

## AFRICAN TRADITIONAL THOUGHT AND WESTERN SCIENCE<sup>1</sup>

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### PART I. FROM TRADITION TO SCIENCE

THE first part of this paper seeks to develop an approach to traditional African thought already sketched in several previous contributions to this journal.<sup>2</sup> My approach to this topic is strongly influenced by the feeling that social anthropologists have often failed to understand traditional religious thought for two main reasons. First, many of them have been unfamiliar with the theoretical thinking of their own culture. This has deprived them of a vital key to understanding. For certain aspects of such thinking are the counterparts of those very features of traditional thought which they have tended to find most puzzling. Secondly, even those familiar with theoretical thinking in their own culture have failed to recognise its African equivalents, simply because they have been blinded by a difference of idiom. Like Consul Hutchinson wandering among the Bubi of Fernando Po, they have taken a language very remote from their own to be no language at all.

My approach is also guided by the conviction that an exhaustive exploration of features common to modern Western and traditional African thought should come before the enumeration of differences. By taking things in this order, we shall be less likely to mistake differences of idiom for differences of substance, and more likely to end up identifying those features which really do distinguish one kind of thought from the other.

Not surprisingly, perhaps, this approach has frequently been misunderstood. Several critics have objected that it tends to blur the undeniable distinction between traditional and scientific thinking; that indeed it presents traditional thinking as a species of science.<sup>3</sup> In order to clear up such misunderstandings, I propose to devote the second part of this paper to enumerating what I take to be the salient differences between traditional and scientific thinking and to suggesting a tentative explanation of these differences. I shall also explore how far this explanation can help us to understand the emergence of science in Western culture.

In consonance with this programme, I shall start by setting out a number of general propositions on the nature and functions of theoretical thinking. These propositions are derived, in the first instance, from my own training in Biology, Chemistry, and Philosophy of Science. But, as I shall show, they are highly relevant to traditional African religious thinking. Indeed, they make sense of just those features of such thinking that anthropologists have often found most incomprehensible.

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<sup>2</sup> 'Destiny and the Unconscious in West Africa',

*Africa*, April 1961; 'The Kalabari World-View: an Outline and Interpretation', *Africa*, July 1962; 'Ritual Man in Africa', *Africa*, April 1964.

<sup>3</sup> See, for instance, Beattie, 1966.

1. *The quest for explanatory theory is basically the quest for unity underlying apparent diversity; for simplicity underlying apparent complexity; for order underlying apparent disorder; for regularity underlying apparent anomaly*

Typically, this quest involves the elaboration of a scheme of entities or forces operating 'behind' or 'within' the world of common-sense observations. These entities must be of a limited number of kinds and their behaviour must be governed by a limited number of general principles. Such a theoretical scheme is linked to the world of everyday experience by statements identifying happenings within it with happenings in the everyday world. In the language of Philosophy of Science, such identification statements are known as Correspondence Rules. Explanations of observed happenings are generated from statements about the behaviour of entities in the theoretical scheme, plus Correspondence-Rule statements. In the sciences, well-known explanatory theories of this kind include the kinetic theory of gases, the planetary-atom theory of matter, the wave theory of light, and the cell theory of living organisms.

One of the perennial philosophical puzzles posed by explanations in terms of such theories derives from the Correspondence-Rule statements. In what sense can we really say that an increase of pressure in a gas 'is' an increase in the velocity of a myriad tiny particles moving in an otherwise empty space? How can we say that a thing is at once itself and something quite different? A great variety of solutions has been proposed to this puzzle. The modern positivists have taken the view that it is the things of common sense that are real, while the 'things' of theory are mere fictions useful in ordering the world of common sense. Locke, Planck, and others have taken the line that it is the 'things' of theory that are real, while the things of the everyday world are mere appearances. Perhaps the most up-to-date line is that there are good reasons for conceding the reality both of common-sense things and of theoretical entities. Taking this line implies an admission that the 'is' of Correspondence-Rule statements is neither the 'is' of identity nor the 'is' of class-membership. Rather, it stands for a unity-in-duality uniquely characteristic of the relation between the world of common sense and the world of theory.

What has all this got to do with the gods and spirits of traditional African religious thinking? Not very much, it may appear at first glance. Indeed, some modern writers deny that traditional religious thinking is in any serious sense theoretical thinking. In support of their denial they contrast the simplicity, regularity, and elegance of the theoretical schemas of the sciences with the unruly complexity and caprice of the world of gods and spirits.<sup>1</sup>

But this antithesis does not really accord with modern field-work data. It is true that, in a very superficial sense, African cosmologies tend towards proliferation. From the point of view of sheer number, the spirits of some cosmologies are virtually countless. But in this superficial sense we can point to the same tendency in Western cosmology, which for every common-sense unitary object gives us a myriad molecules. If, however, we recognize that the aim of theory is the demonstration of a limited number of *kinds* of entity or process underlying the diversity of experience, then the picture becomes very different. Indeed, one of the lessons of such recent

<sup>1</sup> See Beattie, *op. cit.*

studies of African cosmologies as Middleton's *Lugbara Religion*, Lienhardt's *Divinity and Experience*, Fortes's *Oedipus and Job*, and my own articles on Kalabari, is precisely that the gods of a given culture do form a scheme which interprets the vast diversity of everyday experience in terms of the action of a relatively few *kinds* of forces. Thus in Middleton's book, we see how all the various oppositions and conflicts in Lugbara experience are interpreted as so many manifestations of the single underlying opposition between ancestors and *adro* spirits. Again, in my own work, I have shown how nearly everything that happens in Kalabari life can be interpreted in terms of a scheme which postulates three basic *kinds* of forces: ancestors, heroes, and water-spirits.

The same body of modern work gives the lie to the old stereotype of the gods as capricious and irregular in their behaviour. For it shows that each category of beings has its appointed functions in relation to the world of observable happenings. The gods may sometimes appear capricious to the unreflective ordinary man. But for the religious expert charged with the diagnosis of spiritual agencies at work behind observed events, a basic modicum of regularity in their behaviour is the major premiss on which his work depends. Like atoms, molecules, and waves, then, the gods serve to introduce unity into diversity, simplicity into complexity, order into disorder, regularity into anomaly.

Once we have grasped that this is their intellectual function, many of the puzzles formerly posed by 'mystical thinking' disappear. Take the exasperated, wondering puzzlements of Levy-Bruhl over his 'primitive mentality'. How could primitives believe that a visible, tangible object was at once its solid self and the manifestation of an immaterial being? How could a man literally see a spirit in a stone? These puzzles, raised so vividly by Levy-Bruhl, have never been satisfactorily solved by anthropologists. 'Mystical thinking' has remained uncomfortably, indigestibly *sui generis*. And yet these questions of Levy-Bruhl's have a very familiar ring in the context of European philosophy. Indeed, if we substitute atoms and molecules for gods and spirits, these turn out to be the very questions cited a few paragraphs back—questions posed by modern scientific theory in the minds of Berkeley, Locke, Quine, and a whole host of European philosophers from Newton's time onwards.

