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1 The archaeology of 'two cultures'

> I have had, of course, intimate friends among both scientists and writers. It was through living among these groups and much more, I think through moving regularly from one to the other and back again that I got occupied with the problem of what, long before I put it on paper, I christened to myself as the 'two cultures'. For constantly I felt I was moving among two groups – comparable in intelligence, identical in race, not grossly different in social origin, earning about the same incomes, who had almost ceased to communicate at all, who in intellectual, moral and psychological climate had so little in common. (C. P. Snow 1959, 2)

> The only presence science has is as a matter of external reference, entailed in a show of knowledgeableness. Of qualities that one might set to the credit of scientific training there are none. As far as the internal evidence goes, the lecture was conceived and written by someone who had not had the advantage of an intellectual discipline of any kind. I was on the point of illustrating this truth from Snow's way with the term 'culture' – a term so important for his purposes. By way of enforcing his testimony that the scientists 'have their own culture', he tells us: 'This culture contains a great deal of argument, usually much more rigorous, and almost always at a higher conceptual level, than literary persons' arguments'. But the argument of Snow's Rede Lecture is at an immensely lower conceptual level, and incomparably more loose and inconsequent than any I myself, a literary person, should permit in a group discussion I was conducting, let alone a pupil's essay. (F. R. Leavis 1962, 14–15)

The extracts above are taken from two Cambridge lectures. The first, delivered by the late Sir Charles Snow, a scientist and author, sketches the problem which he considers to be inherent to twentieth-century academia, that of the 'two cultures', divided conceptually between those who study science, and those who study the arts. The outline of the lecture, as indicated from this extract, suggested that the two disciplines were simply not talking to each other. This extract illustrates quite clearly the point that I wish to make in this opening chapter with regard to contemporary archaeology; that is, that archaeological scientists and theoretical archaeologists are quite simply speaking in different languages and have

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quite different visions of what the study of archaeology entails. This paradoxical disciplinary position has served to force both a vigorous critique of positivism on the side of those practising interpretative or theoretical approaches (see Thomas 1990) and a whole-hearted rejection of post-structuralist theory on the part of those practising scientific archaeology. Here the position can be summed up by Dunnell's assertion that 'the effort, rigour and cost of physical analyses are lost in a humanistic approach where they serve only to aspire story telling' (1993, 164).

Of course, as Snow's extract indicates, the division of intellectual labour between the arts and sciences remains a long-standing problem. However, very few disciplines attempt to bridge the intellectual gap between these bodies of knowledge. The question I wish to ask in this first chapter is do we bridge the gap or do we in fact practise two different kinds of archaeology, each of which produces different orders of knowledge about the past? The aim of this book will be an attempt to examine the problems facing contemporary archaeology as a discipline that is essentially split in its theoretical and methodological aims. The second question I wish to consider is whether this split is theoretically and methodologically surmountable, or whether the two orders of knowledge are ultimately incommensurable?

The second quotation is from a lecture delivered some years later by the late F. R. Leavis, a professor of English Literature and a prominent literary critic. This second lecture inveighed against the coarse-grained nature of Snow's argument, against Snow himself and, to some extent, against science itself as the talisman with which to heal all ills. This extract illustrates the intensity that the debate between scientists and artists often reaches. Such intensity of debate certainly has its parallels in the archaeological literature since the 1960s.

While Snow was both writer and scientist, his sympathy lay with science. His interpretation of the problematic relationship between science and the arts was simplistic; he saw science as the way forward, believing it to be more rigorous than the arts, and more capable of providing both truth and answers for society's problems. Science would emerge as a latter-day holy grail, enabling the gap between rich and poor to be finally bridged. Leavis' main point concerned the quality and rigour of Snow's argument, and he rightly noted that science by itself held little promise if it was not linked to a clearer understanding of society. As we shall see, the debates between the arts and the sciences over rigour, truth and the application of science have considerable resonance with the problems we need to face in examining the position of science and interpretation in the wider archaeological programme.

