

Ethology, Language, and the Study of Human Action

Any adequate study of human action must acknowledge the obvious fact that human beings are meaning-makers, for our possession of semantic capacities makes us members of a self-defining species. This point not only influences what a scientific account of human activity should look like, it also has important implications for what characteristics a science studying such creatures should possess. For instance, in anthropology the investigator and the people being studied possess the same basic analytical powers for the simple reason that it demands considerable anthropological skills (self-knowledge, communicative abilities, understanding of others, etc.) to be a person at all. In other words, those powers which make social inquiry possible are the same as make any social relationship possible: indeed, social inquiry is a species of social interaction. This basic truth means that there must be important differences between human studies and the physical sciences or indeed any discipline which does not deal with semantic beings who use language, follow rules, employ symbols, and the like.¹

We can usefully express this gulf and the nature of the extra difficulties involved in describing human action by employing the distinction from translation theory between 'transcription' and 'transliteration'. Theoretical statements in the physical sciences can be said to register conceptually connections between occurrences. With human actions, however, these conceptual links already exist because they are already structured by (and indeed substantially constituted by) the fact that they embody the meanings of their agents. Physical sciences, then, transcribe in the sense that they devise a graphological set to systematise a structure previously unrecorded. By contrast, the social inquirer has to transliterate since the system in which he is interested, being a semantic structure, already possesses a conventional orthography. The scientifically crucial point to be observed here is that description in human studies must not destroy this structure since it is an important part of the reality being dealt with. In anthropology, therefore, our facts are not only already classified, they are classifications. When dealing with human action, science must build on this semantic foundation.² As our life is a semantic fabric, an adequate scientific investigation of it cannot escape being a conceptual inquiry in large measure, for if one fails to acknowledge the inherently meaningful nature of the subject matter being considered one simply destroys the nature of the facts being investigated.

These brief reflections on the nature of human action and the differences between human studies and physical sciences

suggests that anthropologists should look very critically at that ethological growth of the social sciences which has of late been so enthusiastically recommended by several colleagues. For one, the distinction between those who see ethology as of great value and those who do not is already supposed to constitute a major division in the discipline (Reynolds 1973: 384). Naturally, no one could possibly deny that in our present state of knowledge the Durkheimian view of the 'social' as an autonomous domain is an unacceptable instance of a closed system. If there are cultural universals which can be grounded in some physiological basis, research is quite rightly directed to the links between the two realms. To leave such matters uninvestigated simply because they require one to go beyond the orthodox boundaries of social science would be absurd. At the same time, the very vogue of 'ethologism' - a combination of romanticism, gloom and science (Callan 1970) - in our culture suggests that there may be at work a fascination for animal studies which is not of an altogether scientific kind. This filtering of social concerns through the animal world - an employment of the natural realm to yield terms of human self-understanding just like the 'totemism' of primitive cultures - should at least make us wary as to our reasons for being attracted by ethology.

The recent popularity of ethology has resulted in a great amount of poor work in a field which can boast the presence of a number of conscientious scholars. But the former work is not irrelevant to the writings of the latter because it is the same perception which builds the bridge that make possible both types of contribution. When Desmond Morris declares in an untroubled way that he is a zoologist and man is an animal (1969:9), this is essentially the premises from which the more sober approaches take their start. And one need not be a fundamentalist believing in the separate creation of man to feel sceptical about the framework of ethological inquiry which springs from it. Human powers which are exercised in social interaction (intersubjective understanding, the use of language, and so on) obviously have a natural basis and an explanation of them will ultimately be supplied by sciences like neuro-physiology. But just as the severe naturalism of Levi-Strauss' search for unconscious structural invariants involves the high cost of decomposing facts before their complexity is understood, similar considerations are relevant in assessing the work of ethologists.

