Linguistics to Social Anthropology: The Problem of Theory

As students of natural language have become concerned with linguistic universals so have social anthropologists belatedly seized upon such discussions as a potential source of methodological inspiration. The Prague school phoneticists produced an hypothesis regarding such linguistic universals; an hypothetical framework which was used by Claude Levi-Strauss in his analysis of kinship systems. A somewhat similar methodological adoption occured in the U.S.A., as the disection and classificatory procedure that had been developed by the linguists of the Bloomfieldian school was extended to form the basis of the techniques used by the componential analysts of the New Ethnography. These techniques, like those utilised by Levi-Strauss, were developed on the basis of a consideration of universal features of arrangement.

In both of the above cases the analysts attempted to determine how the particular arrangement of elements amongst social phenomena might be accounted for in terms of a finite number of non-empiric characteristics in various combinations. Thus, though the analyst might ultimately be concerned with non-empiric features, yet he was to gain access to them through a consideration of empirical social phenomena. Any claim that their procedure was scientific, made by the social anthropologists or the methodologically-prior linguists, could be justified only if couched in terms of a nineteenth-century scientific epistomology. Their findings might be verified upon considering a sample of recorded empirical data, and observing how the theoretical 'model' was able to provide account of the same. The correspondence between data and model was immediate: this was a empirical science.

Despite the reliance on theoretical models and their appeal to non-empiric features, such results as these procedures might give are nevertheless available for immediate empirical testing. Such a theoretical practice provides a theoretical account for that which is immediately available to the senses and reason. The truth value of any theoretical model is relative to the degree of correspondence which is seen to hold between the immediate empirical knowledge of that phenomenon under consideration and the account provided by that theoretical model. 'Truth' is apparent when the two coincide.

For many years it has been recognized that for any finite set of empirical data more than one theoretical model could be constructed which would provide an explanatory account of that data, each account corresponding with an immediate empirical knowledge of that same data. Such a realisation presents a problem as to the truth of such accounts. (see Burling, 1964). In defence of such procedures Dell Hymes has placed considerable emphasis on the ability of a 'correct' account to predict the name of a novel item: "To predict naming is to treat the analysis as generative" (Hymes 1969) Again it is noted that a correspondence between the prediction and empirical referant guarantees the truth of the theoretical model.

The recognition that theoretical models are generative introduces the concept of a set of elements that might not all be included in any set of recorded data of performance but for which the model, constructed on the basis of that set of recorded performance, might predict the names. Such a model is generative in a weak sense of the term, in that all the elements, for which names might be provided, are given as immediate objects for analysis prior to the construction of the theoretical model.

The French philosopher Gaston Bachelard has proposed that the revolution in scientific method, which he sees as having taken place in the early twentieth century, introduced a theoretical practice which comprises models, generative in a powerful and altogether different sense. Such theories produce concepts, the existence of material elements corresponding to which not being available for immediate empirical verification. There is a lack of immediate empirical guarantee of the truth of these theories; this latter only being established at some later date when the produced concept might be materialized under experimental conditions.

Such a new theoretical practice has grave implications for the Cartesian 'cogito', which has been a very central feature of Western Philosophy for the past centuries. In this philosophy the cogito, or conscious subject, was understood as constituting himself in terms of his relations with the object of his enquiry. Likewise, knowledge of the object was understood to be, in some way, an externalising of the subject. With the emergence of the new scientific procedure a rupture was made between the subject/object couple.

Halliday (1967, 1970) has suggested that language should be understood as being based on such a subject/object couple; that the English language, based on a nominal style, comprises a number of Verbs (i.e. relators) whose function it is to establish relations between nominals. These relations are established between things (common nouns), names (proper nouns), and processes, qualities, states, relations, attributes, which are 'nominalised', by being objectified. Any threat, therefore, to this subject/object couple should have serious implications for the efficacy of a language which is based upon a faith in such a relationship. The ability of language to 'fill-in' between objective knowledge and subjective opinion and interpretation[1] (Strawson, 1974) would be stretched to its maximum, and a rupture would seem inevitable. It must be noted that Strawson makes no reference to the possibility of such a rupture. Rather it is the very business of language to prevent this happening.