Why is it that anthropologists have been unable to see this? One reason, as I suggested before, is that many of them move only in the common-sense world of Western culture, and are unfamiliar with its various theoretical worlds. But perhaps familiarity with Western theoretical thinking is not by itself enough. For a thoroughly unfamiliar idiom can still blind a man to a familiar form of thought. Because it prevents one from taking anything for granted, an unfamiliar idiom can help to show up all sorts of puzzles and problems inherent in an intellectual process which normally seems puzzle-free. But this very unfamiliarity can equally prevent us from seeing that the puzzles and problems are ones which crop up on our own doorstep. Thus it took a 'mystical' theorist like Bishop Berkeley to see the problems posed by the materialistic theories of Newton and his successors; but he was never able to see that the same problems were raised by his own theoretical framework. Again, it takes materialistically inclined modern social anthropologists to see the problems posed by the 'mystical' theories of traditional Africa; but, for the same reasons, such people can hardly

be brought to see these very problems arising within their own theoretical framework.

2. *Theory places things in a causal context wider than that provided by common sense*

When we say that theory displays the order and regularity underlying apparent disorder and irregularity, one of the things we mean is that it provides a causal context for apparently 'wild' events. Putting things in a causal context is, of course, one of the jobs of commonsense. But although it does this job well at a certain level, it seems to have limitations. Thus the principal tool of common sense is induction or 'putting two and two together', the process of inference so beloved of the positivist philosophers. But a man can only 'put two and two together' if he is looking in the right direction. And common sense furnishes him with a pair of horse-blinkers which severely limits the directions in which he can look. Thus common-sense thought looks for the antecedents of any happening amongst events adjacent in space and time: it abhors action at a distance. Again, common sense looks for the antecedents of a happening amongst events that are in some way commensurable with it. Common sense is at the root of the hard-dying dictum 'like cause, like effect'. Gross incommensurability defeats it.

Now one of the essential functions of theory is to help the mind transcend these limitations. And one of the most obvious achievements of modern scientific theory is its revelation of a whole array of causal connexions which are quite staggering to the eye of common sense. Think for instance of the connexion between two lumps of a rather ordinary looking metal, rushing towards each other with a certain acceleration, and a vast explosion capable of destroying thousands of people. Or think again of the connexion between small, innocuous water-snails and the disease of bilharziasis which can render whole populations lazy and inept.

Once again, we may ask what relevance all this has to traditional African religious thinking. And once again the stock answer may be 'precious little'. For a widely current view of such thinking still asserts that it is more interested in the supernatural causes of things than it is in their natural causes. This is a misinterpretation closely connected with the one we discussed in the previous section. Perhaps the best way to get rid of it is to consider the commonest case of the search for causes in traditional Africa—the diagnosis of disease. Through the length and breadth of the African continent, sick or afflicted people go to consult diviners as to the causes of their troubles. Usually, the answer they receive involves a god or other spiritual agency, and the remedy prescribed involves the propitiation or calling-off of this being. But this is very seldom the whole story. For the diviner who diagnoses the intervention of a spiritual agency is also expected to give some acceptable account of what moved the agency in question to intervene. And this account very commonly involves reference to some event in the world of visible, tangible happenings. Thus if a diviner diagnoses the action of witchcraft influence or lethal medicine spirits, it is usual for him to add something about the human hatreds, jealousies, and misdeeds, that have brought such agencies into play. Or, if he diagnoses the wrath of an ancestor, it is usual for him to point to the human breach of kinship morality which has called down this wrath.

Although I do not think he has realized its full significance for the study of

traditional religious thought, Victor Turner has brought out this point beautifully in his analyses of divination and the diagnosis of disease amongst the Ndembu people of Central Africa.<sup>1</sup> Turner shows how, in diagnosing the causes of some bodily affliction, the Ndembu diviner not only refers to unseen spiritual forces, but also relates the patient's condition to a whole series of disturbances in his social field. Turner refers to divination as 'social analysis', and says that Ndembu believe a patient 'will not get better until all the tensions and aggressions in the group's inter-relations have been brought to light and exposed to ritual treatment'. Although Turner himself does not refer to comparable material from other African societies, Max Gluckman, drawing on data from Tiv, Lugbara, Nyakyusa, Yao, and several other traditional societies, has recently shown that the kind of analysis he has made of divination among the Ndembu is very widely applicable.<sup>2</sup> The point in all this is that the traditional diviner faced with a disease does not just refer to a spiritual agency. He uses ideas about this agency to link disease to causes in the world of visible, tangible events.

The situation here is not very different from that in which a puzzled American layman, seeing a large mushroom cloud on the horizon, consults a friend who happens to be a physicist. On the one hand, the physicist may refer him to theoretical entities. 'Why this cloud?' 'Well, a massive fusion of hydrogen nuclei has just taken place.' Pushed further, however, the physicist is likely to refer to the assemblage and dropping of a bomb containing certain special substances. Substitute 'disease' for 'mushroom cloud', 'spirit anger' for 'massive fusion of hydrogen nuclei', and 'breach of kinship morality' for 'assemblage and dropping of a bomb', and we are back again with the diviner. In both cases reference to theoretical entities is used to link events in the visible, tangible world (natural effects) to their antecedents in the same world (natural causes).

To say of the traditional African thinker that he is interested in supernatural rather than natural causes makes little more sense, therefore, than to say of the physicist that he is interested in nuclear rather than natural causes. In fact, both are making the same use of theory to transcend the limited vision of natural causes provided by common sense.

Granted this common preoccupation with natural causes, the fact remains that the causal link between disturbed social relations and disease or misfortune, so frequently postulated by traditional religious thought, is one which seems somewhat strange and alien to many Western medical scientists. Following the normal practice of historians of Western ideas, we can approach the problem of trying to understand this strange causal notion from two angles. First of all, we can inquire what influence a particular theoretical idiom has in moulding this and similar traditional notions. Secondly, we can inquire whether the range of experience available to members of traditional societies has influenced causal notions by throwing particular conjunctions of events into special prominence.

Theory, as I have said, places events in a wider causal context than that provided by common sense. But once a particular theoretical idiom has been adopted, it tends to direct people's attention toward certain kinds of causal linkage and away from

<sup>1</sup> Turner, 1961 and 1964.

<sup>2</sup> Gluckman, 1965. See especially chapter vi: 'Mystical Disturbance and Ritual Adjustment'.

others. Now most traditional African cultures have adopted a personal idiom as the basis of their attempt to understand the world. And once one has adopted such an idiom, it is a natural step to suppose that personal beings underpin, amongst other things, the life and strength of social groups. Now it is in the nature of a personal being who has his designs thwarted to visit retribution on those who thwart him. Where the designs involve maintaining the strength and unity of a social group, members of the group who disturb this unity are thwarts, and hence are ripe for punishment. Disease and misfortune are the punishment. Once a personal idiom has been adopted, then, those who use it become heavily predisposed towards seeing a nexus between social disturbance and individual affliction.

Are these traditional notions of cause merely artefacts of the prevailing theoretical idiom, fantasies with no basis in reality? Or are they responses to features of people's experience which in some sense are 'really there'? My own feeling is that, although these notions are ones to which people are pre-disposed by the prevailing theoretical idiom, they also register certain important features of the objective situation.

Let us remind ourselves at this point that modern medical men, though long blinded to such things by the fantastic success of the germ theory of disease, are once more beginning to toy with the idea that disturbances in a person's social life can in fact contribute to a whole series of sicknesses, ranging from those commonly thought of as mental to many more commonly thought of as bodily. In making this rediscovery, however, the medical men have tended to associate it with the so-called 'pressures of modern living'. They have tended to imagine traditional societies as psychological paradises in which disease-producing mental stresses are at a minimum. And although this view has never been put to adequate test, it is one held by many doctors practising in Africa.