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The intellectual division outlined above is not peculiar to the subject of archaeology; rather, the epistemological division between arts and sciences is a major concern in the construction and understanding of all forms of knowledge. When discussing the different intellectual positions taken up in constructing different orders of knowledge, we find that there are a plethora of terms used to define these interpretative positions. The definition of terms is a traditional issue of contention for those criticising opposing knowledge claims (for example see Reyna 1995). Therefore, in the proceeding section I wish to clearly outline the major problems in our discussion of differing domains of knowledge, to define the terms in which they are discussed, and to examine the ways in which they relate to each other. This clarification exercise is necessary before we proceed on to consider how these varying theoretical positions have been discussed within archaeology. In the account below it will not be possible to define the precise details of each theoretical position; rather I intend to provide a broad overview of the epistemological problems which face both the natural and social sciences. Overall, I want to critically evaluate the practice of science and examine ways in which theoretical or interpretative archaeologists may engage with science. Meanwhile, I also wish to demonstrate the necessity of social theory within archaeology, and suggest ways in which scientific archaeologists may critically engage in social archaeology.

Objectivity and subjectivity

Conventionally, within Western philosophical traditions – at least since Descartes and the early work of Kant (see Toulmin 1990 for discussion of the historical origins of Cartesian dualisms) – the world has been perceived to be composed of two things with differing properties, generally described as objects and subjects. Nature – the world of objects – is seen as an inanimate and immutable essence that existed prior to its description by subjects. Subjects, on the other hand, are perceived as animate and are therefore invested with the ability to act and describe the inanimate world of objects. This section will consider the processes and methods by which scientists, philosophers and sociologists investigate this apparent division.

According to an objectivist position the world consists of objects which exist 'out there', beyond the internal world of human subjects. The relations pertaining between these objects can be adequately described, discussed and studied by perceiving them and then representing them through language. The relationship between our language terms and the

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existence of objects in the world is seen as unproblematic and one-to-one. The core concept on which much of the empirical position of objectivism rests is that of phenomenalism. According to this position, the world can only be perceived through its direct apprehension by the senses. Through the description of externally perceived objects, language allows a direct representation of what actually exists in the external world (see Rorty 1991, 1–20). The position of objectivism allows for the possibility of an outsider's view that is able to accurately describe the nature of the world (Putnam 1975). This view can be taken up simply because, as thinking and acting subjects, we have a privileged and external view of nature. When we view objects in this objective manner our sense data correspond exactly with what is found in nature, and the language we use to describe these sense data accurately depicts these data using words. The use of these words in language allows us then to define the boundaries around objects and establish the relations of sameness and difference between described objects. What is more, the relationships between objects perceived in this way are generally seen as causal; in other words, they can be described by simple cause and effect systems. This generalised position broadly encompasses a number of epistemological positions, and each is characterised by the a priori assumption that this general division of the world exists. For instance, logical positivism holds that through building observation-based theories about the world, and testing those theories against the observed world, we are able to adequately describe the true nature of the world (Hempel 1965).

These positions are viewed as essential theoretical tools for the natural sciences. The objective existence of a prior natural world is essential for carrying out science. This is because it is only by assuming the real existence of the natural world that scientists can feel secure that their knowledge provides a description of the world that is valid and consistent. Since the goal of science is the steady and cumulative accretion of knowledge, in order for science to be carried forward and reproduced it must accept the notion of nature as a constant. This constant, the natural world, can always be drawn on to back up arguments concerning the real nature of observations (Latour 1987, 94–100). There are two important points we must draw from this: first, in order to carry out science we must believe in the constancy of the natural world; and second, we must take up a detached position to accurately describe that world.

But there are problems with this view. What if we cannot extricate ourselves from the world in order to describe it? If we consider this possibility, we then have to consider that maybe our senses are conditioned by the position that we take up within the world. If this is allowed as a possibility,

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then it is also probable that we are not accurately describing our world, but categorising it in specific ways. If this is the case then our language cannot accurately represent the objects in the world. If we take all these possibilities into consideration, we can no longer consider the world as a constant. This is especially important if we wish to extend our analysis to animate subjects in order to examine their role in constructing society.

