economic problems of the modern world. But the advancement of knowledge has historically been achieved by developing specialist subjects for research, not by encouraging an ever-broadening vagueness, and social anthropology's immense contributions to scholarship were achieved by its ethnographic descriptions of many hundreds of primitive societies, and its comparative analyses of their distinctive institutions.

So while current researches into the anthropology of tourism, hair salons, the fashion industry, cyberspace, the cultural effects of globalisation, post-socialist societies, conservation, child care, social housing, and the use of recreational vehicles by the elderly, may (or may not) be very interesting, what contribution will they make to the world of learning, what body of coherent knowledge will they produce that is worth being called 'anthropology' at all? Probably the only relic of traditional anthropology remaining in this insatiable pursuit of 'relevance' and modernity is that such projects tend to involve the use of some fieldwork, and the subject really only survives as an institutional skeleton of university departments, professional associations, and journals.

It is not enough to tell those interested in primitive society that they can find all they want to know in the vast ethnographic literature in the libraries, and resources such as the Human Relations Area Files. There is also a huge literature on medieval European society, and copious archives, but just as we need medieval historians to interpret all this for us, so too we need traditional social anthropologists to do the same for the written sources on primitive society.

The disappearance of social anthropology as a serious subject in our universities must produce increasingly ignorant and credulous readers – and publishers – for books about Man, notably in such popular areas as human origins. Recently, for example, a best-selling book has appeared, *Sex at Dawn: The Prehistoric Origins of Modern Sexuality* (2010) by two psychologists (Ryan and Jetha), claiming that until 10,000 years ago, hunter-gatherers lived in communities where there was no such thing as marriage, but simply a sexual free-for-all. Then, with the beginning of farming, there also came private property, and this meant that men started to worry about identifying heirs to whom they could pass on their land. This, in turn, produced monogamy and the regulation of our sexual impulses. Those with some knowledge of

traditional social anthropology would know, however, that marriage is a well-attested institution among hunter-gatherers, and that primitive sexual free-for-alls are a Victorian myth; that farming does not produce private property, but rather the communal rights of kin-groups, and that monogamy, at least as a norm, is much less frequent than polygyny. Further comment seems unnecessary².

2. Social evolution

It is also obvious that in the last 10,000 years there has been a vast transformation in the organization of human society, notably in political centralisation, social stratification, and the division of labour, from the small bands of hunter-gatherers to early states, to literate civilisations, and then to modern industrial societies, an increasing complexity of organization that now permits the co-ordination of populations of hundreds of millions. Advances in technology, notably the agrarian and industrial revolutions, have obviously been essential aspects of this evolutionary process, which also involved major cognitive changes associated with literacy, mathematics, philosophy, and science.

While, in outline at least, all this would be uncontroversial to most educated people, anthropologists, however, even in introductory textbooks, generally try not to mention social evolution at all if they can help it, and if they do so, their arguments against it (e.g. Bloch 2000, Kuper 1992, La Fontaine 1985) have made no advance on those current in the 1960's (such as Beattie 1964, Evans-Pritchard 1963, Lienhardt 1964). They are mainly directed against nineteenth-century theorists such as Tylor, Frazer, Lubbock, Maine, Morgan, and Engels, (straw men, in other words) and have nothing relevant to say about the more modern works which I shall discuss in a moment.

Social evolution is still said to be about trying to reconstruct the earliest form of human society, and discovering the origins of such basic institutions as marriage and the family, and doing so by conjectures based on what we know from archaeology and modern hunter-gatherers. All aspects of a society are said to be deducible from its modes of production, and all societies are obliged to pass through a rigid sequence of stages. In each stage, 'everyone lived in the same way, worshipped the same gods, married by the same rites, voted in the same sorts of leaders, and obeyed the same laws. They then experienced similar revolutionary transformations, in a set sequence.' (Kuper 1992:97). These stages were rungs on the ladder of progress, with modern

Western society on the top rung, but some societies got stuck at various points on the lower rungs, and became 'living fossils'.

The same old set of arguments are always dragged out of retirement to 'refute' this antique version of social evolution, and they go roughly as follows. We have no means of knowing if surviving hunter-gatherer societies are like those of our ancestors in the late Palaeolithic, and they may have no resemblance to them whatsoever, especially because modern hunter-gatherers have been living in contact with farmers for generations. Modes of production tell us very little about other aspects of a society, and all societies have an equally long history so none could have become 'frozen in time': all 'are equally complex and equally modern'. Nor have evolutionists ever been able to explain why some societies should not evolve while others do. Cultural diffusion also means that there can be no such thing as rigid stages: because institutions, beliefs and technology, can be imitated from other societies, 'people do not need to go through all the intermediate stages of technological knowledge to be able to use a computer', (Bloch 2000:196). Schemes of progress whereby modern Western society is the goal of social evolution are thoroughly ethnocentric, and there can be no laws of historical development in any case, because we have free will.

Modern studies of social evolution, such as E.R.Service's *The Origins of the State and Civilization* (1975), Claessen's and Skalnik's *The Early State* (1978), *Development and Decline: the evolution of socio-political organization* (Claessen *et al.* 1985), my *Principles of Social Evolution* (1986), and *How We Got Here* (2008), Johnson's and Earle's *The Evolution of Human Society* (1987), the prolific publications of Robert Carneiro, Sanderson's *Social Evolutionism* (1990), and *The Evolution of Human Sociality* (2001), Bruce Trigger's *Sociocultural Evolution* (1998) and *Understanding Early Civilizations* (2003), and Runciman's *The Theory of Social and Cultural Selection* (2010), are widely different contemporary approaches to sociocultural evolution. But they are not concerned with reconstructing Palaeolithic society, or with discovering the origins of marriage, or postulating rigid and uniform stages of evolution, or denying the importance of diffusion in evolution, or assuming that Western society is some kind of 'goal' for the evolutionary march of progress, or interested in denying free-will. They are simply concerned with explaining how societies of increasing complexity evolved from the undoubted starting point of hunter-gatherer bands, but this is a debate from which most social anthropologists have chosen to absent themselves.

Modern theories of sociocultural evolution are based on the comparative study of existing societies, (or at least societies that have survived until observers can leave written accounts of them) which has shown that there are a few basic types of social organization. Even such evolutionary sceptics as Fortes and Evans-Pritchard, for example, in *African Political Systems* (1940) distinguished between very small societies where relations of politics and kinship are completely fused; those where politics are based on a lineage structure; and those 'in which an administrative organization is the framework of the political structure.' They continue:

The numerical and territorial range of a political system would vary according to the type to which it belongs. A kinship system would seem to be incapable of uniting such large numbers of persons into a single organization for defence and the settlement of disputes by arbitration as a lineage system and a lineage system incapable of uniting such numbers as an administrative system.(ibid., 6)

These different types of organization must have come into existence in some kind of order, and the very smallest, kinship-based, societies are in fact those of hunter-gatherers, while lineage based societies and those with centralized administration are based on agriculture, so that growing social size, internal differentiation and stratification, the division of labour, and political centralization all tend to be interrelated. As Goody has well said, 'despite the many and often justified criticisms of the application of evolutionary doctrine to social facts, only a real flat-earther would now regard the overall history of political systems as static, cyclical, regressive, indeed as anything other than a process of elaboration.' (Goody 1971:20) And while none would claim that all aspects of a society can be deduced from its modes of production, it is fairly obvious that hunting and gathering, agriculture, and industrial production provide very different constraints and opportunities for social organization and culture. The history of major sociocultural innovations also tends to follow a particular order, as Gellner noted:

Food production, political centralization, the division of labour, literacy, science, intellectual liberalization, appear in a certain historic sequence. They do so because some at least of the later developments in human history seem to presuppose the earlier ones, and could not have preceded them. Human history is a play in which the cast tends to increase over time and within which constraints seem to be imposed on the order in which the characters appear. The theorist of human society cannot introduce them in any old order at will. (1988:13-14)

This process of elaboration also tends to converge on very similar institutional and cultural forms. So in a number of unrelated parts of the world by, say, the sixteenth century one finds that centralized states had evolved with a fairly common set of institutions: sacred hereditary kings, armed forces capable of conquering

neighbouring peoples, a nobility, urban civilisation, writing, bureaucracy, priests, monumental architecture and temples, and a particular interest in calendars and astronomy, so that Chinese, Indians, Europeans, and Central Americans would have found many fundamental similarities in each other's societies.