Man no doubt cannot shake off his long evolutionary past, but to view our social activities as the outcome of natural selection by speaking of 'genetically programmed behavioural predispositions' (Tiger & Fox 1966:77) obscures a great many conceptual problems. Among others, only man has any knowledge of his biological history, and this knowledge

must alter his relationship to it. The social sciences study people who not only live but also have a conception of life. Thus an account of human action must take into consideration the fact that we do not just behave, but act - that is we have conceptions of behaving. There is a logical gulf between action and behaviour,³ and we might therefore wonder by what means ethology can show us, for instance, the links between customary activities and impulsive behaviour (Freeman 1966:337, 340). One need only recall the pioneering work of Mauss (1936) to know that the human body is part of a system of collective representations and so a theoretical instrument. It is simply not possible to view human movement as if it were mere behaviour. Of course we are subject to physical constraints, but no adequate scientific account of human movement can ignore its profoundly semantic qualities (Williams, in press). Our semantic powers create the multi-dimensional realities in which we live as social beings, and it is the flat descriptions of human action given by supposedly scientific disciplines which are in fact metaphysical.

No one would wish to prejudge the ultimate value of scientific attempts to place human culture in the context of evolutionary biology. But the conceptual character of human activity is itself a part of the natural history of our species, and so it is quite reasonable to insist that ethologists address themselves to some of the semantic problems concerned with human action before they can expect to capture our attention. In the hands of those like Tinbergen ethology has been a tremendous advance on animal studies carried out in laboratory conditions, but the discipline is still an essentially biological explanation of behaviour. And those who advocate ethological approaches in the social sciences have still to produce a satisfactory conceptual bridge between the biological realm and the semantic sphere in which action occurs. Callan, who has cautiously set out some useful links between ethology and anthropology, has quite rightly claimed that the extent of the gulf between the two disciplines has been seriously underestimated by some practitioners (1970:34). Furthermore, ethological explanations tend to be functional (ibid: 71): so this extension of anthropology would return us to the framework from which other recent developments have been freeing us. Concepts here themselves become functions as quite literal 'adaptational devices' (Tiger & Fox 1966: 8ln6). Conventions, rituals, and symbols are shared modes of adaptation, the displacements of a pre-existing behavioural repertoire (Freeman 1966:339, 340n). In this way the shift in modern anthropology from function to meaning is blocked by the advent of an ethological functional semantics.

The general problem involved in the ethological

approach in social science can be stated in terms of whether we are dealing with two systems (animal behaviour and human action) which differ only in degree of complexity but where the phenomena are of the same basic kind, or whether the gulf registers the difference between systems which are at two discrete levels of organisation such that we have features on the higher for which no analogue can be found on the lower. If the words 'social' and 'language' cannot be employed of animals with the same implications that they have in a human context, they should not receive a dual use. If it is the case that only at a certain level of organisation can the phenomenon of a rule or convention exist, we cannot regard them as just highly complicated behavioural regularities. Now it seems scientifically imperative that we regard language-users and those without language as belonging to different levels of logical complexity. There are features in the activities of rule-following language-users which are unique to them and which cannot be handled at all by conceptual systems adequate for describing other species. If we need to use different kinds of models and even different descriptive terms for the two levels of complexity, clearly notions like a 'primate programme' in human beings will belong to a terminological limbo. Not only do they not form part of a conceptual system, they semantically violate the two types of description on either side of the gulf between human action and animal behaviour.

As has often been contended, language is really the crucial test here. It has become common to speak of 'animal languages', but there seems good reason to regard language as species-specific. Hockett has even suggested that a valuable way of searching for the universals of human languages is to contrast them with the communication systems found among animals (1963: 8ff). The view that there is a difference of kind between animal communication and language is strengthened should the suggestion prove correct that language is not the manifestation of a general high intelligence but of a specific language faculty (Lenneberg 1964). And of course Chomsky's stress on the fact that human speech is an open-ended system which is free of environmental stimulus would further widen this gap.

We already know that the stimulus-response model of verbal behaviour (itself extrapolated from animal studies) leaves out the most basic characteristics of human language use. If, by contrast to such language, animal signals form a behaviourally-rooted fixed repertoire, we have to say that the difference between an animal screeching in the presence of danger and a grammatically articulate proposition that 'such and such is the case' is not a matter of increased complexity but that they are two different sorts of phenomena.