In criticism of this view, I would suggest that the social life of the small, relatively self-contained and undifferentiated communities typical of much of traditional Africa contains its own peculiar and powerful sources of mental stress. Let me recall a few:

(a) When tension arises between people engaged in a particular activity, it tends to colour a large sector of their total social life. For in societies of this kind a person performs a whole series of activities with the same set of partners.

(b) Being caught up in hostilities or caught out in a serious breach of social norms is particularly crushing, since in societies of this kind it is often extremely hard to move out of the field in which the trouble arose.

(c) There are a limited number of roles to be filled, and little scope for personal choice in the filling of them. Hence there is always a relatively large number of social misfits.

Apart from these sources of stress peculiar to such communities, there are others commonly thought to be absent from them, but which they in fact share with modern industrial societies. I am thinking here of fundamental inconsistencies in the values taught to members of traditional communities. Thus aggressive, thrusting ambition may be inculcated on one hand, and a cautious reluctance to rise above one's neighbour on the other. Ruthless individualism may be inculcated on one hand, and acceptance of one's ascribed place in a lineage-system on the other. Such inconsistencies are often as sharp as those so well known in modern industrial societies. As an

anthropological field-worker, one has come close enough to these sources of stress to suspect that the much-advertised 'pressures of modern living' may at times be the milder affliction. One may even suspect that some of the young Africans currently rushing from the country to the towns are in fact escaping from a more oppressive to a less oppressive psychological environment.

The point I am trying to make here is that if life in modern industrial society contains sources of mental stress adequate to causing or exacerbating a wide range of sicknesses, so too does life in traditional village communities. Hence the need to approach traditional religious theories of the social causation of sickness with respect. Such respect and readiness to learn is, I suggest, particularly appropriate with regard to what is commonly known as mental disease. I say this because the grand theories of Western psychiatry have a notoriously insecure empirical base and are probably culture-bound to a high degree.

Then again, there are the traditional social-cause explanations of all those mysterious bodily ailments doctors try in vain to cure in their hospitals, and which finally get cleared up by traditional religious healers. Though we have no statistics on such cases, there is little doubt that they are always cropping up. Judging from a recent symposium on traditional medicine,<sup>1</sup> even unromantic, hard-headed social anthropologists are now generally convinced of their reality. Accounts of cases of this kind suggest that they very often fall into the category which Western medical practitioners themselves have increasingly come to label psychosomatic—i.e. marked by definite bodily changes but touched off or exacerbated by mental stress. This category includes gastric and duodenal ulcer, migraine, chronic limb pains, and certain kinds of paralysis, hypertension, diabetes, and dermatitis. It includes many agonizing and several potentially lethal complaints. Forward-looking Western medical men now agree that effective treatment of this kind of illness will eventually have to include some sort of diagnosis of and attempt to combat stress-producing disturbances in the individual's social life. As for trying to find out what the main kinds of stress-producing disturbances are in a particular traditional society, the modern doctor can probably do no better than start by taking note of the diagnoses produced by a traditional religious healer working in such a society.

Finally, there are those diseases in which the key factor is definitely an infecting micro-organism. Even here, I suggest, traditional religious theory has something to say which is worth listening to.

Over much of traditional Africa, let me repeat, we are dealing with small-scale, relatively self-contained communities. These are the sort of social units that, as my friend Dr. Oruwariye puts it, 'have achieved equilibrium with their diseases'. A given population and a given set of diseases have been co-existing over many generations. Natural selection has played a considerable part in developing human resistance to diseases such as malaria, typhoid, small-pox, dysentery, etc. In addition, those who survive the very high peri-natal mortality have probably acquired an extra resistance by the very fact of having lived through one of these diseases just after birth. In such circumstances, an adult who catches one of these (for Europeans) killer diseases has good chances both of life and of death. In the absence of antimalarials or antibiotics, what happens to him will depend very largely on other factors that

<sup>1</sup> Kiev (ed.) 1964, *passim*.

add to or subtract from his considerable natural resistance. In these circumstances the traditional healer's efforts to cope with the situation by ferreting out and attempting to remedy stress-producing disturbances in the patient's social field is probably very relevant. Such efforts may seem to have a ludicrously marginal importance to a hospital doctor wielding a nivaquine bottle and treating a non-resistant European malaria patient. But they may be crucial where there is no nivaquine bottle and a considerable natural resistance to malaria.

After reflecting on these things the modern doctor may well take some of these traditional causal notions seriously enough to put them to the test. If the difficulties of testing can be overcome, and if the notions pass the test, he will end up by taking them over into his own body of beliefs. At the same time, however, he will be likely to reject the theoretical framework that enabled the traditional mind to form these notions in the first place.

This is fair enough; for although, as I have shown, the gods and spirits do perform an important theoretical job in pointing to certain interesting forms of causal connexion, they are probably not very useful as the basis of a wider view of the world. Nevertheless, there do seem to be a few cases in which the theoretical framework of which they are the basis may have something to contribute to the theoretical framework of modern medicine. To take an example, there are several points at which Western psycho-analytic theory, with its apparatus of personalized mental entities, resembles traditional West African religious theory. More specifically, as I have suggested elsewhere,<sup>1</sup> there are striking resemblances between psycho-analytic ideas about the individual mind as a congeries of warring entities, and West African ideas about the body as a meeting place of multiple souls. In both systems of belief, one personal entity is identified with the stream of consciousness, whilst the others operate as an 'unconscious', sometimes co-operating with consciousness and sometimes at war with it. Now the more flexible psycho-analysts have long suspected that Freud's allocation of particular desires and fears to particular agencies of the mind may well be appropriate to certain cultures only. Thus his allocation of a great load of sexual desires and fears to the unconscious may well have been appropriate to the Viennese sub-culture he so largely dealt with; but it may not be appropriate to many other cultures. A study of West African soul theories, and of their allocation of particular desires and emotions to particular agencies of the mind, may well help the psycho-analyst to reformulate his theories in terms more appropriate to the local scene.

Earlier, I said that modern Western medical scientists had long been distracted from noting the causal connexion between social disturbance and disease by the success of the germ theory. It would seem, indeed, that a conjunction of the germ theory, of the discovery of potent antibiotics and immunization techniques, and of conditions militating against the build-up of natural resistance to many killer infections, for long made it very difficult for scientists to see the importance of this connexion. Conversely, perhaps, a conjunction of no germ theory, no potent antibiotics, no immunization techniques, with conditions favouring the build-up of considerable natural resistance to killer infections, served to throw this same causal connexion into relief in the mind of the traditional healer. If one were asked to choose between germ theory innocent of psychosomatic insight and traditional psychosomatic theory

<sup>1</sup> Horton, 1961.



innocent of ideas about infection, one would almost certainly choose the germ theory. For in terms of quantitative results it is clearly the more vital to human well-being. But it is salutary to remember that not all the profits are on one side.

From what has been said in this section, it should be clear that one commonly accepted way of contrasting traditional religious thought with scientific thought is misleading. I am thinking here of the contrast between traditional religious thought as 'non-empirical' with scientific thought as 'empirical'. In the first place, the contrast is misleading because traditional religious thought is no more nor less interested in the natural causes of things than is the theoretical thought of the sciences. Indeed, the intellectual function of its supernatural beings (as, too, that of atoms, waves, etc.) *is* the extension of people's vision of natural causes. In the second place, the contrast is misleading because traditional religious theory clearly does more than postulate causal connexions that bear no relation to experience. Some of the connexions it postulates are, by the standards of modern medical science, almost certainly real ones. To some extent, then, it successfully grasps reality.