These uniformities, despite the many major differences, seem to indicate that there may well be some basic principles of social evolution, some underlying systemic regularities. Since it is obvious that these regularities could not have been the result of human purpose, Darwinists claim that the only other possible explanation has to be natural selection. Many biologists, however, as well as social scientists, dismiss the possibility of developing a theory of social selection analogous to natural selection. The eminent evolutionary biologist, Maynard Smith, for example, has this to say about the idea:

The explanatory power of evolutionary theory rests largely on three assumptions: that mutation is non-adaptive*, that acquired characters are not inherited, and that inheritance is Mendelian — that is, it is atomic, and we inherit the atoms, or genes, equally from our two parents, and from no one else. In the cultural analogy, none of these things is true. This must severely limit the ability of a theory of cultural inheritance to say what can happen and, more importantly, what cannot happen. (Maynard Smith 1989:119)

[* non-adaptive in the sense that, unlike human invention, it is not a response to a need.]

We shall discuss the relevance of the whole Darwinian model to social evolution in more detail later, in §5, but the supposed necessity of choosing between natural selection and conscious design is in any case a false dichotomy, since there is in fact a third possibility, that social evolution is the result of the spontaneous self-organization of complex systems. Whereas, in biological evolution, the distinction between the selecting environment and the selected organism is crucial, in sociocultural evolution this collapses, and the various parts of society and culture can both select, and be selected by each other. This coupling, or interaction, between what selects, and what is selected, is clearly radically different from the biological situation because it can be the basis of feed-back loops and orthogenetic processes with their own directional properties towards, for example, greater complexity and internal differentiation, and political centralisation.

In Chapter 4, 'How social evolution works', I show how sociocultural systems can evolve to higher levels of complexity without relying on natural selection, but on a process of *construction*. Natural selection is based on the unforgiving standards of functional efficiency required in living organisms, but societies are systems of ideas in which the requirements for the survival of beliefs and ways of doing things are

much less rigorous than they are for organisms. Natural selection also assumes a high level of competition, but in fact this is often weak in human society. For many years anthropologists laboured under the functionalist illusion that every item of culture could be explained by its superior adaptive merits, but in human society, especially in the circumstances of pre-state societies with simple technologies and social organization, a wide variety of customs and institutions, like magic and the vendetta, will all be viable, not because they have triumphed in vigorous competition, but simply because there are many factors that produce them, that is, 'self-organization'.

This, in human society, does not by any means have to lead to greater efficiency: it may produce large numbers of adaptively neutral variations, as well as many maladaptive phenomena, such as the endless feuds of primitive warfare, economic cycles of boom and bust, and the mindless proliferation of bureaucracy. To understand sociocultural evolution we must therefore abandon the Darwinian reliance on adaptive explanations: as I say in Chapter 6, 'The weakness of adaptive explanations', in the social sciences we should explain some institution, custom, belief, or piece of technology partly, of course, by the conscious purposes of those who originated them, and also by the sets of conditions that, often unwittingly, gave rise to them, the factors of construction. These are far more powerful explanations than speculation about possible adaptive advantages, as I further illustrate in Chapter 7 by the example of primitive warfare, which we explain by the conditions that produce it, not by any imaginary adaptive or functional benefits it is supposed to confer.

Moreover, people do not innovate randomly, but do what is easiest for them in the circumstances, although it may not be particularly efficient and may even be maladaptive. This means two things: that variation will not be in the least random but strongly directional, and that what is easy to do or believe, despite often being of no special adaptive value, or even maladaptive, will also be very common and be able to survive indefinitely, because selection is weak. I have called this principle 'the survival of the mediocre' because I wish to divert attention away from the competitive success or failure of variant forms and towards their properties instead.

What is really important for social evolution about a new variant is not how common it becomes, or how long it can survive, but its properties and their potential for *inducing further change* in the sociocultural system (or, in some cases, blocking further change). So the real significance of agriculture is not that it became very common and that hunting and gathering became very rare, but the prop-

erties of agriculture and their effects on social organization. But changing the emphasis of evolutionary theory from the selection of random variants to the generative power of structures is a paradigm shift that is impossible for the Darwinian model to assimilate. Instead of the fruitless search for adaptive explanations of sociocultural phenomena, we therefore look instead for the conditions that explain their emergence, and their consequences, many of which will be unintended.

To illustrate this let us imagine a group of hunter-gatherers who for one of a variety of possible reasons begin to plant crops. To remain as hunter-gatherers would be equally viable, so we are not dealing with a situation in which choosing one course, agriculture, leads to survival, whereas another choice, remaining as hunter-gatherers, leads to extinction. What matters here is not differential survival but the 'evolutionary potential' of this type of economy, and one of the properties of agriculture is that it will support a very much larger population per unit of land, and another is that it allows a much higher degree of sedentism. This makes it much easier for people to form larger and more permanent groups and settlements, which they may do for a variety of reasons. Moreover, because agriculture requires more extensive co-operation than among foragers in cutting down forest and bush and in preparing the land for planting, new relations of group ownership of land are thereby created as a result. Individual access to resources, which was unrestricted in the foraging economy, now becomes controlled by groups based on descent and residence, and on their leaders. How do these appear?

Farmers have much more to co-operate about than hunter-gatherers, such as clearing the forests and vegetation by cutting and burning, and preparing the soil, and it seems to be a universally accepted rule that to mingle one's labour with something, such as clearing land and cultivating it, or planting a tree, establishes a good claim to own it. This means that farmers are now involved in a new relationship with the land and animals, that of ownership and property rights. Being first, as in the first occupation of land, is another universal rule of ownership, and so is the idea of inheriting something from one's forebears. It is very easy, then, for hereditary groups to form around the ownership of property, and especially if these descent groups are lineal in structure, the way is now open for such groups to become differentiated by seniority based on birth-order. Eldest brothers have a natural authority over their younger brothers, but this has little significance in band societies because these have

no property-owning descent groups, or inherited political office. In agricultural societies, however, it is possible for this relationship to form the basis of status ranking whereby descent groups become organized into senior and junior lines so that hereditary leadership roles may emerge. (I stress that the elder-younger brother relationship is neither adaptive nor maladaptive, but simply an inherent property of sibling relationships.) One of the functions of these hereditary leaders is to mediate in disputes, and they are often ascribed religious powers and status.

Some of the practices and institutions that have developed for one purpose also have other properties that are hidden or disregarded, but which may be of great significance at later stages of evolution – they have, like agriculture, great ‘evolutionary potential’. Magic, for example, was the basis of alchemy, which in turn was the basis of modern chemistry, just as astrology was the basis of astronomy. The supernatural powers of clan and lineage heads, like magic, were irrational superstition that survived in an undemanding cognitive milieu, but they were nevertheless of prime importance in the evolution of hereditary political office, and ultimately the state. Gold was initially of no practical use at all, and was only valued for the trivial purpose of personal decoration; only much later did it become a stimulant of world trade and one of the most important forms of money. But it is only because these mediocre practices and beliefs can survive in the undemanding circumstances of tribal society that this evolutionary potential can be preserved for later manifestation.

Most institutions, practices, and elements of technology also have a variety of applications and uses; this means that the same element of culture may be adopted for different reasons or, to put it another way, it can be reached by a variety of routes. So there were many different reasons for the adoption of agriculture, the development of urban settlements, the state, and literate elites, but, having appeared, they all had similar evolutionary potential. This leads to the ‘accumulation of necessary conditions’, a set of mutually reinforcing factors that in turn can lead to the emergence of new structural forms, and means that there can be many evolutionary paths to such social formations as the early state. If, on the other hand, the necessary conditions are not present, then no evolutionary advance will take place (as is very often the case). Here the special traditions of particular cultures, their ‘core-principles’, may have a decisive influence on the emergence of the state or of capitalism (Hallpike

1986a:288-371; 2008a:208-15). For example, I have shown (2008b:354-428) that one of the necessary conditions for the emergence of Western science in the sixteenth and seventeenth centuries was an urban social order in which scholars could mix and collaborate with craftsmen, and that the lack of this condition in the other literate civilisations of the pre-modern era was a crucial reason why modern science did not emerge in them. But this account of sociocultural evolution is incomplete without reference to the evolution of our cognitive skills as well, since these vitally affect the kinds of institutions, beliefs, and knowledge that can be transmitted from one generation to the next.