In an earlier publication (1972) Strawson had presented the outline of a linguistic theory not dissimilar from that which formed part of the foundations for that theory suggested by Halliday (1967, 1970). Although he makes no explicit reference to the 'functions' of language, nevertheless he would agree with Halliday that the "atoms to be structured" should be the relationships implicitly recognized as the product of compatible roles performed by lexical formatives; these latter being regarded as the minimal meaning elements in any natural language. They also propose a very similar implication of their respective theses. Halliday has proposed that 'language style' is not only a major constituent of "cultural knowledge", but also a determinant of "cultural behaviour". Analogously, Strawson has suggested that although some fundamental structural principles might be found to be (or postulated as) common characteristics of the various, apparently unrelated, languages, yet these dissimilar languages might evince significant differences in the classificatory frameworks of the peoples involved.[2] Neither of these two theses is to be regarded as constituting a radical alternative to the generative grammars, whether syntactically or semantically based, as they are both to be understood as necessary developments of their predecessors.

For formal linguists the word is seen as an 'existent', definable in terms of classificatory features (selectional and sub-categorisation features - Chomsky; semantic markers - Katz and Fodor; and a host of terms in componential analysis - 'plereme', 'semene', 'semantic component', semantic category, etc.) It matters not one jot whether such formal linguists propose that the 'meaning' of an utterance is to be equated with a set of compatible semantic markers found amongst the lexical

items constituting that utterance (Chomsky 1965; Katz and Fodor 1963);
or with the Case relationships between the Verbs and their associated Noun
Phrases (Fillmore 1970); or the 'case-like' relationships between con-
stituent semantic elements (Lakoff 1962; McCawley 1970). All such proposi-
tions are formal and rule-governed; such a procedure necessitates the
recognition of words as 'static' entities.

Although apparently poised, ready to take a step in a new direction
in linguistic research, Strawson (1972) appears to retreat from the
vision of a state of disequilibrium to the relatively 'safe' ground of
"correct grammatical relationships" which, being so "critical for semantic
interpretation" must, therefore, be "rule-governed". Certainly, he
criticises Chomsky-Katz-Fodor for their insistence that the lexical items
introduced to the deep structure need only their corresponding set of
formal characteristics to enable an adequate semantic interpretation of
an utterance, claiming that a knowledge of the potential roles that such
lexical items might play is also required. The implicit relationships
which might be established as the result of bringing two such potential
roles together was, however, to be discoverable by some form of formal
analysis. It is as thought the speaker of a natural language has a stock-
list of 'implicit relations', cliches, metaphors, etc., each of which
might be brought into use by the selection of lexical items with the
necessary 'potential roles', the correct (for Strawson - logical) gram-
matical relationship providing the essential, and immediate, catalyst.
It is suggested that an analysis of a set of resultant effects might well
provide evidence of a more fundamental classificatory framework. It is
obvious from this discussion that Strawson, despite the initial attrac-
tion of his thesis, remains firmly entrenched within his own philosophical
tradition. The lexical item, or word, is still regarded as an entity with
an existence of its own. What is more, it is apparent that those 'poten-
tial roles' which Strawson credits to each lexical item, are nothing other
than more classificatory features, differing from those suggested by other
writers only in being more difficult to locate.

The degree to which Strawson is justified in regarding his thesis
as offering any real alternative to his predecessors and contemporaries
in the field of descriptive linguistics, can be judged by comparing his
comments on the essential nature of linguistic theory with those of George
Boole, over one hundred years earlier. The choice of George Boole is
not arbitrary, as Chomsky based his model for a generative grammar on his
interpretation of Boole (1854).[3] Boole might be regarded as a common
influence on the writings of Chomsky,[4] Strawson, and in fact, the vast
majority of those theoreticians working within the field of formal lin-
guistics, both before and after the so-called Chomskian revolution.

George Boole wrote extensively on the subject of linguistic signs,
seeing them as "the elements of which all language consist...; an
arbitrary mark,[5] having a fixed interpretation". There is a notable cor-
respondence between such a proposition and the attempt to assign to each
lexical item a set of classificatory features, such as undertaken variously
by Chomsky, Katz, Fodor, et al. Boole continues by postulating that such
linguistic signs are "susceptible of combination with other signs in sub-
jection to fixed laws dependant upon their mutual interpretation" (Boole,
1854:25-26). Such a proposal might well have been cited by any of the
generative semanticists as a working premise, and presents us with more
of a paraphrase of Strawson's 'alternative' framework.