At this point, I must hasten to reassure the type of critic I referred to earlier that I am not claiming traditional thought as a variety of scientific thought. I grant that, in certain crucial respects, the two kinds of thought are related to experience in quite different ways, and I shall consider these differences in Part II of this paper. Meanwhile, I want to point out that it is not only where scientific method is in use that we find theories which both aim at grasping causal connexions and to some extent succeed in this aim. Scientific method is undoubtedly the surest and most efficient tool for arriving at beliefs that are successful in this respect; but it is not the only way of arriving at such beliefs. Given the basic process of theory-making, and an environmental stability which gives theory plenty of time to adjust to experience, a people's belief system may come, even in the absence of scientific method, to grasp at least some significant causal connexions which lie beyond the range of common sense. It is because traditional African religious beliefs demonstrate the truth of this that it seems apt to extend to them the label 'empirical'.

All this does not mean that we can dispense with the term 'non-empirical'. The latter remains a very useful label for certain other kinds of religious thinking which contrast sharply with that of traditional Africa in their lack of interest in explaining the features of the space-time world. Here I am thinking in particular of the kind of modern Western Christianity which co-exists, albeit a little uneasily, with scientific thought. I shall be saying more about this kind of religious thinking in Part II.

### *3. Common sense and theory have complementary roles in everyday life*

In the history of European thought there has often been opposition to a new theory on the ground that it threatens to break up and destroy the old, familiar world of common sense. Such was the eighteenth-century opposition to Newtonian corpuscular theory, which, so many people thought, was all set to 'reduce' the warm, colourful beautiful world to a lifeless, colourless, wilderness of rapidly moving little balls. Not surprisingly, this eighteenth-century attack was led by people like Goethe and Blake—poets whose job was precisely to celebrate the glories of the world of common sense. Such, again, is the twentieth-century opposition to Behaviour Theory, which many people see as a threat to 'reduce' human beings to animals or even to

machines. Much of the most recent Western Philosophy is a monotonous and poorly reasoned attempt to bludgeon us into believing that Behaviour Theory cannot possibly work. But just as the common-sense world of things and people remained remarkably unscathed by the Newtonian revolution, so there is reason to think it will not be too seriously touched by the Behaviour-Theory revolution. Indeed, a lesson of the history of European thought is that, while theories come and theories go, the world of common sense remains very little changed.

One reason for this is perhaps that all theories take their departure from the world of things and people, and ultimately return us to it. In this context, to say that a good theory 'reduces' something to something else is misleading. Ideally, a process of deduction from the premisses of a theory should lead us back to statements which portray the common-sense world in its full richness. In so far as this richness is not restored, by so much does theory fail. Another reason for the persistence of the world of common sense is probably that, within the limits discussed in the last section, common-sense thinking is handier and more economical than theoretical thinking. It is only when one needs to transcend the limited causal vision of common sense that one resorts to theory.

Take the example of an industrial chemist and his relationships with common salt. When he uses it in the house, his relationships with it are governed entirely by common sense. Invoking chemical theory to guide him in its domestic use would be like bringing up a pile-driver to hammer in a nail. Such theory may well lend no more colour to the chemist's domestic view of salt than it lends to the chemically uneducated rustic's view of the substance. When he uses it in his chemical factory, however, common sense no longer suffices. The things he wants to do with it force him to place it in a wider causal context than common sense provides; and he can only do this by viewing it in the light of atomic theory. At this point, someone may ask: 'And which does he think is the real salt; the salt of commonsense or the salt of theory?' The answer, perhaps, is that both are equally real to him. For whatever the philosophers say, people develop a sense of reality about something to the extent that they use and act on language which implies that this something exists.

This discussion of common sense and theory in Western thought is very relevant to the understanding of traditional African religions. Early accounts of such religions stressed the ever-presence of the spirit world in the minds of men. As Evans-Pritchard has noted, this stress was inevitable where the authors in question were concerned to titillate the imagination of the European reader with the bizarre.<sup>1</sup> Unfortunately, however, such accounts were seized upon by serious sociologists and philosophers like Levy-Bruhl, who used them to build up a picture of Primitive Man continuously obsessed by things religious. Later on, field-work experience in African societies convinced most reporters that members of such societies attended to the spirit world rather intermittently.<sup>2</sup> And many modern criticisms of Levy-Bruhl and other early theorists hinge on this observation. For the modern generation of social anthropologists, the big question has now become: 'On what kinds of occasion do people ignore the spirit world, and on what kinds of occasion do they attend to it?'

A variety of answers has been given to this question. One is that people think in terms of the spirit-world when they are confronted with the unusual or uncanny.

<sup>1</sup> Evans-Pritchard, 1965, p. 8.

<sup>2</sup> See for instance Evans-Pritchard, *op. cit.*, p. 88.

Another is that they think this way in the face of anxiety-provoking situations. Another is that they think this way in the face of *any* emotionally charged situation. Yet another is that they think this way in certain types of crisis which threaten the fabric of society. Of all of these answers, the most one can say is: 'sometimes yes, sometimes no.' All of them, furthermore, leave the 'jump' from common sense to religious thinking fundamentally mysterious. One wants to ask: 'Even if this jump does occur in a certain type of situation, why should the latter require specifically *religious* thinking?' A better answer, I think, is one that relates this jump to the essentially theoretical character of traditional religious thinking. And here is where our discussion of common sense and theory in European thought becomes relevant.

I suggest that in traditional Africa relations between common sense and theory are essentially the same as they are in Europe. That is, common sense is the handier and more economical tool for coping with a wide range of circumstances in everyday life. Nevertheless, there are certain circumstances that can only be coped with in terms of a wider causal vision than common sense provides. And in these circumstances there is a jump to theoretical thinking.

Let me give an example drawn from my own field-work among the Kalabari people of the Niger Delta. Kalabari recognize many different kinds of diseases, and have an array of herbal specifics with which to treat them. Sometimes a sick person will be treated by ordinary members of his family who recognize the disease and know the specifics. Sometimes the treatment will be carried out on the instructions of a native doctor. When sickness and treatment follow these lines the atmosphere is basically commonsensical. Often, there is little or no reference to spiritual agencies.

Sometimes, however, the sickness does not respond to treatment, and it becomes evident that the herbal specific used does not provide the whole answer. The native doctor may rediagnose and try another specific. But if this produces no result the suspicion will arise that 'there is something else in this sickness'. In other words, the perspective provided by common sense is too limited. It is at this stage that a diviner is likely to be called in (it may be the native doctor who started the treatment). Using ideas about various spiritual agencies, he will relate the sickness to a wider range of circumstances—often to disturbances in the sick man's general social life.

Again, a person may have a sickness which, though mild, occurs together with an obvious crisis in his field of social relations. This conjunction suggests at the outset that it may not be appropriate to look at the illness from the limited perspective of common sense. And in such circumstances, the expert called in is likely to refer at once to certain spiritual agencies in terms of which he links the sickness to a wider context of events.

What we are describing here is generally referred to as a jump from common sense to mystical thinking. But, as we have seen, it is also, more significantly, a jump from common sense to theory. And here, as in Europe, the jump occurs at the point where the limited causal vision of common sense curtails its usefulness in dealing with the situation on hand.