And those like Sebeok who admit that language is an unbridgeable gap between man and animals cannot solve the problem simply by recommending a wider zoosemiological framework (1973). Just as behaviourist accounts of human verbal activity fail, so projected behavioural rooted semiotic systems (see C. Morris 1955) seem grossly inadequate. Our non-verbal communication may be more like that of animals than our language, but we can still easily exaggerate the similarity between our gestures, for instance, and animal communication. After all, humans can perform semiotic transmutations; they can substitute a phrase for a gesture, for example. And if this equivalence is possible, our non-linguistic signs must partake of the same systemic complexity as language itself (Jakobson 1967: 673).

This conclusion suggests we should not use the term 'sign' in speaking of animal communication at all. Far from being biologically caused, in human conventional signifying activity arbitrariness is basic. A similar proscription seems advisable with the concept of a rule, which despite its great complexity and resistance to definition is a notion that is indispensable to the scientific description of human activity (Harre 1974). A rule implies semantic structures, publicity, and non-necessity. Just as free human action is something where the agent could have acted otherwise, so human conventions could have been different. When one describes an event as 'conformity to a rule', therefore, one is in a discourse of a logically different type to that subsumption of an occurrence under a general law typical of causal accounts in natural science.

If the gulf between man and animals has to be stated in terms of distinct types of powers, science demands that the difference be conceptually recognised. Indeed, ethology and social science should have very different characteristics because if language separates the two realms, it also significantly affects the nature of description in the two sciences. The social sciences study persons who have conceptual systems of their own actions. Language therefore appears twice. Firstly in the theory of the scientist, and secondly as part of the activity of the people studied by that science who use language, among other things, to formulate explanations of their own. In ethology one obviously cannot begin by exploring the linguistic resources of those one studies since animals do not possess the institution of language. As a natural science, ethology must content itself with external observation. The ethologist here is the only one to formulate discourse for explanation since animals do not give accounts of their behaviour.

There have been many poetic statements about language

creating a distinctively human symbolic atmosphere. What we need is a more scientific way of expressing the truth contained in this view, and perhaps the notion of 'reflexivity' is valuable in this connection. Language both manifests and is an index of an organic system with highly reflexive abilities (Hockett 1963:13). Human beings not only speak, they can also speak about language. This capacity to operate on a meta-level - to communicate about communication - seems absent in systems of animal signalling, although claims have sometimes been made to the contrary. Here again then, we see that 'quantal' principle at work which gives us a hierarchy of discrete orders of logical complexity. Reflexivity is not a capacity which increases gradually but is an instance of 'emergent' properties. In other words, there are critical points in levels of organisation above which a creature may be described as a symbol-user, but below which there is no rudimentary analogue of such a power.

Clearly then, whilst zoosemiotics has greatly increased our knowledge of animal communication, this more general framework does not solve our analytical difficulties. There are 'design features' of a fundamental logical kind which still separate our signifying capacity from any communication systems found in animals (Hockett & Altmann 1968: 63ff). These cannot scientifically be characterised as merely cases of increased complexity (Lenneberg 1968: 598, 611), so one is entitled to be sceptical about a proposal for the study of 'communication in general'. Communication is one aspect of a whole mode of being, and we must be very careful lest in concentrating on this single perspective we do not regard as parallels what are very superficial similarities indeed (ibid 1969: 136). Nothing in animal communication resembles the semantics of being human and of human interaction as realistically described as Goffman (1959; 1967). We may describe the performance by the honey bees which convey the location of honey as a dance, but such an activity can neither state negatives nor can it convey a message about the performance itself. Again, apes under exceptional circumstances have been taught to combine counters to make simple propositions, but a real demonstration of the reflective capacities of a language-user in such a creature would require it to state such a proposition as 'I am stating a proposition'.