3. *Primitive thought*

If the ideas of primitive society and social evolution are bad enough, the suggestion that there could be such a thing as ‘primitive thought’ has generated near-hysteria: one leading anthropologist has described the notion as a ‘stain’ on the subject’s reputation; according to Hamill (1990), anyone who doubts that members of all cultures understand the syllogisms of formal logic, for example, is a ‘colonialist’, and Malcolm Crick described my *Foundations of Primitive Thought* as ‘offensively racist and a piece of European academic arrogance’ (1982:290). In 2005 I gave a Plenary Address to the Jean Piaget Society, in which I said, among other things, that the moral ideas of hunter-gatherers tend to be on a simpler developmental level than those found in farming societies. At the conclusion of the paper, (Chapter 17) a lady rushed to the microphone and said that my views led directly to genocide. The structuralist theory of Lévi-Strauss, on the other hand, maintaining that human thought is everywhere basically the same, and that ‘primitive’ thought is a different, but equal, version of Western science, was just the kind of thing anthropologists wanted to hear, like relativism and the doctrines of post-Modernism.

Just as it is obvious that there are primitive societies, it should not be surprising that their members should, in certain respects, think in ways that are unlike those of educated members of our society, not only about myth and magic, but about causality, space, time, classification, number, and probability, and also about the nature of language, thought, and the mind, as well as ethical issues, and the nature of society. The Tauade of Papua New Guinea, for example, with whom I lived, had no words for numbers beyond single, pair, and many, no measurements, no forms of time-reckoning into years, months, or weeks, no basic colour terms beyond black and

white, and no general direction-indicators apart from where the sun rose and set. The obvious conclusion is that the learning process in societies like this will not require mastery of some of the cognitive skills, such as those involved in mathematics, that children will be obliged to develop in our kind of society. So while the Tauade have the same basic intelligence, the same innate ability to learn, as we do, it will not be developed to the same degree in the actual cognitive skills used in their environment.

Those who deny this are therefore committed, whether they like it or not, to the remarkably implausible alternative thesis that the development of literacy and numeracy and the availability of printed books, going to school and university and learning the techniques of argument and debate, living in large urban communities among people of different backgrounds and cultures, the experience of advanced legal systems, money, and commerce, and the development of modern science and technology and all the experience of machines this has involved, to list some of the most obvious innovations in the cognitive lives of human beings, have nevertheless made no real difference at all to the basic ways in which we think about the natural world, human society, our own selves and about how we think. Is that really very likely, or even believable?

In primitive society there is a marked inability to think analytically about the properties of the natural world, or about thinking and the mind, about intention, about grammar and meaning, and about the structure of society in any sort of abstract terms, and those without years of schooling and literacy are unable to grasp formal logic. Historically, we only find these abilities developing during the great literate civilisations of the Axial Age c.500 BC, and Flynn (2007) has recently shown how, in the same way, development from agrarian to industrial and scientific civilisation in the West during the last hundred and fifty years has had much more profound cognitive effects than in those societies where this development has been relatively insignificant.

Chapter 14, 'Is there a primitive mentality?', published in 1976, introduced developmental psychology, and especially the work of Piaget, to anthropologists. Although it was my first publication on the subject, it remains a good introduction, although inevitably brief, and was much more fully expanded into *The Foundations of Primitive Thought* in 1979 (FPT). This dealt with primitive conceptions of space, time, causality, classification, and number, in particular, and about thinking and the mind. Piaget was by far the most important figure in the history of developmental

psychology, and I was drawn to his work by its techniques of intensive interviews with children, and the obvious parallels between the modes of thought he was analysing in such detail and those I had encountered in Ethiopia and New Guinea, and in the anthropological literature. I had always regarded the work of Skinner and the Behaviourists as virtual parodies of science, and Piaget's developmental model of the active intellect striving to grasp the physical and social worlds through accommodation, assimilation, and equilibration seemed to me far more plausible. Empirically, there was an obvious resemblance between his reports of pre-operational thought and many aspects of what had become known as 'primitive thought', and it was clear to me that it was perfectly possible for the members of primitive societies to construct their collective representations without, in many cases, having to be able to understand concrete operations. (Thomas Kuhn, twenty years earlier, in *The Copernican Revolution*, pp.95-9, had seen the relevance of Piagetian theory to some aspects of Aristotle's theory of motion.)

This use of developmental psychology violated, of course, that long-standing taboo in the social sciences against trying to explain social facts by individual psychology. The justification for ignoring this dogma is that culture is transmitted by individuals, so if the innate differences between the sexes explain some aspects of warfare practices, for example, so too should the way in which more and less developed ways of understanding the world and society influence collective representations. Chapter 12, 'Sociological versus psychological explanations of social facts', is therefore a detailed refutation of the Standard Social Science Model's belief that culture is entirely autonomous, and that psychology can throw no light upon it.

If Freudianism were a valid psychological theory we could use that, too, but the objection to the use of his theory is not that it is psychology, but that it is bad psychology, based on mere speculation about the mind. As I show in Chapter 13, 'Social hair', there is no more reason to explain the symbolic meanings of hair by appeal to the subconscious, than to explain the symbolic meanings of the right hand/left hand opposition by the supposed workings of the subconscious either.

Piaget's work is certainly much less fashionable than it was when I wrote my book, and one frequently comes across confident assertions that it is now quite obsolete and only of historical interest, but the Piagetian tradition has actually proved very robust, which is more than can be said of Freudianism and Behaviourism. Piaget's writings are enormous in range, very demanding to read, and based on a

subtle and complex theory on the relation between psychology and epistemology. Not surprisingly, they were much misunderstood during his lifetime, and this has increased after his death in 1980. It is often mistakenly claimed, in particular, that he underestimated the abilities of children, that his age norms have been disconfirmed, that he neglected the social factors in cognitive development, that the stages of development are not uniform across tasks, that his ‘clinical method’ confuses linguistic with cognitive competence, and that his notion of formal operations is no longer viable.

Unfortunately, his critics typically fail to understand what he actually wrote. ‘I can only agree with scholars who have mentioned that Piaget’s *oeuvre* is often misunderstood or not read at all.’ (Desrochers 2008:10) Michael Barnes notes that, besides simply getting him wrong, a pattern can be observed in many of the criticisms of Piaget’s work: ‘First, there is a seemingly flat rejection of major specific aspects of Piaget’s theory, with Piaget’s claims perhaps exaggerated a bit to make the criticisms clearer. Then there are sufficient qualifying statements to indicate that Piaget’s rough outline of cognitive development is nonetheless still valid.’ (Barnes 2000:41) Piagetian psychology is therefore still flourishing and developing, as can be seen from a number of publications such as Beilin 1990, 1992, Smith 1993, Lourenço and Machado 1996, Mueller 1999, Doebert 2004, Kesselring and Mueller 2010, and the papers in *The Cambridge Companion to Piaget* 2009, as well as the various publications of the Jean Piaget Society. (This is quite apart from the work of my German colleagues, such as Guenther Dux, Peter Damerow, Ulrich Wenzel, and many others.)

One of the most fashionable anti-Piagetian trends in psychology is evolutionary psychology and its theory of mental modules, and I demonstrate the fatal flaws of this approach in Chapter 11, ‘Some anthropological objections to evolutionary psychology’, showing that developmental psychology gives a far superior account of primitive thought. (We shall return to evolutionary psychology in §5.)