#### 4. *Level of theory varies with context*

A person seeking to place some event in a wider causal context often has a choice

of theories. Like the initial choice between common sense and theory, this choice too will depend on just how wide a context he wishes to bring into consideration. Where he is content to place the event in a relatively modest context, he will be content to use what is generally called a low-level theory—i.e. one that covers a relatively limited area of experience. Where he is more ambitious about context, he will make use of a higher-level theory—i.e. one that covers a larger area of experience. As the area covered by the lower-level theory is part of the area covered by the higher-level scheme, so too the entities postulated by the lower-level theory are seen as special manifestations of those postulated at the higher level. Hence they pose all the old problems of things which are at once themselves and at the same time manifestations of other quite different things.

For an example of how this matter of levels works out in modern Western thought, let us go back to our manufacturing chemist and his salt. Suppose the chemist to be in the employ of a very under-developed country which has extensive deposits of salt and can supply a limited range of other simple chemicals, but which has no electricity. The government asks him to estimate what range of chemical products he can ‘get out of’ the salt, given the limited resources they can make available to him. Here the limited range of means implies a limited causal context and the appropriateness of a correspondingly low level of theory. In working out what he can do with his salt deposits under these straitened circumstances, the chemist may well be content to use the low-level, ‘ball-and-bond’ version of atomic theory, whose basic entities are homogeneous spheres linked by girder-like bonds. This level of theory will enable him to say that, with the aid of a few simple auxiliaries like chalk and ammonia, he can derive from his salt such important substances as washing soda and caustic soda.

Now suppose that after some time the chemist is told to assume that an electric power supply will be at his disposal. This additional element in the situation promises a wider range of possibilities. It also implies that salt is to be placed in a wider causal context. Hence a theory of wider coverage and higher level must be brought into play. Our chemist will now almost certainly make his calculations in terms of a more-embracing version of the atomic theory—one which covers electrical as well as strictly chemical phenomena. In this theory the homogeneous atoms of the lower-level schema are replaced by planetary configurations of charged fundamental particles. The atoms of the lower-level theory now become mere manifestations of systems of particles postulated by the higher-level theory. For philosophical puzzle-makers, the old teaser of things that are at once themselves and manifestations of something else is with us again. But the puzzle becomes less acute when we see it as an inevitable by-product of the way theories are used in the process of explanation.

Once again, we find parallels to all this in many traditional African religious systems. It is typical of such systems that they include, on the one hand, ideas about a multiplicity of spirits, and on the other hand, ideas about a single supreme being. Though the spirits are thought of as independent beings, they are also considered as so many manifestations or dependants of the supreme being. This conjunction of the many and the one has given rise to much discussion among students of comparative religion, and has evoked many ingenious theories. Most of these have boggled at the idea that polytheism and monotheism could coexist stably in a single system of

thought. They have therefore tried to resolve the problem by supposing that the belief-systems in question are in transition from one type to the other. It is only recently, with the Nilotic studies of Evans-Pritchard and Lienhardt,<sup>1</sup> that the discussion has got anywhere near the point—which is that the many spirits and the one God play complementary roles in people's thinking. As Evans-Pritchard says: 'A theistic religion need be neither monotheistic nor polytheistic. It may be both. It is the question of the level, or situation, of thought, rather than of exclusive types of thought.'<sup>2</sup>

On the basis of material from the Nilotic peoples, and on that of material from such West African societies as Kalabari, Ibo, and Tallensi,<sup>3</sup> one can make a tentative suggestion about the respective roles of the many and the one in traditional African thought generally. In such thought, I suggest, the spirits provide the means of setting an event within a relatively limited causal context. They are the basis of a theoretical scheme which typically covers the thinker's own community and immediate environment. The supreme being, on the other hand, provides the means of setting an event within the widest possible context. For it is the basis of a theory of the origin and life course of the world seen as a whole.

In many (though by no means all) traditional African belief-systems, ideas about the spirits and actions based on such ideas are far more richly developed than ideas about the supreme being and actions based on them. In these cases, the idea of God seems more the pointer to a potential theory than the core of a seriously operative one. This perhaps is because social life in the communities involved is so parochial that their members seldom have to place events in the wider context that the idea of the supreme being purports to deal with. Nevertheless, the different levels of thinking are there in all these systems. And from what we have said, it seems clear that they are related to one another in much the same way as are the different levels of theoretical thinking in the sciences. At this point the relation between the many spirits and the one God loses much of its aura of mystery. Indeed there turns out to be nothing peculiarly religious or 'mystical' about it. For it is essentially the same as the relation between homogeneous atoms and planetary systems of fundamental particles in the thinking of our chemist. Like the latter, it is a by-product of certain very general features of the way theories are used in explanation.

*5. All theory breaks up the unitary objects of common sense into aspects, then places the resulting elements in a wider causal context. That is, it first abstracts and analyses, then re-integrates*

Numerous commentators on scientific method have familiarized us with the way in which the theoretical schemas of the sciences break up the world of common-sense things in order to achieve a causal understanding which surpasses that of common sense. But it is only from the more recent studies of African cosmologies, where religious beliefs are shown in the context of the various everyday contingencies they are invoked to explain, that we have begun to see how traditional religious thought also operates by a similar process of abstraction, analysis, and reintegration. A good example is provided by Fortes's recent work on West African theories of the indivi-

<sup>1</sup> Evans-Pritchard, 1956; Lienhardt, 1961.      <sup>2</sup> Evans-Pritchard, op. cit., p. 316.

<sup>3</sup> Horton, 1962, 1964b, 1954; Fortes, 1949, especially pp. 21-22 and p. 219.

dual and his relation to society. Old-fashioned West African ethnographers like Talbot long ago showed the wide distribution of beliefs in what they called 'multiple souls'. They found that many West African belief-systems invested the individual with a multiplicity of spiritual agencies, and they baptized these agencies with fanciful names such as 'spirit double', 'bush soul', 'shadow soul', and 'over soul'. The general impression they gave was one of an unruly fantasy at work. In his recent book,<sup>1</sup> however, Fortes takes the 'multiple soul' beliefs of a single West African people (the Tallensi) and places them in the context of everyday thought and behaviour. His exposition dispels much of the aura of fantasy.

Fortes describes three categories of spiritual agency especially concerned with the Tale individual. First comes the *segr*, which presides over the individual as a biological entity—over his sickness and health, his life and death. Then comes the *nuor yin*, a personification of the wishes expressed by the individual before his arrival on earth. The *nuor yin* appears specifically concerned with whether or not the individual has the personality traits necessary if he is to become an adequate member of Tale society. As Fortes puts it, evil *nuor yin* 'serves to identify the fact of irremediable failure in the development of the individual to full social capacity'. Good *nuor yin*, on the other hand, 'identifies the fact of successful individual development along the road to full incorporation in society'. Finally, in this trio of spiritual agencies, we have what Fortes calls the '*yin* ancestors'. These are two or three out of the individual's total heritage of ancestors, who have been delegated to preside over his personal fortunes. *Yin* ancestors only attach themselves to an individual who has a good *nuor yin*. They are concerned with the fortunes of the person who has already proved himself to have the basic equipment for fitting into Tale society. Here we have a theoretical scheme which, in order to produce a deeper understanding of the varying fortunes of individuals in their society, breaks them down into three aspects by a simple but typical operation of abstraction and analysis.