These examples demonstrate the value of Bateson's advice (1964) that Russell's theory of logical types can enable us to appreciate fundamental aspects of natural communication. Man sends messages, but his brain also allows him to frame messages which classify messages, and again messages which classify these classifications. These three kinds of message cannot belong to the same logical type. We can further use this scheme to state the nature of the 'accounts'

which are so important in the understanding of human action. Accounting is an expression of reflexive powers because the reports a human being gives on his own performances are not cases of mere verbal behaviour which belong to the level of the action itself. It monitors the action from the framework of another system. Not only do animals lack this power, human beings display this capacity on several levels. Thus, a human being not only processes information, he also processes the processing of information, so he can monitor the monitoring of his actions. This is the basis of the familiar complexity in human semantics. Language can convey information, but it can also be used for lying. Furthermore, humans can pretend, pretend to lie, and so on. Clearly, therefore, whilst it may be sufficient to regard animal communication as an information system, this cannot be so of human language. Language is so much a part of our imaginative life, so much geared to the creation of 'alternities' (Steiner 1975: 222, 218) that we miss much of its genius if we do not also regard it as a system of mis-information.

Our hierarchical framework has further elaborated the gulf between human action and animal behaviour. It is clear that if we are to advance our understanding of social interaction we need a better knowledge of the basic properties which make human beings capable of activity of this logical kind. And this cannot come from studying creatures who lack these powers. Just as a constitutive rule creates a phenomenon, so we could say that a certain level of organisation brings into being a whole new range of features. If animals lack our neural organisation we cannot regard language as a development of the communication systems of a lower order, nor can we think of human institutions as complex combinations of patterns of animal behaviour. This stratification in nature has to be marked conceptually by science (Shwayder 1965). That is, we need a different way of talking scientifically about a creature who plans, has models of plans and models of those models (Miller *et al.* 1967). Some animals may be conscious of their behaviour, but human beings are aware of their consciousness, which profoundly affects the nature of their activities. Human interaction requires the activation of powers of mutuality: the understanding of oneself and other needed demands that one knows that the other knows that one knows, and so on. Of course, the potential for operating on this level is not always fully exploited by human beings, but the possibility of exercising these abilities must affect how we describe all their activities. Certainly no natural science which studies animal behaviour has anything remotely like the necessary conceptual resources for doing this.

Wittgenstein made the philosophical point that there were certain concepts which could only be applied to a language-user (1967: no.520). We have now seen many reasons why such a viewpoint must be respected by science, even those branches which wish to go beyond the boundaries of existing disciplines. If, for instance, it is correct to say that we are symbol-users because we are intentional creatures, to have decided that only those who use language can be said to possess symbols rules out whole areas of human vocabulary as inapplicable to animals. These conceptual truths must be respected by science since science cannot make sense if it violates the semantic conventions of language by the way it describes its subject matter. No matter how human the dance of the honey bee looks, it cannot be described as 'rational' since there are such strong linguistic affinities between the concepts 'rationality', 'intention', 'rule', 'symbol', 'reasons for', that such a predicate is only semantically acceptable when one has a creature that can speak (Bennett 1971). We are therefore forced to give a different type of explanation employing a different set of terms for human action from that we use when describing animal behaviour. Human activity is not pre-existing natural behaviour to which rules are added: it is the rule and a being capable of following it which create the activity.⁴

Because creatures with and those without language have to be scientifically described by two different conceptual systems, ethologists themselves have a crucial problem of language in that they must find a system of concepts in which to express the parallels and links upon which their science is based. We cannot adequately describe human action with terms used to refer to animal behaviour since we cannot link them to notions like 'rule' and 'intention'. This is why behaviourist accounts of our activity leave out its most basic characteristics. On the other hand it is no less objectionable to employ action concepts to describe animal behaviour. Thus, it has become commonplace to speak of the 'authority structure' of primate groups, but in a human social context authority is a notion linked to ideas of legitimacy and to systems of values and beliefs. If these circumstances do not hold in the animal case, it invites confusion to use the same term.