I will consider each of these points in order to explain the nature of subjectivism. At this point I wish to focus on the ways in which various processes of acculturation affect the way in which we describe and interpret the world. The main point here is that we can never step back from the world in order to describe and know it since the very apparatus we use to do so, our senses and our language, is determined by the cultural world in which we live.

I will commence my discussion with the problem of perception. Here the most important issue is the cognitive categorisation of our sense data and the subsequent categories we use to describe these data. Recent work by cognitive psychologists has questioned the notion that the categories we use to describe the world are essentialist in form. They concede that the mind has a particular and given structural organisation. However, the way in which this structure is ordered is dependent upon the cultural uses of devices such as metaphors in constructing relationships between perceived objects (Lakoff and Johnson 1980; Lakoff 1987).

If we consider the way in which we categorise the world to be determined not by a priori categories in the world, but by the metaphors we employ to describe those categories, then we reach a point at which the description of the world is contingent or emergent. Rather than viewing the world of objects and subjects as static, we have to see them as fluid and dependent for their apparently solid nature on our descriptions of them. Rather than accurately using sense data to describe objects, we are using culturally contingent values or metaphors. If we take this as a valid observation, then the language we use to describe those objects is also contingent. This point was made apparent through the early work of linguists such as Saussure (1916 [1966]) and philosophers such as Wittgenstein (1953). Importantly, Saussure noted that there was an arbitrary relationship between objects and the precise words used to describe them in language. There is nothing in the properties of objects that is reflected in the words used to refer to them in social language. For Saussure, language was an abstract code distinct from the world of objects.

This appraisal of language has given rise to two further important notions: most notably, structuralism (Lévi-Strauss 1966), the study of how such abstracts are ordered culturally, which is essentially a study of the codes employed in constructing culture; and semiotics, which has given

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rise to a deeper understanding of how symbols are used. Rather than considering symbols as entirely abstract, the focus is on how meaning is created through the codified use of such symbols (Eco 1979; Ricoeur 1976). This presents us with a double problematic: we are not only conditioned by the cultural world around us, and are therefore not perceiving the world directly, but we are also investigating the manipulation of objects as cultural symbols, as cultural meanings. Thus we arrive at a position where neither the senses used to report the natural world, nor the cultural devices used to describe it (language), relate to the objective world in a simple way. Rather they are determined by our cultural expectations. This leads us on to a further important point concerning our interpretation of the world.

I have outlined the problems surrounding our cultural understanding of the world of inanimate objects, and have observed that our subjective examination of objects is bound up with the manipulation of cultural meanings; however, further problems arise when we turn to consider the world of animate subjects. First, our positions as interpreters are not divorced from the subject that we are interpreting – human society – since the very apparatus we use to describe society are the cultural meanings from which society is composed. We are then in a situated relationship in relation to our subject of investigation, and we must be extremely careful about our interpretations with regard to this relationship. The study of this situated relationship and the nature of the interpretations we make while a part of this relationship are essential components of the process of hermeneutics (Ricoeur 1981). What is more, while I have observed that for natural scientists the world of objects is composed of static entities with fixed relations between them, for social scientists society can be considered to be composed of social relations; however, these social relations are never static or constant. We cannot objectify them; rather they are created through a continuous dynamic, described as social practice (Bourdieu 1977). If we are to study society, we cannot appeal to an objectified and constant nature. We are not considering something which has a priori existence; rather we are considering something which is continually being made and remade.

Rationality and relativism

To reiterate, then, we are confronted by a world-view that divides off objects from subjects. While the relationship between the two is seen as problematic, there are two broad methods for achieving knowledge of the world. The first, natural science, studies nature and uses its privileged position as an active subject in taking up a detached view of the external

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world. The second, social science, studies society and therefore cannot take up any such privileged position. Rather, it realises the conditional nature of the knowledge it produces while attempting to describe society. I now wish to explore in more detail two further theoretical positions taken up by natural science and social science, that is relativism and rationalism. Both of these positions focus on the nature of belief, certainty and the concept of truth. However, both positions rely on the assumption that the world is divided up into inanimate, essential nature and animate, contingent society, or objects and subjects.