While *The Foundations of Primitive Thought* has been well received by many scholars in various disciplines, in others it has provoked outrage, but many of the criticisms, like those made of Piaget’s work, have not been based on what I actually wrote. I never cease to be astonished, over the years, at the apparent inability of so many professional scholars to read and understand plain English. As an entirely independent witness has observed:

It is difficult to read some of the criticisms without getting the feeling that there are two different books by Hallpike with the same title, one of them making a carefully nuanced and detailed case that there is a large amount of pre-operational thought in evidence among primitive (nonliterate) people, the other making simplistic and absolute assertions without adducing much evidence to define their meaning. The critics read this second book; I read the first. (Barnes 2000:73-4)

For example, Gustav Jahoda, in his *Psychology and Anthropology* (1982), says at the beginning of a critique of my book that I have misunderstood Piagetian theory in two ‘crucial’ and ‘most damaging’ respects: ‘First [Hallpike] assumed that stages are fixed and rigid, uniformly characterizing the thinking of a particular individual; the second error, which follows from the first, is the belief that the performance of an individual or set of individuals on a specific task is sufficient for confident assignment to a given stage’ (1982:225). This, we must assume, is the closest approximation he can achieve to such statements in my book as: ‘[W]e can all operate on a number of different mental levels, even if we are capable of formal operational thought’ (FPT, 33); and ‘[The stages] are not clearly divided from each other...a child may perform, for example, at the level of concrete operations with respect to some cognitive tasks and still be at the pre-operatory level in the case of others’ (FPT, 27). His critique contains many other such errors and misquotations.

A number of people over the last thirty years (e.g. Hollis and Lukes [eds.] 1982, Overing [ed.] 1985, Morris 1987, Bloch 1989, Mimica 1988, Tambiah 1990, Lloyd 1990, Gell 1992,) have grappled with the problem of rationality and primitive thought since the publication of *The Foundations of Primitive Thought*, but while they have all agreed that of course developmental psychology is irrelevant, they have been unable to agree about much else. Despite all this effort very little has actually been achieved, and the prevailing impression given by this literature is not of the steady progress of a vigorous and successful research programme, but of general confusion and impotence, as in the rest of social anthropology.

Geoffrey Lloyd, for example, in his book (rather optimistically) entitled *Demystifying Mentalities* (1990), directed most of his energies to yet another refutation of poor Lévy-Bruhl, but simply evaded the relevance of Piaget and developmental psychology in a single paragraph (ibid., 6), with the peremptory assertion that children’s modes of thought cannot be relevant to those of adults. The late Alfred Gell, however, in *The Anthropology of Time* (1992) at least took the trouble to read some of Piaget’s *The Child’s Conception of Time*, and the Chapter on

time in FPT, and discuss them in detail (Gell 1992:95-117). I have therefore written a lengthy and careful reply to his critique of these books in Chapter 16, 'The anthropology of time'. I had hoped, when beginning Gell's book, that such an interesting and able anthropologist would have something significant to say about the application of developmental psychology to ethnographic data, even if it were critical. I am therefore genuinely disappointed by having to conclude that his assessment both of Piaget and myself contains gross errors of interpretation that deprive it of any claim to be taken seriously on the subject. I have also included my reply to Richard Shweder's (1981) review of my book (Chapter 15), because it is another excellent example of the failure by critics to read Piaget and myself, and the sort of nonsense that inevitably results. Various people, such as Lloyd (1990:5) and Munn (1992:96) have also used Shweder's article as an excuse for not having to discuss my book, which is a further reason for including it here. (Another attempted riposte to FPT, Jadran Mimica's *Intimations of Infinity* (1990), claims that the Iqwaye of New Guinea, despite having a verbal number system little more developed than that of the Tauade, have nevertheless managed to anticipate Cantor's concept of transfinite numbers. The ideas expressed in the book are so eccentric, and written in such obscure English, that I see no point in trying to discuss it.)

The conclusions of developmental psychology also apply to the ways in which we think about our own society and its moral and political issues, because the kinds of moral problems that arise in more complex societies are different from, and more cognitively demanding than those in simpler societies. In large parts of Papua New Guinea, for example, there is no formal mediation in disputes, and without this, it is naturally very difficult to develop objective legal criteria for assessing behaviour, so that moral judgements about a person's conduct tend to be relativistic, and dependent on whether he is a friend or an enemy of the speaker. There has also, then, been a cognitive development in the way that people think about ethical matters as societies have become more complex in the course of history. I therefore extended the use of developmental psychology to moral thinking, using the work of Piaget and Lawrence Kohlberg, in *The Evolution of Moral Understanding* (2004).

In 'The anthropology of moral development', Chapter 17, I show in considerable ethnographic detail how their work can illuminate some of the differences between the moral thinking of hunter-gatherers and complex agricultural societies. These

results conform well to Kohlberg's distinction between Pre-conventional and Conventional stages of moral thought.

4. *Cultural materialism and adaptation.*

At the time of my fieldwork it was fashionable to argue, as did the structural-functionalists, that the institutions of primitive societies were the way they were because they had the function of maintaining the stability of the society of which they were a part, and by those of a materialist and ecological persuasion that customs and institutions generally could only survive if they were of adaptive value. This essentially Darwinian emphasis on adaptation and survival as explanations of primitive institutions seemed to me, however, quite clearly at variance with the facts. The Konso had an extremely elaborate age-grading or *gada* system which was not necessary in any demonstrable way to the continuance of their society, and is now defunct, while Tauade society was organized so that in many respects it actually maximized internal conflict and violence. Nor could I see any evidence that the institutions of either society were necessitated or dictated by their economies and forms of production. Chapter 7, 'Functionalist interpretations of primitive warfare', published in 1973, reviewed the various fallacies in the arguments that warfare had some adaptive value, and concluded that it was obviously harmful, but was simply generated by social circumstances.

The belief in the programme of 'naturalizing' the social sciences assumes that culture, as one behavioural ecologist put it, 'is part of the means by which animals of the human species maintain themselves in their environments. There should be no conceptual difficulty in treating culture much as one would the behaviour of other animals' (Rappaport 1968:5). An example of this approach is his suggestion, for example, that ceremonial dances in Papua New Guinea could be explained as 'epideictic displays':

Epideictic displays are those that impart to the participants information concerning the population's size or density prior to behaviour that may affect that size or density. Included by Wynne-Edwards are 'the dancing of gnats and midges, the milling of whirligig beetles, the manoeuvres of birds and bats at roosting time, the choruses of birds, bats, frogs, insects, and shrimps'. (1962:16) (Rappaport 1968:195)

As I commented:

Whatever may be the case with gnats, midges, or even whirligig beetles, this form of reasoning is not very persuasive when applied to Tauade dances. For they have a thorough knowledge of the composition of neighbouring [groups], of the people, in short, with whom they are likely to have fight, and do not require this information to be presented to them in a dance. (Hallpike 1977a:172)

The stance of the warfare paper, and my book *Bloodshed and Vengeance in the Papuan Mountains*, (subtitled *The generation of conflict in Tauade society*) brought me into conflict with the materialists and ecologists such as A.P.Vayda, Rappaport, Netting, and the general tradition of Marvin Harris. Here, though, I should state in fairness that Vayda at least has been willing to debate and reconsider his position³, and that cultural materialists have considerably more resemblance to rational beings than the ‘flat earth’ relativists and post-Modernist anthropologists in general, or many of the sociobiologists whom we shall consider shortly, (though the materialists have strong Darwinian sympathies). To materialists, especially Marxists, and many archaeologists, it has always seemed quite obvious that societies have evolved from hunter-gatherer bands to modern industrial states. They have had no time for relativism, and its denigration of Western science, and hold that sociocultural evolution was driven by man’s physical needs and the forces of production. Their understanding of social evolution is inherently transformational, and structural rather than variational, and is therefore much less sympathetic to the whole idea of memetics and populational thinking generally. But while cultural materialism is theoretically distinct from Darwinism, its natural science approach, its emphasis on the prime importance of adaptation and the modes of production and reproduction, and its hostility to the autonomy of culture and to the importance of ideas, make it a natural ally of the Darwinians.

A key component of the theory of natural selection is the Malthusian principle that biological organisms can increase their populations at a much faster rate than can be sustained by the available food supply. This means that only a fraction of any generation can survive to reproduce, and therefore a very high level of competition between individuals, such that even the slightest advantage in the struggle for survival will be selected and inherited. Stephen Sanderson, an ardent Darwinist, applies this principle to human beings, and claims that

The resources that humans struggle for, which allow them to survive and prosper, are in short supply. This means that humans are caught up in a struggle for survival and reproduction with their fellow humans. This struggle is inevitable and unceasing. (Sanderson 2001:147)

As a general statement about the normal conditions even in primitive society, (let alone any other kind of society) this is simply not true. (See, in particular, the cautionary remarks by Vayda (1976:5-6) about this assumption.) The struggle for food in primitive society is not with one's fellows but with nature, which usually involves co-operation rather than competition, but Sanderson, who has never conducted fieldwork, did not reach his conclusion from reading ethnographies, or from laboriously trawling through the HRAF files, or from any other anthropological sources. It is an essentially philosophical conviction that is simply derived from the Darwinian syllogism: 'All animals compete with one another for resources: human beings are animals; therefore human beings must compete with one another for resources'. In reality, human history is basically one of migration, and long before any normal human population is in the position of dying from starvation due to overpopulation, the typical response to what is perceived as pressure of numbers is that some of the group's members move away.