Perhaps the most significant comment on Fortes's work in this field was pronounced, albeit involuntarily, by a reviewer of 'Oedipus and Job'.<sup>2</sup> 'If any criticism of the presentation is to be made it is that Professor Fortes sometimes seems to achieve an almost mystical identification with the Tallensi world-view and leaves the unasimilated reader in some doubt about where to draw the line between Tallensi notions and Cambridge concepts!' Now the anthropologist has to find *some* concepts in his own language roughly appropriate to translating the 'notions' of the people he studies. And in the case in question, perhaps only the lofty analytic 'Cambridge' concepts did come anywhere near to congruence with Tallensi notions. This parallel between traditional African religious 'notions' and Western sociological 'abstractions' is by no means an isolated phenomenon. Think for instance of individual guardian spirits and group spirits—two very general categories of traditional African religious thought. Then think of those hardy Parsonian abstractions—psychological imperatives and sociological imperatives. It takes no great brilliance to see the resemblance.<sup>3</sup>

<sup>1</sup> Fortes, 1959.

<sup>2</sup> R. E. Bradbury in *Man*, September 1959.

<sup>3</sup> Such parallels arouse the more uncomfortable thought that in all the theorizing we sociologists

have done about the working of traditional African societies, we may often have done little more than translate indigenous African theories about such workings.

One can of course argue that in comparing traditional African thought with modern Western sociological thought, one is comparing it with a branch of Western thought that has attained only a low degree of abstraction. One can go on to argue that traditional African thought does not approach the degree of abstraction shown, say, by modern nuclear physics. Such comparisons of degrees of abstraction are, I think, trickier than they seem at first glance. In any case, they cannot affect the validity of the point already made, which is that abstraction is as essential to the operation of traditional African religious theory as it is to that of modern Western theory, whether sociological or physical.

6. *In evolving a theoretical scheme, the human mind seems constrained to draw inspiration from analogy between the puzzling observations to be explained and certain already familiar phenomena*

In the genesis of a typical theory, the drawing of an analogy between the unfamiliar and the familiar is followed by the making of a model in which something akin to the familiar is postulated as the reality underlying the unfamiliar. Both modern Western and traditional African thought-products amply demonstrate the truth of this. Whether we look amongst atoms, electrons, and waves, or amongst gods, spirits, and entelechies, we find that theoretical notions nearly always have their roots in relatively homely everyday experiences, in analogies with the familiar.

What do we mean here by 'familiar phenomena'? Above all, I suggest, we mean phenomena strongly associated in the mind of the observer with order and regularity. That theory should depend on analogy with things familiar in this sense follows from the very nature of explanation. Since the overriding aim of explanation is to disclose order and regularity underlying apparent chaos, the search for explanatory analogies must tend towards those areas of experience most closely associated with such qualities. Here, I think, we have a basis for indicating why explanations in modern Western culture tend to be couched in an impersonal idiom, while explanations in traditional African society tend to be couched in a personal idiom. The reader may see the point most readily if I introduce a little personal reminiscence. The idea that people can be much more difficult to cope with than things is one that has never been far from my own mind. I can recall long periods of my own boyhood when I felt at home and at ease, not with friends, relatives, and parents round the fire, but shut up alone for hours with bunsen burners and racks of reagents in a chemistry laboratory. Potassium hydroxide and nitric acid were my friends; sodium phosphate and calcium chloride my brothers and sisters. In later life I have been fortunate enough to break through many times into a feeling of at-homeness with people. But such break-throughs have always been things to wonder at; never things to be taken for granted. My joy in people is all the more intense for being a joy in something precarious. And in the background there is always the world of things beckoning seductively towards the path of escape from people. English colleagues may shrug their shoulders and say I am a freak in this. But if they are honest with themselves, they will admit I am saying things which strike echoes in all their hearts. Nor do I have to depend on their honesty in this; for the image of the man happier with things than with people is common enough in modern Western literature to show that what I am talking about here is the sickness of the times.

Not long ago I was having a discussion with a class of Nigerian students, all of whom, I suppose, still had strong roots in traditional community life. We were discussing some of the characteristic ways in which life in Western industrial cities differed from life in traditional village communities. When I came to touch on some of the things I have just been saying, I felt that I had really 'gone away from them'. What I was saying about a life in which things might seem a welcome haven from people was just so totally foreign to their experience that they could not begin to take it in. They just stared. Rarely have I felt more of an alien than in that discussion.

Now the point I wish to make is this. In complex, rapidly changing industrial societies the human scene is in flux. Order, regularity, predictability, simplicity, all these seem lamentably absent. It is in the world of inanimate things that such qualities are most readily seen. This is why many people can find themselves less at home with their fellow men than with things. And this too, I suggest, is why the mind in quest of explanatory analogies turns most readily to the inanimate. In the traditional societies of Africa, we find the situation reversed. The human scene is the locus *par excellence* of order, predictability, regularity. In the world of the inanimate, these qualities are far less evident. Here, being less at home with people than with things is unimaginable. And here, the mind in quest of explanatory analogies turns naturally to people and their relations.

7. *Where theory is founded on analogy between puzzling observations and familiar phenomena, it is generally only a limited aspect of such phenomena that is incorporated into the resulting model*

When a thinker draws an analogy between certain puzzling observations and other more familiar phenomena, the analogy seldom involves more than a limited aspect of such phenomena. And it is only this limited aspect which is taken over and used to build up the theoretical schema. Other aspects are ignored; for, from the point of view of explanatory function, they are irrelevant.

Philosophers of science have often used the molecular (kinetic) theory of gases as an illustration of this feature of model-building. The molecular theory, of course, is based on an analogy with the behaviour of fast-moving, spherical balls in various kinds of space. And the philosophers have pointed out that although many important properties of such balls have been incorporated into the definition of a molecule, other important properties such as colour and temperature have been omitted. They have been omitted because they have no explanatory function in relation to the observations that originally evoked the theory. Here, of course, we have another sense in which physical theory is based upon abstraction and abstract ideas. For concepts such as 'molecule', 'atom', 'electron', 'wave' are the result of a process in which the relevant features of certain prototype phenomena have been abstracted from the irrelevant features.

Many writers have considered this sort of abstraction to be one of the distinctive features of scientific thinking. But this, like so many other such distinctions, is a false one; for just the same process is at work in traditional African thought. Thus when traditional thought draws upon people and their social relations as the raw material of its theoretical models, it makes use of some dimensions of human life and neglects



others. The definition of a god may omit any reference to his physical appearance, his diet, his mode of lodging, his children, his relations with his wives, and so on. Asking questions about such attributes is as inappropriate as asking questions about the colour of a molecule or the temperature of an electron. It is this omission of many dimensions of human life from the definition of the gods which gives them that rarefied, attenuated aura which we call 'spiritual'. But there is nothing peculiarly religious, mystical, or traditional about this 'spirituality'. It is the result of the same process of abstraction as the one we see at work in Western theoretical models: the process whereby features of the prototype phenomena which have explanatory relevance are incorporated into a theoretical schema, while features which lack such relevance are omitted.

8. *A theoretical model, once built, is developed in ways which sometimes obscure the analogy on which it was founded*

In its raw, initial state, a model may come up quite quickly against data for which it cannot provide any explanatory coverage. Rather than scrap it out of hand, however, its users will tend to give it successive modifications in order to enlarge its coverage. Sometimes, such modifications will involve the drawing of further analogies with phenomena rather different from those which provided the initial inspiration for the model. Sometimes, they will merely involve 'tinkering' with the model until it comes to fit the new observations. By comparison with the phenomena which provided its original inspiration, such a developed model not unnaturally seems to have a bizarre, hybrid air about it.