Rationalism covers a wide series of debates (see Wilson 1971); however it is broadly concerned with the nature of belief, and how we arrive at that belief. Here rationalism overlaps considerably with the theoretical position of objectivism. According to a rationalist view, if we consider a priori that there is a nature that can be described, then the description of nature must follow a rational path. This in itself requires a specific form of reasoning that involves building up a series of law-like statements about the world. These statements follow an identical form in whatever context we care to consider them. For instance, if we believe p as a reason for believing q, then we will believe that p will equal q, wherever and whenever we observe either p or q. The connection between these two articles of belief is immutable and incontrovertible. A correlate of this is that if our knowledge is rationally constructed, then our beliefs can be considered as either true or false.

However, the relativist views things otherwise. Hollis and Lukes (1982, 5–10) define a series of relativist positions, including moral relativism, conceptual relativism, perceptual relativism, relativism of reason and relativism of truth. In the interests of space, the discussion here will focus on conceptual relativism, since this has most bearing on the issues discussed above. Put simply, relativist positions encompass the belief that 'people of different cultures live in different worlds' (Berger and Luckmann 1966; Sperber 1982). As Sperber (1982, 154) indicates, this does not mean that people literally live in parallel worlds, rather that they inhabit differing cognisable worlds. This basic position encompasses the idea that knowledge may be culturally constructed and that the very act of reasoning itself is culturally specific. Beliefs on a given topic can vary and the relations between knowledge are not, then, absolute. This position is particularly acute if we consider the way in which the world is categorised.

This view raises a series of problems. If the process by which beliefs are constructed cannot be viewed as following the same rational process in all parts of the world, how are we to assess competing knowledge claims? In other words, we can have no absolute rational knowledge and therefore no absolute incontrovertible truth. If we consider the possibility that belief

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is culturally contingent – a conceptual position – then this opens up the possibility that truth itself is contingent, a moral relativist position. It is due to the fact that conceptual relativism blurs with moral relativism in this way that the entire concept of relativism has received such bad press. If we throw out the possibility of an absolute transcendent system of knowledge, i.e. rationalism, then we also dispose of an absolute truth. Therefore, one of the major issues in the debate between relativism and rationalism centres on our ability to assess knowledge between systems.

Again we are faced with differences in the order and goals of differing forms of knowledge, characterised by the natural and social sciences. It is essential for science to retain the idea of nature being 'out there', prior to human experience, for if nature was constantly changing we would be unable to observe it accurately and objectively. However, it is also essential to retain the notion of a science that is ordered according to unassailable universal laws, since if we consider the possibility that these laws change according to cultural context, then we lose certainty in the application of these laws in the generation of further scientific theories. If scientists had to continually check and recheck the reliability and validity of these laws, science would be unable to get on with the task of scientific and technological advancement. The belief in the generation of valid laws characterises a rationalist or positivist science.

On the other hand, the concept of some form of relativism allows historians of science, and anthropologists and archaeologists studying other cultures to consider the possibility of other knowledge systems as discrete and coherent forms of knowledge, which each generate their own forms of logic. If the social sciences were to take up a rationalist position, it would be necessary to consider the beliefs of other periods of history, or other cultures, as irrational or misguided. This would amount to a form of rational imperialism which would debilitate the enterprise of understanding other cultures. Furthermore, due to the hermeneutic involved in the interpretation of cultural knowledge, the critical stance of anthropology is seen as an important viewpoint, since by studying other cultural systems we are able to critically reflect on our own. As Strathern (1995) has recently noted in relation to the issues of global and local culture, knowledge is generated through our ability to shift between different contexts. In this regard Tambiah (1990, 111) describes the interpretative position of anthropologists as a 'double subjectivity'. The anthropologist must subjectively enter the minds of the people they are studying in order to understand them according to their own categories, while simultaneously translating those categories as if distanced from them. The critical distance that an anthropological viewpoint provides enables us to contrast a variety of different orders of knowledge, but this position brings

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with it a whole series of problems. How are we to judge our knowledge systems against others? Can we utilise a single benchmark against which to judge other cultures? Is there any point at which knowledge may be considered as commensurable? Is there a core set of real or essential facts about the world from which the beliefs of other cultures are constructed?