With this assumption of extreme competition, driven by material factors, it is not surprising to find an extreme adaptationism, maintaining that every aspect of a society is there because it fills an adaptive need (e.g. Harris 1960:60-1). As already noted, Chapter 7, 'Functionalist interpretations of primitive warfare', is intended to refute this belief, and Chapter 6, 'The weakness of adaptive explanations', shows why they should be avoided altogether in the social sciences. They are either obvious ('Why do doors have locks?' – 'To control who uses them, and to protect ourselves and our property'), or wrong, nothing more than a description of unintended consequences, which may happen to be beneficial to some people or not, as the case may be. And, as is often the case even in biology, adaptive explanations in anthropology are typically unverifiable. Apart from its adaptationism, materialism also proposes a fundamentally flawed model of social systems, of a linear causal flow from the economic infrastructure → social structure → ideological superstructure. This is discussed in detail in Chapter 10, which examines Sanderson's theory in relation to the rise of Western science and technology. No one denies that the modes of production can have very powerful consequences for the rest of society – the agricultural and the industrial revolutions being two of the best examples. But there is a vital qualification here because, of course, 'the modes of production themselves depend on the types of social organization, beliefs, and knowledge that are available' (Hallpike 1986a:284), and cannot therefore be treated as independent variables.

One of the best illustrations of the way in which the ‘superstructure’ can affect the operation of the ‘infrastructure’ is the impact of state illegitimacy on economic development in some Third World countries. The rulers of every state have always had to answer the basic question ‘What right do you have to tell us what to do and take our money?’, and the justification of state power, legitimacy, obviously has very important ideological or superstructural components. Many African states were artificial constructs of colonial rule:

These new African states are not the endogeneous creations of local history. They are not embedded in domestic power relations. They lack legitimacy.

Leaders of these states face a peculiar challenge and are also limited in the options available to address it. Their challenge is to acquire sufficient hegemony over their society in order to stabilize and routinize their power. But they find it difficult to use developmental policies and institutions to generate support for themselves, as these require a level of bureaucratic loyalty and a degree of supply response from private agents, which their states lack to begin with. Hence, these leaders are more likely to resort to patronage, nepotism, corruption, and other patterns of political behavior that are occasionally subsumed under the category of *neopatrimonialism*. These policies knit the fabric of an instrumental legitimacy for the state by substituting patron-client links for its lack of moral foundations. In the process, the modern state is reduced to a merely instrumental role, a set of resources that rulers use to foster their power: fiscal revenues are distributed to create networks of political support as rulers personally appropriate public funds to finance political allegiance; employment in the service of the state is used as a means of patronage; public investments follow political rather than economic rationales; and trade and pricing distortions are introduced to create rents and vested interests. The state’s capacity to provide robust institutions and to design and implement policies that favor growth suffers as a result. Bureaucracies turn into ghostly institutions. Eventually, the rule of law vacillates, as does the trust of citizens in their institutions. As respect for institutions diminishes, corruption spreads. Private agents, domestic and foreign, stay away from such volatile economic environments. Investments dry up, and both households and firms seek refuge in informal activities. Altogether, the economy stagnates while the very logic of the system makes it resistant to reform. (Englebert 2002:5)

As this analysis of the basic link between the maintenance of political power and economic investment demonstrates so clearly, the linear, single cause model is fundamentally wrong, because what we have in fact in all societies is a *non-linear* or mutual interaction between economy, institutions, and ‘ideology’ in its widest sense. Another example of the way in which superstructure and structure can interact with the technological infrastructure is Chapter 10, which is intended as a demonstration of the crucial part that a society’s intellectual traditions, and its social organization, have on its science, and hence on the development of its technology. We need to remember that

All theories of social evolution that are based on single causes, whether biology, or geography, or technology, or social organization, or the mind, are hopeless theories. The process by which

the modern world was constructed was fundamentally an interactive one between all these factors. (Hallpike 2008b:24-5)

5. *Darwinizing culture*

Since Man has undoubtedly evolved from pre-human primates, this makes it entirely legitimate to investigate the extent to which this ancient genetic inheritance continues to influence human behaviour. As might be expected, there are important continuities from pre-human to human in the structure of the emotions and their facial expression, for example, or the young male propensity for physical violence, and here and elsewhere the study of ethology and of human universals show quite clearly how implausible are the attempts to deny the existence of basic human nature. It is human nature that, for example, makes it much easier to seek revenge than to forgive, to experience sexual jealousy, and to be ill-at-ease with strangers. In the same way, the unique human brain and its capacity for language have been essential for the development of culture, and we also find some sorts of ideas much easier to understand than others: statistical reasoning, for example, is a very late development in human civilisation. Our genetic inheritance is therefore a fundamental component in the development of human society and culture, because it explains why we find some things harder to do or to think than others, and studies of cross-cultural universals are a very promising means of investigating the biological foundations of human nature (e.g. D.E.Brown's *Human Universals*, 1991).

While I therefore have no problem with the general idea that social scientists need to take account of a biologically based human nature, some Darwinians, however, go well beyond this rather obvious point, and argue that since culture is produced by human beings, who are themselves the result of biological evolution, then culture too must be completely explicable by biology, which means by neo-Darwinian theory, because this provides the only viable account of biological evolution. While, like most normal, educated people, they accept the obvious facts of social evolution from hunter-gatherer bands to modern industrial states, they still maintain that this process cannot be an exception from the claims of natural science, and that the explanatory reduction of human life and culture to fundamental principles that are ultimately biological is the proper scientific procedure.

[Biologists] wager the *raison d'être* of science on establishing the validity of the principle of reductionism: in order for science to remain tenable, it must have universal explanatory power; and this means "nesting" the human sciences in the great hierarchy of sciences. If evolutionary

biology cannot explain human culture, then perhaps its explanations of other phenomena ought to be re-examined. (Fracchia and Lewontin 1999:55)

As two leading evolutionary psychologists have put it,

We suggest that this lack of progress [of the Standard Social Science Model], this failure to thrive, has been caused by the failure of the social sciences to explore or accept their logical connections to the rest of the body of science—that is, to causally locate their objects of study inside the larger network of scientific knowledge. (Tooby and Cosmides 1992:23)

There is also a strong current of opinion among biologists which relishes the ‘unmasking’ of what is seen as human pretentiousness, and great efforts are spent in trying to show that ‘we are not so different after all’ from chimpanzees or baboons, and to dispel the illusion that we have transcended nature:

Humans seem to be predisposed to believe that culture provides a fundamentally superior mode of adaptation. Our understandable desire to see humans elevated somehow above the common run of beasts ought to be taken into account before we accept explanations entailing accidental evolutionary ‘breakthroughs’. (Boyd and Richerson 1985:283)

The scientifically relevant point about the evolutionary breakthrough of culture, however, is not that it made us ‘superior’ but that it gave us a radically *new* means of interaction with one another, because language made it possible for human beings to be linked together in systems of *ideas* and *meaning*, rather than by purely physical relations such as grooming. This made possible the development of integrated systems of social roles, rules, values, beliefs, and symbolism that can have no parallel in the animal kingdom. Radically new, *emergent* kinds of system are scarcely unknown in science – the development of living organisms out of inorganic matter being the earlier and most obvious example. What matters scientifically about living organisms is not that they are ‘superior’ to inorganic matter, but that they behave in ways which are not found in non-living matter, and which cannot be accounted for by the laws of physics and chemistry *alone*. The principle of natural selection, for example, is, in the words of Richard Lewontin, ‘uniquely biological’, because only living organisms are born, have to survive and reproduce, and die. The social scientist is merely making a similar point when he emphasises that, while individual human beings are organisms that are the product of biological evolution, human cultural systems, in their turn, have emergent properties that cannot be explained by biological principles such as variation and selection, inclusive fitness theory, or genetic determinism. There is nothing in the least unscientific or hubristic in this belief because it is a simple

statement of fact, and arguments based on the necessary unity of science are quite beside the point.