This problem is even more clear in the case of ritual. Whether one adopts the positivistic position of the functionalists that ritual is a special kind of behaviour - that related to 'mystical' beliefs - or whether one argues that all human action is ritual because all action is symbolic and patterned (albeit at different levels of formality), in the human context ritual is profoundly semantic. By contrast, in an animal context, the term is specifically

applied to those biologically rooted performances of an impulsive and instinctive kind such as the attraction of a mate or the defence of a territory. But if such behaviour is spectacular, in common usage 'performance' means the very reverse of instinctual, just as human conventions are the reverse of impulsive (Leach 1966). Even when we speak of a person indulging in an impulsive activity, we are referring to ritual which shares the symbolic nature of other human actions.

These examples carry a general warning. Unless ethologists are very careful their approach to social phenomena could well remove them from the domain of science by failing to locate it in any acceptable conceptual system. As such, the enterprise could then only be a mixture of observational method and linguistic confusion. There are different levels of logical complexity in nature, and ethology cannot become a science if it disrespects the architecture of our language which registers these discontinuities. Ethologists cannot hope to convince us just by providing the findings of more detailed research, since we can only feel happy with these results once the ethologists have subjected their own science to conceptual scrutiny. In the meantime social scientists should not forget that human beings are creatures who, possessing considerable self-understanding, can offer explanations of their own action. Perhaps therefore it would be far more profitable to explore and make explicit the nature of this knowledge as a means of building the social sciences than to observe rats and chimps.

If social scientists wish to advance their understanding of human action they might do well to look to areas where rules and meanings definitely apply - for instance, in law and language. It is an illusion created by such edifices as the Comteian hierarchy of the sciences that makes us think that animal studies will give us a 'deeper' understanding of social facts. Of course we commonly speak of animal 'societies', but since social is a term intimately bound up with other terms like symbol and language, it may well be that this usage too will mislead. We do not yet know what are the minimal features of the social, and what its systemic prerequisites, but there is no point in hastily handing over problems to new disciplines and speaking of 'social biogrammars' (Tiger & Fox 1972) if invariants can be located at the social level itself. If students of human action broaden their disciplines by scrutinising such fields as linguistic theory and the philosophy of law they will at least know they are dealing with systems of the right level of organisation complexity. If ethology is partly a response to the past lack of theoretical growth in the social sciences, then it is certainly welcome. Yet we can possibly develop

and even transform the disciplines concerned with human action at their present level rather than by seeking to reinvigorate them by finding a route into biology.

Malcolm Crick

Notes

This critique of ethology forms part of a larger investigation to be published as Towards a Semantic Anthropology: Explorations in Language and Meaning.

1. The idea that there can be no science of an inherently semantic subject matter because meanings are 'internal' and 'inaccessible' rest upon a profound error, for language and rules are essentially public phenomena. Of course, this publicity is not external in any simplistic observationalist sense, but meanings are locatable in shared conceptual reservoirs by dialogue between the social investigator and the people being studied - that is, by that process of communication which makes possible both social science and social life.
2. The semantic structure of human action is very largely embodied in ordinary language. However, it does not follow that a scientific account can rest content simply with tracing the forms mapped by this institution. It has to account for the nature of these forms, and here one may need to go beyond ordinary language in order to state adequately these deeper structures.
3. The very notion of 'human behaviour' - the subject matter which social scientists ordinarily suppose they are concerned with - is problematic in that it risks confusing two separate semantic fields. There is a deep conceptual gulf in our language which separates 'behaviour' where causal notions are relevant and adequate, from that semantic realm of human action where we refer to meanings, reasons, intentions, and so on. Indeed, often we speak of behaviour precisely when the human being concerned is not fully a person because his agency, for one reason or another, is absent. It is worth recalling in this context that behavioural accounts have signally failed with human language which is a paradigm case of human rule-following activity.
4. It is for this reason that biological concepts cannot act as an 'ideal language' for plotting kinship systems (Gellner 1957). A kinship system, being constituted by a set of semantic categories, is a system of an entirely

different order. In Ardener's terms (1971) we can regard kinship as a paradigmatic structure, and biological events like copulation, birth, and death as parts of a syntagmatic chain. In the latter we are dealing with organic individuals, in the former with person classifications. And because of the logical relations between p- and s-structures, elements of the syntagmatic discourse do not provide terms adequate to state the paradigmatic structure.