Examples of the development of theoretical models abound in the history of science. One of the best documented of these is provided by the modern atomic theory of matter. The foundations of this theory were laid by Rutherford, who based his original model upon an analogy between the passage of ray-beams through metal foil and the passage of comets through our planetary system. Rutherford's planetary model of the basic constituents of matter proved extremely useful in explanation. When it came up against recalcitrant data, therefore, the consensus of scientists was in favour of developing it rather than scrapping it. First of the consequent modifications was the introduction of the possibility that the 'planets' might make sudden changes of orbit, and in so doing emit or absorb energy. Then came the substitution, at the centre of the planetary system, of a heterogeneous cluster of bodies for a single 'sun'. Later still came the idea that, at a particular moment, a given 'planet' had a somewhat ambiguous position. Finally, along with this last idea, came a modification inspired by the drawing of a fresh analogy. This was the introduction of the idea that, in some contexts, the 'planets' were to be considered as bundles of waves. Each of these modifications was a response to the demand for increased explanatory coverage. Each, however, removed the theoretical model one step further away from the familiar phenomena which had furnished its original inspiration.

In studying traditional African thought, alas, we scarcely ever have the historical depth available to the student of European thought. So we can make few direct observations on the development of its theoretical models. Nevertheless, these models often show just the same kinds of bizarre, hybrid features as the models of the scientists. Since they resemble the latter in so many other ways, it seems reasonable to

suppose that these features are the result of a similar process of development in response to demands for further explanatory coverage. The validity of such a supposition is strengthened when we consider detailed instances: for these show how the bizarre features of particular models are indeed closely related to the nature of the observations that demand explanation.

Let me draw one example from my own field-work on Kalabari religious thought which I have outlined in earlier publications. Basic Kalabari religious beliefs involve three main categories of spirits: ancestors, heroes, and water-people. On the one hand, all three categories of spirits show many familiar features: emotions of pleasure and anger, friendships, enmities, marriages. Such features betray the fact that, up to a point, the spirits are fashioned in the image of ordinary Kalabari people. Beyond this point, however, they are bizarre in many ways. The ancestors, perhaps, remain closest to the image of ordinary people. But the heroes are decidedly odd. They are defined as having left no descendants, as having disappeared rather than died, and as having come in the first instance from outside the community. The water-spirits are still odder. They are said to be 'like men, and also like pythons'. To make sense of these oddities, let us start by sketching the relations of the various kinds of spirits to the world of everyday experience.

First, the ancestors. These are postulated as the forces underpinning the life and strength of the lineages, bringing misfortune to those who betray lineage values and fortune to those who promote them. Second, the heroes. These are the forces underpinning the life and strength of the community and its various institutions. They are also the forces underpinning human skill and maintaining its efficacy in the struggle against nature. Third, the water-spirits. On the one hand, these are the 'owners' of the creeks and swamps, the guardians of the fish harvest, the forces of nature. On the other hand, they are the patrons of human individualism—in both its creative and its destructive forms. In short, they are the forces underpinning all that lies beyond the confines of the established social order.

We can look on ancestors, heroes, and water-spirits as the members of a triangle of forces. In this triangle, the relation of each member to the other two contains elements of separation and opposition as well as of co-operation. Thus by supporting lineages in rivalry against one another, the ancestors can work against the heroes in sapping the strength of the community; but in other contexts, by strengthening their several lineages, they can work with the heroes in contributing to village strength. Again, when they bring up storms, rough water, and sharks, the water-spirits work against the heroes by hampering the exercise of the village's productive skills; but when they produce calm water and an abundance of fish, they work just as powerfully with the heroes. Yet again, by fostering anti-social activity, the water-spirits can work against both heroes and ancestors; or, by supporting creativity and invention, they can enrich village life and so work with them.

In this triangle, then, we have a theoretical scheme in terms of which Kalabari can grasp and comprehend most of the many vicissitudes of their daily lives. Now it is at this point that the bizarre, paradoxical attributes of heroes and water-spirits begin to make sense: for a little inspection shows that such attributes serve to define each category of spirits in a way appropriate to its place in the total scheme. This is true, for example, of such attributes of the heroes as having left no human descendants,

having disappeared instead of undergoing death and burial, and having come from outside the community. All these serve effectively to define the heroes as forces quite separate from the ancestors with their kinship involvements. Lack of descendants does this in an obvious way. Disappearance rather than death and burial performs the same function, especially when, as in Kalabari, lack of burial is almost synonymous with lack of kin. And arrival from outside the community again makes it clear that they cannot be placed in any lineage or kinship context. These attributes, in short, are integral to the definition of the heroes as forces contrasted with and potentially opposed to the ancestors. Again, the water-spirits are said to be 'like men, and also like pythons'; and here too the paradoxical characterization is essential to defining their place in the triangle. The python is regarded as the most powerful of all the animals in the creeks, and is often said to be their father. But its power is seen as something very different from that of human beings—something 'fearful' and 'astonishing'. The combination of human and python elements in the characterization of the water-people fits the latter perfectly for their own place in the triangle—as forces of the extrasocial contrasted with and potentially opposed to both heroes and ancestors.

Another illuminating example of the theoretical significance of oddity is provided by Middleton's account of traditional Lugbara religious concepts.<sup>1</sup> According to Middleton, Lugbara belief features two main categories of spiritual agency—the ancestors and the *adro* spirits. Like the Kalabari ancestors, those of the Lugbara remain close to the image of ordinary people. The *adro*, however, are very odd indeed. They are cannibalistic and incestuous, and almost everything else that Lugbara ordinarily consider repulsive. They are commonly said to walk upside down—a graphic expression of their general perversity. Once again, these oddities fall into place when we look at the relations of the two categories of spirits to the world of experience. The ancestors, on the one hand, account for the settled world of human habitation and with the established social order organized on the basis of small lineages. The *adro*, on the other hand, are concerned with the uncultivated bush, and with all human activities which run counter to the established order of things. Like the Kalabari water-spirits, they are forces of the extra-social, whether in its natural or its human form. The contrast and opposition between ancestors and *adro* thus provides Lugbara with a theoretical schema in terms of which they can comprehend a whole series of oppositions and conflicts manifest in the world of their everyday experiences. Like the oddities of the Kalabari gods, those of the *adro* begin to make sense at this point. For it is the bizarre, perverse features of these spirits that serve to define their position in the theory—as forces contrasted with and opposed to the ancestors.

In both of these cases the demands of explanation result in a model whose structure is hybrid between that of the human social phenomena which provided its original inspiration, and that of the field of experience to which it is applied. In both cases, oddity is essential to explanatory function. Even in the absence of more direct historical evidence, these examples suggest that the theoretical models of traditional African thought are the products of developmental processes comparable to those affecting the models of the sciences.

<sup>1</sup> Middleton, 1960.

Some philosophers have objected to the statement that explanatory models are founded on analogy between the puzzling and the familiar, saying that the features of typical models in the sciences rather suggest that in them the relatively familiar is explained in terms of the relatively unfamiliar. They point to the abstract character of theoretical entities, contrasting this with the familiar concreteness of the world of everyday things. They point to the bizarre features of such entities, so far removed from anything found in the everyday world. These very objections, however, merely confirm the validity of the view they aim to criticize. For what makes theoretical entities seem abstract to us is precisely that they have taken over some key features from particular areas of everyday experience, while rejecting other features as irrelevant to their purposes. Again, what makes theoretical entities seem bizarre to us is precisely these features drawn from areas of familiar experience. The presence of some such features leads us to expect others. But the processes of abstraction and development produce results that cheat these expectations: hence our sense of the odd.