We therefore have no *a priori* reason for believing that Darwinian theory must have any particular relevance to human sociocultural systems. Attempts to apply it to human society in fact take two basic forms. The first one that will concern us can broadly be called sociobiology, and emphasises the genetic basis of human thought and behaviour, and here we shall be especially concerned with inclusive fitness theory and evolutionary psychology.

The central claim of sociobiology is that since all organisms have evolved under natural selection, they must be fundamentally selfish, since any altruistic propensity to sacrifice one's own welfare for that of others would be weeded out by natural selection. Hence the importance of the concept of inclusive fitness, which claims that we are actually programmed by natural selection to maximize the reproductive success of our genes, and therefore that altruistically dispensing benefits to relatives such as nephews and cousins, 'nepotism', could also make evolutionary sense because they share some of our genes. Richard Alexander therefore claimed that inclusive fitness theory 'resolved the ancient philosophical paradox whether humans are really selfish individualists or group altruists, and provided, I believe, the first simple, general theory of human nature with a high likelihood of widespread acceptance' (Alexander 1979:xii) and 'According to inclusive-fitness theory, then, we should have evolved to be exceedingly effective nepotists, and we should have *evolved* to be nothing else at all' (ibid., 46).

In 'The relevance of the theory of inclusive fitness to human society' (Chapter 8), I point out that, whatever may be the case in anonymous swarms of birds and fish, in small human groups that have persisted for generations, and where everyone knows everybody else, mutual co-operation, even between non-relatives, is simply enlightened self-interest, which is recognised as such by all. In addition, this co-operation is achieved at little cost to individual welfare, and the sociobiologists' favourite scenario in which individuals sacrifice themselves so that a genetically equivalent number of cousins can survive, is a fantasy. On the other hand, cheaters who try to get without giving in social exchange will not increase their fitness because they are easily detected and punished. Trivers (1971) has also shown that 'reciprocal altruism' between non-kin can be selectively advantageous too, so it is obvious that the degree of genetic relatedness, as such, can predict little of interest about co-

operation in human society. I then go on to make an especially close analysis of the avunculate, where a man dispenses benefits to his sister's children rather than to his own, because Alexander states that it is one of the two 'most provocative and outstanding apparent contradictions of an evolutionary view of human behavior' (1979:168). He regards the sociobiological explanation of this practice as a particular triumph for inclusive fitness theory, because he claims that it is produced by men's low confidence in the paternity of their children. This, in other words, is an example of his claim that institutions are produced by the motivation of individuals. But I show in some detail, on the contrary, that the avunculate has nothing to do with inclusive fitness and low confidence in paternity, and is actually the result of the whole *system* of matrilineal kinship.

The avunculate is an unusual institution, but inclusive fitness is also a very unreliable predictor of the general forms of kinship and marriage that are to be found in human society. Many of these, for example, prescribe very different norms of cooperation between people's lineal and non-lineal kin, although this distinction does not rest on any genetic differences at all. Sahlin (1977:26-54) gives a useful survey of the range of variations that occur in kinship systems, and concludes:

...no system of human kinship relations is organized in accord with the genetic coefficients of relationships as known to sociobiologists. Each consists from this point of view of arbitrary rules of marriage, residence, and descent, from which are generated distinctive arrangements of kinship groups and statuses, and determinations of kinship distance that violate the natural specifications of genealogy. Each kinship order has accordingly its own theory of heredity or shared substance, which is never the genetic theory of modern biology, and a corresponding pattern of sociability. Such human *conceptions* of kinship may be so far from biology as to exclude all but a small fraction of a person's genealogical connections from the category of 'close kin'; while, at the same time, including in that category, as sharing common blood very distantly related people or even complete strangers. Among those strangers (genetically) may be one's own children (culturally) [e.g. adopted children]. (ibid., 57).

Evolutionary psychology is another variety of sociobiology, and believes that it is possible to show that the human mind is composed of a set of mental modules adapted to the conditions of the Pleistocene in East Africa. I discuss this theory in great detail in Chapter 11, and here I shall merely note the inherent implausibility of the whole enterprise. In the first place, there is little point in claiming that our minds are adapted to the conditions of the Stone Age when we have no way of knowing what these were like, beyond the obvious facts that such a life must have involved a foraging existence by very small groups. It is quite possible that the love of personal decoration, singing and dancing, and even of telling stories round the camp fire are part of human nature,

but we infer this from their cultural universality at the present time, and not from the imaginary activities of our prehistoric ancestors. Secondly, if our minds and behavioural dispositions are indeed closely adapted to the problems of the Pleistocene in East Africa, one would expect this to have high predictive value about the subsequent development of Man, especially in the last 10,000 years that have led to modern global society. What we actually find is that humans have found out how to thrive in environments vastly different from that of East Africa, and develop technology, modes of thought, and social organization of a variety and complexity that have no relevance to any 'adaptive problems' that could have existed in the Stone Age. In this respect, therefore, evolutionary psychology has zero predictive value, and the whole theory that our dispositions and capacities are adaptations linked to any particular environment is completely refuted by the facts.

Evolutionary psychologists, and sociobiologists in general, typically have little grasp of the practicalities of life in primitive society, and often display remarkable ignorance of the anthropological literature and an amateurish level of analysis⁴. (This is in marked contrast to their studies of non-human species such as ants and baboons, which are typically well-informed and professional.) For example, we have seen that Alexander's whole book, *Darwinism and Human Affairs*, is based on the idea that we have evolved to be nepotists, that is, to increase our inclusive fitness by making altruistic sacrifices for our relatives who are not our immediate descendants. Quite remarkably, Alexander has reached this conclusion without any knowledge of what it is like to live in a subsistence economy, without markets or money, and therefore doesn't realise that where every adult is basically self-sufficient, and has equal access to the means of subsistence, it is actually quite difficult to make an important contribution to the welfare of others at a significant cost to one's own, and from all my years of fieldwork I cannot think of any examples of such behaviour. There is, of course, a great deal of gift exchange, especially among hunter-gatherers, but this is basically symbolic, to create good-will, and does not involve genuine altruism – something that is actually notably lacking in hunter-gatherer societies, at least.

Indeed, Alexander simply dismisses most anthropologists' accounts of primitive societies because they do not provide support for inclusive-fitness theory: 'most anthropological discussions are so interpretative that their dependence on group-level or non-reproductive functions make them difficult to use in discussions based on a theory of inclusive-fitness-maximizing by individuals.'(ibid., 161) Instead, he prefers

to base his ideas of how primitive societies work on G.P.Murdock's strange book *Social Structure* (1949), strange because, despite its title, it is wholly concerned with systems of kinship and marriage, while the fundamental topics of economy, land tenure, and exchange, residence patterns, dispute settlement and law, age-grading systems, political leadership, and warfare, which most anthropologists think have a rather important bearing on social organization, are not mentioned. As such, and taken by itself, it is a wholly unreliable guide to primitive society.

The second kind of attempt to Darwinize culture, 'social selection', recognises the distinctive nature of culture, and that attempts to bring it within the scope of a purely biological explanation are too crude. Dawkins, in particular, disagrees with socio-biology: 'These ideas [inclusive fitness and reciprocal altruism]...do not begin to square up to the formidable challenge of explaining culture, cultural evolution, and the immense differences between human cultures around the world...' (Dawkins 1978: 205). His own alternative suggestion is that there are cultural replicators, memes, analogous to the gene, and that social evolution is produced by the variation and selection of these in the usual Darwinian manner. Dennett (1995) generalized this idea of a replicator into 'Universal Darwinism', the belief that the basic algorithm of 'variation-plus-selection' can explain the emergence of *any* kind of order, whether in physics, biology, or human culture. In other words, it can solve the general problem of teleology, of showing that what *looks* like the work of a designer – be it God or individual people - is in fact the result of mindless processes, and we can at least agree that social evolution was certainly not the result of conscious human design.