Bibliography

- Ardener, E.W. 1971. "The new anthropology and its critics." Man (n.s.) 6:449-67.
- Bateson, G. 1964. "The logical categories of learning and communication." In 1973:250-29.
 ---- 1973. Steps to an Ecology of Mind. Paladin, St. Albans.
- Bennett, J. 1971. Rationality. Routledge & Kegan Paul, London.
- Callan, H. 1970. Ethology and Society. Towards an Anthropological View. Clarendon Press, Oxford.
- Freeman, D. 1966. "Social Anthropology and the Scientific Study of Human Behaviour." Man (n.s.) 1:330-42.
- Gellner, E. 1957. "Ideal Languages and Kinship Structure." Philosophy of Science 24:235-42.
- Goffman, E. 1959. The Presentation of Self in Everyday Life. Doubleday Anchor Books, New York.
 ---- 1967. Interaction Ritual. Essays in Face-to-Face Behavior. Doubleday Anchor Books, New York.
- Greenberg, J. 1966. (ed). Universals of Language. M.I.T. Press, Cambridge, Mass.
- Harre, R. 1974. "Some Remarks on 'Rule' as a Scientific Concept." In Mischel 1974 ed:143-84.
- Hockett, C.F. 1963. "The Problems of Universals in Linguistics." In Greenberg 1966 ed:1-29.
- Hockett, C.F. and Altmann, S.A. 1968. "A Note on Design Features." In Sebeok 1968 ed:61-72.

- Jakobson, R. 1967. "Linguistics in Relation to Other Sciences."
In 1971:655-91.
 1971. Selected Writings (Vol. 2). Mouton, The Hague.
- Leach, E.R. 1966. "Ritualisation in Man in Relation to
 Conceptual and Social Development." In Lessa & Vogt
 eds:33-7.
- Lenneberg, E.H. 1964. "A Biological Perspective of Language."
In 1964 ed:65-88.
 ---- 1964 (ed). New Directions in the Study of Language.
 M.I.T. Press, Cambridge, Mass.
 ---- 1968. "Language in the Light of Evolution." In Sebeok
 1968 ed:592-613.
 ---- 1969. "Problems in the Systematization of Communicative
 Behaviour." In Sebeok & Ramsay 1969 eds:131-7.
- Lessa, W.A. and Vogt, E.Z. 1972 (eds). Reader in Comparative
 Religion. An Anthropological Approach (3rd edition).
 Harper & Row, New York.
- Mauss, M. 1936. "Les Techniques du Corps." In 1950:365-86.
 ---- 1950. Anthropologie et Sociologie. Presses Uiversitaires
 de France, Paris.
- Miller, G.A. Galanter, E. and Pribram, K.H. 1967. Plans and
 the Structure of Behavior. Holt, Rinehart & Winston Inc,
 New York.
- Mischel, T. 1974 (ed). Understanding Other Persons.
 Blackwell, Oxford.
- Morris, C. 1955. Signs, Language and Behavior. Geo.
 Braziller Inc., New York.
- Morris, D. 1969. The Naked Ape. Corgi Books, London.
- Reynolds, V. 1973. "Ethology and Anthropology." Man (n.s.)
 8:384-92.
- Sebeok, T.A. 1968 (ed). Animal Communication. Indiana
 University Press, Bloomington.
 ---- 1973. "Between animal and animal." Times Literary
 Supplement 5th. Oct:1187-9.
- Sebeok, T.A. and Ramsay, A. 1969 (eds). Approaches to Animal
 Communication. Mouton, The Hague.
- Shwayder, D.S. 1965. The Stratification of Behavior.
 Routledge & Kegan Paul, London.

- Steiner, G. 1975. After Babel. Aspects of Language and Translation. O.U.P., London.
- Tiger, L. and Fox, R. 1966. "The zoological perspective in social science." Man (n.s.) 1:75-81.
- 1972. The Imperial Animal. Secker & Warburg, London.
- Williams, D. (in press). "Deep Structures of the Dance."
- Wittgenstein, L. 1967. Zettel. Blackwell, Oxford.