The problem of how we go about judging knowledge claims has been tackled on a number of levels. I wish to examine this issue from a variety of angles by examining the problem of external perspective, as well as the difficulties surrounding the internal constructs used within rational statements. The major issue in the debate between rationalists and relativists concerns the nature of the paradigms, or the worlds, in which knowledge is constructed. Can we view these differing worlds as being composed of a core set of beliefs around which alternate paradigms are constructed, or do we simply classify alternate beliefs as equally true, equally false or equally true-or-false (Hacking 1982, 49). Each view leads us to an impasse.

First, we will consider the possibility that there is a core set of beliefs about the world that are incontrovertible. Such a view would propose that each alternate viewpoint was viewing the same set of data from differing perspectives, but that each of these perspectives could be bridged through an act of translation (Hollis 1982). For instance, both Kuhn (1970) and Feyerabend (1975) claim that differing paradigms can be observed within the history of science, and that such paradigms are incommensurable. In other words, the science practised by one set of practitioners, at a given period in time, could not be comprehended by another set of practitioners at another time. Each set of practitioners occupied differing worlds and the knowledge generated in each world was relative to that world. Here Kuhn (1970) indicated that each group was practising their own rational methods, but from our viewpoint the knowledge of each group stands in a relative relationship to the other.

For the rationalist, the view that these paradigmatic understandings can be translated and understood by us supposes that the two systems cannot be incommensurable. If we can translate between these two domains of knowledge, there must be some common ground by which the two belief systems can be compared. The assumption is that there is an external viewpoint from which we can measure the validity of either belief. But how do we externally measure the validity of either system? As Rorty (1991a, 49–50) indicates, there can be no position by which we can judge alternate paradigmatic positions, since such a position would involve taking up what he calls an 'ethnocentric' viewpoint in assuming that what we described as true or rational was actually true. On the other hand, if we take the relativist view that each paradigm or world has equally valid belief systems, we still run into a problem if we also believe that in each

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world we are viewing the same external reality. This is partly because such a view presupposes that cultural beliefs are simply an adjunct to external reality (see Berger and Luckmann 1966; Ingold 1990; Richards 1990). A number of writers have observed that there is a tendency amongst both relativists and rationalists to employ both forms of belief system simultaneously (see Elkana 1981, 3). Elkana (1981, 3–4) describes this intellectual position as 'two-tier thinking', and I will consider this in more detail below.

At this stage I simply wish to note that both the rationalist and relativist viewpoints leave us with a series of problems. The position of rationalism ultimately relies on the notion that there is a set of rational core beliefs which must relate to external reality in a precise and determined way. Belief systems that do not accept the existence of these rational core beliefs are either classified as irrational or are considered to be translatable to an immutable system of understanding. Meanwhile, the relativist belief leaves us with the possibility that each paradigm or world is incommensurable, and therefore each system of beliefs has its own coherence and rationale. Each discrete belief system is seen to relate to and to construct external reality in its own manner. The former position is most applicable to the study of the natural world, since it relies on the concept of a constant and immutable nature. The latter position is most applicable to the study of a constantly changing set of social relations, since it relies on the notion of cultural or social difference. The relationship between the two points is problematic since, any attempt to find a 'bridgehead' (Hollis 1982) must rely on the notion of an overall external and neutral viewpoint by which to judge them.

Piecing together the past

The previous section outlined the problems involved in the broad approaches of both the natural and social sciences. In this section I want to examine the way in which the issues of objectivity, subjectivity, rationalism and relativism have been considered within archaeology as a means of understanding the underlying roots of the divided state of scientific and theoretical approaches to the past. I wish to consider the ways in which archaeologists relate to, and interpret, the material residues of the past: the archaeological record. Linda Patrik (1985) has undertaken the most detailed account of the contrasting approaches to the archaeological record. Here I will draw out some of Patrik's observations regarding the differing approaches to the archaeological record and set them against some of the generalised observations I have already made regarding the natural and social sciences.

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