This faith in the limitless explanatory powers of variation-plus-selection, 'ultra-Darwinism', which goes well beyond the claims of Darwin himself (Gould 2000:85), ignores the fundamental differences between biological and sociocultural processes, particularly that between a system and a population. The theory of natural selection sees evolution as a change in the relative frequencies of some characteristic, such as an increase of dark over light coloured moths in a particular population. *Populational* thinking is therefore a key requirement of any Darwinian model because selection changes the *relative frequency* of whatever is being selected in a population: individual organisms, genes, or cultural traits, and greater relative frequency is the measure of fitness, which is the whole name of the evolutionary game.

While there could be no society without a population of individual people, these individuals are also linked together in a system of mutually related roles and

institutions, and all the political, economic, and other social interactions to which they give rise. The relative frequencies of the components are irrelevant to understanding how sociocultural systems work, because this is determined to a considerable degree by the *relations* between its component roles and institutions. This also means that the operations of the systems cannot simply be derived from the behaviour of individuals, in sociobiological fashion, but have their own dynamic. Moreover, some of the psychological states of individuals are constantly being changed by their interactions within the system.

For example, ‘The principles of alliance formation between Konso towns’, (Chapter 9), shows that, while the network of individual towns might be regarded by Darwinians as a population, interacting initially in fairly random ways, the relations between them develop a structure which originates in the properties of the network as a whole. These properties partly derive from the internal ‘psychological’ rules governing each town’s evaluation of its neighbours, but also from the nature of the system itself, so that the towns’ evaluations, their ‘psychological states’, themselves change in response to the system. We find that a few towns become bound by what I call nuclear alliances, with all friends and enemies in common, and simulations show that the majority of such alliances will only have two members. It is important to note, however, that two-member alliances are not superior or fitter than three- or four-member alliances, nor are they selected by the system – they are *produced* by it, a fundamentally non-Darwinian approach. The exercise is also another demonstration of the impossibility of applying populational analysis to systems of relations, because the relationships all interact upon one another in a non-linear manner.

It is therefore understandable why the last thing the Darwinist can tolerate is anything structural or systemic. This may be in the relations between individuals, maximizing their inclusive fitness: ‘[H]uman behaviour must be studied as the outcome of the interactions of individuals’, as Alexander says (1979:48); or it may be in systems of thought: ‘Culture is an evolving product of populations of human brains’, (Boyd and Richerson 2005:7), emphasising the centrality of populational thinking in their theory of gene-culture evolution.

The easiest way to make society disappear is simply to dissolve it by definitional fiat into a mere population...E.O.Wilson, for example, writes: ‘When societies are viewed strictly as populations, the relationship between culture and heredity can be defined more precisely’. Robert Boyd and Peter Richerson state rather categorically that ‘cultural evolution, like genetic evolution in a sexual species, is always a group or population problem’; and in a later

work: 'because cultural change is a population process, it can be studied using Darwinian methods'. (Fracchia & Lewontin 1999:69)

The whole idea behind populational thinking is therefore to remove the *systemic* properties of sociocultural systems, and convert culture into information inside the brains of *individuals*, like the genes inside each organism. Social scientists, beginning with Tylor, have always, and rightly, emphasised the holistic, systemic nature of culture, but 'Fortunately, onerous and all-encompassing definitions of culture, like Tylor's, have had their day. More cognitive perspectives are in the ascendancy which restrict culture to *learned* information stored in the brain' (Laland and Brown 2002:272), so that the idea of culture as socially learned information can pave the way for its quantification. Trying to apply the populational model to society therefore ignores one of the fundamental differences between societies and organisms, which is that

...while biological systems have two distinct developmental processes, phylogeny and ontogeny, in social systems these are one and the same...[A]s Huxley clearly recognized, a society '...is at one and the same time both soma and germ-plasm, both a mechanism of maintenance and a mechanism of reproduction or transmission' (Huxley 1956:9)...It therefore follows that biologists who apply a statistical, 'gene-pool' model to social systems, and try to estimate the 'fitness' of some social trait by its relative frequency, are guilty of the same sort of absurdity as a sociologist who supposed that retinal cells have less fitness than muscle cells because they are fewer of them. This fundamental misunderstanding of the nature of social systems and their evolution pervades almost all the attempts to explain it in Darwinian terms. (Hallpike 1986a:35)

The most elaborate attempt to apply the selectionist, populational model to human sociocultural systems has been memetics, which I discuss at length in Chapter 5, 'Memetics: a Darwinian pseudo-science'. A vast amount has been written in the last few decades on the meme, and its variants, but the really crucial points, which decide whether the theory can possibly work or not, are few and simple: memes have never been shown to exist at all; they cannot satisfy the requirement of fidelity of replication; sociocultural systems are more than populations, so the relative frequency of memes cannot be a test of their success or fitness; we do the actual replicating, so that memes are not autonomous; and memetics has not actually been able to solve any problems in the social sciences in a convincing manner.

The hostility of moderate social scientists, such as myself, to biologists' applications of Darwinian theory to human society and its evolution is not, therefore, because the truths which they reveal are too painful to contemplate, but because many of them are not only bad science but are presented with a dogmatic intolerance of

criticism which is probably unique in the natural sciences. As Professor Ingold says, 'I have found neo-Darwinian selectionists peculiarly intolerant of any intellectual challenge to their point of view. They simply assume it to be unassailable and refuse to discuss it further. Their favourite ploy, of course, is to brand anyone who doesn't fall into line as a crypto-Creationist.' (Ingold 2000:2) Richard Alexander gives a good example of this mentality when he claims of inclusive fitness theory that it is 'the *only* [my emphasis] theoretical base from which to undertake a truly comprehensive analysis of human activities and tendencies.' (1979:xi) He is also convinced that it is the final truth and will never need revision: 'This general view of organic evolution I regard as firmly established; I do not expect any significant part of it to be retracted or altered in the future...'. (ibid., 65)

As we have seen, some of the criticisms of sociobiology by social scientists, such as of Ekman's work on facial expressions, were so extreme as to be unhinged, but the reaction of the Darwinists to this unreasoning hostility did not help. For example,

At the founding meeting of the Human Behavior and Evolution society (HBES) in Evanston in 1989, President Bill Hamilton gave an address in which he described scholars interested in the evolutionary basis of human behaviour as 'a small, besieged group'...Some people present at the time recall Hamilton urging enthusiasts not to worry if their theories were crazy or their hypotheses untestable, but to march boldly ahead without fear of the consequences. (Laland and Brown 2002:7)

The unfortunate result is that the application of Darwinism to human affairs has to a considerable extent become a cult promoted by 'True Believers', and as absurd as the political correctness of their opponents in the social sciences.

In fact, if we ignore the wild claims of the ultra-Darwinists that selection can explain everything, it is perfectly possible that there may be some parallels between biological and social evolution because they are both developmental processes from the simple to the complex. For example, in organisms there are many features that are adaptively neutral, 'non-aptations', but which are a fertile source of future forms that can have adaptive value:

...the enormous pool of non-aptations must be the wellspring and reservoir of most evolutionary flexibility. We need to recognize the central role of 'co-optability for fitness' as the primary evolutionary significance of ubiquitous non-aptation in organisms. (Gould and Vrba 1982:12).

Quite independently, I wrote in very similar terms about the evolutionary potential of non-aptations in human social evolution:

Social evolution has therefore been possible partly because, instead of weeding out everything that is not immediately useful, societies carry a good deal of ‘dead wood’ that may be of no particular adaptive value at the moment. They operate rather like those people who never throw anything away, because ‘you never know when it may be useful’. (Hallpike 2008b:16)

Again, the enormous strides made by developmental biology in the last two decades or so are showing, as Kauffman has said, that we can have self-organization without selection, just as I have been arguing is the case in human society:

...many of the highly ordered properties of genomic regulatory systems are spontaneous, self-organized features of complex control systems which required almost no selection at all. Clearly, if much of the order we see in ontogeny reflects the natural features of control systems, we must rethink evolutionary biology. Some of the sources of order lie outside selection. (Kauffman 1993:408)

But whatever the resemblances between the two sorts of evolution may eventually turn out to be, they will not be discovered by dogmatically invoking a particular evolutionary model, and trying to impose it where it doesn’t fit, but by following where the evidence eventually leads us both in biology and the social sciences.