In treating traditional African religious systems as theoretical models akin to those of the sciences, I have really done little more than take them at their face value. Although this approach may seem naïve and platitudinous compared to the sophisticated ‘things-are-never-what-they-seem’ attitude more characteristic of the social anthropologist, it has certainly produced some surprising results. Above all, it has cast doubt on most of the well-worn dichotomies used to conceptualize the difference between scientific and traditional religious thought. Intellectual versus emotional; rational versus mystical; reality-oriented versus fantasy-oriented; causally oriented versus supernaturally oriented; empirical versus non-empirical; abstract versus concrete; analytical versus non-analytical: all of these are shown to be more or less inappropriate. If the reader is disturbed by this casting away of established distinctions, he will, I hope, accept it when he sees how far it can pave the way towards making sense of so much that previously appeared senseless.

One thing that may well continue to bother the reader is my playing down of the difference between non-personal and personal theory. For while I have provided what seems to me an adequate explanation of this difference, I have treated it as a surface difference concealing an underlying similarity of intellectual process. I must confess that I have used brevity of treatment here as a device to play down the gulf between the two kinds of theory. But I think this is amply justifiable in reaction to the more usual state of affairs, in which the difference is allowed to dominate all other features of the situation. Even familiarity with theoretical thinking in their own culture cannot help anthropologists who are dominated by this difference. For once so blinded, they can only see traditional religious thought as wholly other. With the bridge from their own thought-patterns to those of traditional Africa blocked, it is little wonder they can make no further headway.<sup>1</sup>

The aim of my exposition has been to reopen this bridge. The point I have sought to make is that the difference between non-personal and personalized theories is

<sup>1</sup> Just how little headway British social anthropologists appear to be making with traditional religious thought is betrayed by their tendency to confine themselves to the study of its political

manipulation, and to leave to psychologists the job of accounting for its substantive features. In this context, I should like to draw attention to the curiously menial role in which the modern British

more than anything else a difference in the idiom of the explanatory quest. Grasping this point is an essential preliminary to realizing how far the various established dichotomies used in this field are simply obstacles to understanding. Once it is grasped, a whole series of seemingly bizarre and senseless features of traditional thinking becomes immediately comprehensible. Until it is grasped, they remain essentially mysterious. Making the business of personal versus impersonal entities the crux of the difference between tradition and science not only blocks the understanding of tradition. It also draws a red herring across the path to an understanding of science. This becomes obvious from a look at history. So far as we know, an extensive depersonalization of theory has happened spontaneously only twice in the history of human thought. Once in Europe and once in China. In Europe this depersonalization was accompanied by a growth of science; in China it was not.<sup>1</sup> Again, where depersonalization *has* been accompanied by the growth of science, the two have often parted company very readily. Thus in Western lay culture we have a largely depersonalized view of the world which is at the same time totally unscientific.<sup>2</sup> And in many of the developing countries, for which science appears as a panacea, it seems likely that the depersonalized world of the West may get through without the scientific spirit.<sup>3</sup> Yet again, in the recent history of Western psychology, we find both personalized (psycho-analytic) and non-personalized (behaviouristic) theories. And for each category there are those who handle the theories scientifically and those who do not.

All this is not to deny that science has progressed greatly through working in a non-personal theoretical idiom. Indeed, as one who has hankering after behaviourism, I am inclined to believe that it is this idiom, and this idiom only, which will eventually lead to the triumph of science in the sphere of human affairs. What I am saying, however, is that this is more a reflection of the nature of reality than a clue to the essence of scientific method. For the progressive acquisition of knowledge, man needs both the right kind of theories *and* the right attitude to them. But it is only the latter which we call science. Indeed, as we shall see, any attempt to define science in terms of a particular kind of theory runs contrary to its very essence. Now, at last, I hope it will be evident why, in comparing African traditional thought with Western scientific thought, I have chosen to start with a review of continuities rather than with a statement of crucial differences. For although this order of procedure carries the

anthropologist has cast the psychologist—the role of the well disciplined scavenger. On the one hand, the psychologist is expected to keep well away from any intellectual morsel currently considered digestible by the anthropologist. On the other hand, he is tossed all indigestible morsels, and is expected to relieve the anthropologist of the embarrassing smell they would create if left in his house uneaten.

<sup>1</sup> See, for instance, *Scientific Change* (Symposium on the History of Science, University of Oxford 9-15 July 1961), ed. A. C. Crombie, London, 1963; especially the chapter on 'Chinese Science' and the subsequent interventions by Willy Hartner and Stephen Toulmin.

<sup>2</sup> 'Western society today may be said to harbour science like a foreign god, powerful and mysterious.

Our lives are changed by its handiwork but the population of the West is as far from understanding the nature of this strange power as a remote peasant of the Middle Ages may have been from understanding the theology of Thomas Aquinas.' Barzun, 1961.

<sup>3</sup> Coming from Africa, this is something of a *cri de cœur*. In the authoritarian political climate of emergent African nations, there are particular dangers that this may be the outcome of 'westernization'. For since the spirit of science, as I shall emphasize in Part II, is essentially anti-authoritarian, there is a great temptation to take the preoccupation with impersonal models as the essence of science, and to reject the real essence as inconvenient. Hence the need to insist so strongly on disentangling the two.

risk of one's being understood to mean that traditional thought is a kind of science, it also carries the advantage of having the path clear of red herrings when one comes to tackle the question of differences.

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*Résumé*

## DE LA TRADITION A LA SCIENCE

CET essai est divisé en trois parties. La I<sup>ère</sup> partie concerne à la fois la pensée traditionnelle d'un villageois africain et la pensée d'un homme de science occidental. La II<sup>ème</sup> partie concerne les caractères qui séparent ces deux modes de pensée et établit la comparaison entre l'approche à la sociologie des idées exposées ici, et d'autres courantes en sociologie contemporaine, et s'efforce de démontrer qu'elle en est la plus profitable.

Dans la I<sup>ère</sup> partie, l'auteur développe, en outre, le concept d'un modèle théorique, en tant qu'outil intellectuel, qui serait commun à la pensée africaine traditionnelle et à la pensée occidentale. Il démontre que beaucoup de différences supposées profondes entre les deux modes de pensée tiennent, plus qu'à autre chose, à des différences de langage de leurs modèles théoriques respectifs. Ceci admis, toute une série d'énigmes et de problèmes que posaient la pensée traditionnelle vont se résoudre d'eux-mêmes.

Non seulement l'étude envisagée ici apporte une nouvelle lumière sur la nature de la pensée traditionnelle, mais, en outre, elle ouvre la voie à une compréhension plus claire de ce qui sépare une telle pensée de la pensée d'un homme de science en démontrant que la pensée personnelle opposée à la pensée impersonnelle est un faux problème qui ne fait que détourner l'homme de science des différences réelles et essentielles entre les deux modes de pensée. Désormais, l'étude des caractères communs, loin d'être une cause d'erreurs, sera une nécessité préliminaire à toute analyse des différences existantes.

La II<sup>ème</sup> partie, où ces différences sont étudiées en détail, paraîtra dans un prochain numéro de la revue.