Notes

1. It is worth a short diversion to have a closer look at the intellectual quality of Arens’s case. There are many reasons not to believe his theory, and one of the most compelling is that indigenous informants from many societies have admitted to anthropologists that they or their ancestors used to eat human flesh, which obviously refutes his basic belief that cannibalism is essentially a myth propagated by hostile outsiders. I was told this myself, for example, by my Tauade informants in Papua New Guinea, who gave me a good deal of information about their traditional cannibalistic practices, that also coincided with accounts from other areas, particularly their statements that cooked human meat is white, whereas someone who had never seen this might suppose that it would be dark, to match the skin colour of Papuans. It is very significant that Arens makes no attempt to deal with any of this type of evidence, and does not even acknowledge its existence.

A further and more fundamental objection derives from the general problem of trying to prove a negative. The most effective method of proving that something like cannibalism does *not* exist, is to find cases where the evidence for it seems to be the strongest, and then try to demonstrate that in fact this so-called evidence is fabricated or otherwise too weak to prove the case. If the strongest cases fail to demonstrate the existence of cannibalism, then it is a reasonable inference that weaker cases are likely to fail as well, even if we cannot examine all of them. On the other hand, it only takes one black swan to disprove the law that all swans are white, and there are plenty of ‘black swans’ for Arens’s theory in Fiji, Papua New Guinea, and New Zealand. These three areas provide some of the best evidence for cannibalism (including eye-witness accounts) but Arens ignores them all. Yet in Fiji, for example, in the expert opinion of Marshall Sahlins, cannibalistic symbolism permeated their whole way of life; it was expressed in

‘. . .the specific drumbeats announcing the taking of *bakola* [cannibal victims]; the pennants flying from the masts of victorious canoes signifying *bakola* on board; the ovens reserved for cannibal feasts; the special stones near the temple on which *bakola* were carved up; the sacred trees on which their genitals were hung; the (natural) bamboo splints used to carve human flesh and the elaborately

fashioned forks used to eat it; the distinctive dances, songs and unrestrained joy with which young women, dressed in finery, greeted the return of successful warriors; the sexual orgies while the bodies were cooking; the ritual consecration of warriors who had killed and the enshrinement of their war clubs in the temples; the miserable afterlife of unsuccessful warriors, pounding a pile of shit through all eternity; the gourmet debates about body parts; the taboos on human flesh for certain persons; the cures effected by pressing cooked *bakola* flesh to the lips of afflicted children; the sail needles made from the bones of notable *bakola* and the poetry from their fate.’ (Sahlins 2003:4)

Most strangely of all, Arens, Obeyesekere, Jahoda, and others who believe cannibalism is a myth, never explain why the *refusal* to eat human flesh (other than, of course, in starvation situations) must apparently be such a powerful and universal cultural imperative. One might be unwilling to believe, in principle, that any society could possibly have institutionalised the eating of human faeces, but there is nothing about human flesh, as such, that makes it inconceivable that people could ever have chosen to eat it, so the unwillingness of these academics to believe in the possibility of cannibalism appears to be the result of their own Western liberal ethnocentrism. Moreover, if all moral rules are culturally relative, how can it be insulting to call the Fijians or the Tauade cannibals, when they happily admit to having been so (historically), any more than it could be insulting to call them polygamists? (A more balanced and scholarly account of cannibalism can be found in *The Ethnography of Cannibalism* (Brown and Tuzin 1983).

2. The topic of ‘The Dawn’, in particular, seems to attract pseudo-scholarship like fly-paper, and in *Before the Dawn. Recovering the Lost History of Our Ancestors* (2007), Nicholas Wade claims, among many other unlikely things, that when our ancestors began their dispersal from East Africa around 60,000 years ago, they were wearing tailored clothes. He bases this remarkable claim on genetic studies of human body lice, showing that they diverged from head lice around 100,000 years ago and hence that early man must have worn tailored clothes in which the lice could have laid their eggs. The absurdity of this theory will at once be obvious to any field-anthropologist who has worked in East Africa – among other things, what could these mythical clothes have been made from, and why, in the heat of the Red Sea coast, would people have wanted them anyway? A far more plausible pathway for body lice, if one is needed, would have been sleeping skins.

3. Notably in the very fair-minded response of his paper ‘Explaining why Marings fought’ (1989) to my earlier criticisms (1973b, 1986a) of his explanations of Maring warfare.

4. A classic example is E.O. Wilson’s attempt in his *Human Nature* to explain how homosexuals could have increased their inclusive fitness in foraging bands by assisting their close relatives in child care: ‘The homosexual members of primitive societies could have helped members of the same sex, either while hunting and gathering or in more domestic occupations at the dwelling sites. Free from the special obligations of parental duties, they would have been in a position to operate with special efficiency in assisting close relatives. They might further have taken the roles of seers, shamans, artists, and keepers of tribal knowledge. If the relatives – sisters, brothers, nieces, nephews, and others – were benefited by higher survival and reproductive rates, the genes these individuals shared with the homosexual specialists would have increased at the expense of alternative genes. Inevitably, some of these genes would have been those that predisposed individuals toward homosexuality.’ (Wilson 1978:145)

But where did Wilson obtain this engaging picture of the helpful, nepotistic homosexual looking after the children, or about the sexual orientation of the various specialists to whom he refers? It is very difficult to get much reliable information on homosexuality in primitive society, and Wilson’s ideas are in fact completely uninformed speculation, with no reference to the work of professional anthropologists and their detailed ethnographies of hunter-gatherer life.

Even assuming that there are genes that dispose people to homosexuality, Wilson’s basic fallacy is, quite wrongly, to assume that homosexuals can’t (or won’t) have children, whereas there is plenty of evidence from anthropology, the classical world, and more recent history, that homosexuals of both genders are quite capable, in most cases, of marrying and begetting children. Given the enormous social pressures for marriage in traditional societies, it is far simpler than Wilson’s scenario, and more in accordance with the known facts, simply to assume that if these putative genes for homosexuality exist, they were perpetuated by those with homosexual inclinations who nevertheless married and begot children, thereby making their ‘homosexual’ genes invisible to natural selection.

Papers from *On Primitive Society* referred to in the text:

1. **Introduction.**
2. **Is there a primitive society?** (*Cambridge Anthropologist* 16(1), 29-44, **1992**.)
3. **Relativism.** (Adapted from Chapter I of *The Evolution of Moral Understanding*, **2004**.)
4. **How social evolution works.** (Paper presented at 8th Conference of the European Sociological Association, *Evolution and Sociology*, Glasgow, 5th September, **2007**). (Revised.)
5. **Memetics: a Darwinian pseudo-science.** (Previously unpublished.)
6. **The weakness of adaptive explanations.** (Previously unpublished.)
7. **Functionalist interpretations of primitive warfare.** (*Man (n.s.)* 8, 451-70, **1973**.)
8. **The relevance of the theory of inclusive fitness to human society.** (*Journal of Social and Biological Structures*, 7, 131-44, **1984**.)
9. **The rise of modern science and industrial technology: a test case of Sanderson's evolutionary model of human society.** (Paper presented at Conference on *The Evolution of Human Sociality*, School of Political Science and Sociology, Innsbruck University, 9th June, 2006. Published in *The New Evolutionary Social Science. Human nature, social behavior, and social change*. Eds. H-J Niedenzu, T.Meleghy, & P.Meyer. 122-34 London: Paradigm Publishers. **2008**.)
10. **Some anthropological objections to evolutionary psychology.** (Previously unpublished.)
11. **Sociological versus psychological explanations of social facts.** (Adapted from Chapter II of *The Foundations of Primitive Thought*, **1979**.)
12. **Social hair.** (*Man (n.s.)*, 4, 256-64, **1969**, with later revisions.)
13. **Is there a primitive mentality?** (*Man (n.s.)* 11, 253-70, **1976**.)
14. **Reply to R. Shweder 'On savages and other children'.** (*American Anthropologist*, 85, 656-660. **1983**.)
15. **The anthropology of time.** (Previously unpublished.)
16. **The anthropology of moral development.** (Plenary Address to 35th Conference of the Jean Piaget Society, Vancouver, 3 June, 2005. Published in *Social Life and Social Knowledge. Toward a process account of development*. Eds. U.Mueller et al. 225-53. New York: Lawrence Erlbaum Associates. **2008**.)

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