Rethinking

Reference has been made above to the French philosopher Gaston
Bachelard. To consider again recent linguistic theory, bearing in mind
Bachelard's writings, will demonstrate the inherent inadequacy of such
contemporary theory.

Bachelard was to demonstrate how philosophy failed to take account of how the physical sciences had re-defined many of the concepts which were central to philosophical discourse. As regards linguistic theory this criticism can be shown to be as valid now as it was when Bachelard first noted it (see Bachelard, 1927). However, in order to fully estimate the implications that Bachelard's thesis might have for linguistic theory, and beyond that for social anthropology, it will first be necessary to have a working knowledge of certain concepts which are important in Bachelard's writings.

Central to any understanding of Bachelard's writings is the notion of 'epistemological break'. Such a 'break' refers to an essential re-definition of terms in discourse; such a re-definition being instituted in a rupture from all previous definitions; i.e. there is no sense in which the new definitions are to be seen as a development from former definitions. Neither would there be sense in appealing to any concept of 'transformation' in order to re-establish the continuity which the epistemological break precipitates. Bachelard claims that science progresses in a series of such epistemological breaks; therefore, there is a <u>discontinuity</u> in the history of science.

He suggests that an epistemological break occurred between the nineteenth century Newtonian physics and the twentieth century Einsteinian physics, and much of his writings display an attempt to calculate the implications of this 'revolution' in science for philosophy. The notion of discontinuity is an essential feature of his writings and he insists that the new Einsteinian system is "without antecedents" in the Newtonian system. Moreover, the break or <u>rupture</u>, which occurred between the two systems, is seen as so absolute that there could be no way of plotting a rational process from the former to the latter. Rather an <u>effort</u> of <u>novelty</u> is demanded of the scientist in order to grasp the relativist theories.

Bachelard recognizes that the relativist theories have "exploded the concepts" of Newtonian science – the very concepts which philosophy still uses. It is as though philosophy had failed to note that science had said anything about them. Noting once more the absolute nature of the break between the two scientific systems, and the impossibility of explaining the new in terms of the old, there is thus a <u>discrepancy</u> between philo-sophical and present-day scientific discourse. The reason given for this discrepancy is philosophy's unwillingness, or inability, to accommodate the discontinuity of thought essential for an understanding of Relativity in science.

All philosphy is portrayed as "depositing, projecting, or pre-supposing" a reality which is regarded as being rich and complex. This philosophy believes that science has advanced by generalising from the particular, at the level of the empirical impressions themselves, in search of general laws or in the hope of penetrating into "the veritable being of things". Such a false picture of contemporary science led philosophy to claim that such a technique of generalisation and abstrac-tion inevitably resulted in the systematic impoverishment of the notion of individual sensation. Rather, science should be concerned only with precise questions concerning empirical impressions, it being the business of philosophy to construct generalisations.

Philosophical generalisations would be concerned with the founda-tions of human reason and intellect which would be displayed in the several relativist theories of science. Only in this way might philosophy maintain its position as arbiter of the validity of scientific progress. Claiming insight into the foundations of human reason and intellectual

activity philosophy believes that it might guarantee the truth of the products of science, thus providing a continuity between the world of common sense and the world of scientific knowledge.
But having assumed a unity and eternity of human reason, philosophy is unable to accommodate the discontinuity of thought necessary for an understanding of Relativity in natural science. Whereas philosophy has maintained a belief in the absolutes of reason, Bachelard has proclaimed the arrival of the time of a "decline of absolutes".

Philosophers have maintained that scientific knowledge must be derived, rationally, from a consideration of that which is given, i.e. which has a "direct realistic value in ordinary experience" (Bachelard, 1953, 142). As if in opposition to this 'given' philosophy has instituted a notion of 'construct'. Corresponding to this couple, i.e. given/construct, philosophy has established a series of further couples, e.g. real/thought; being/knowledge; concrete/abstract; etc., etc. Such a list can be extended through natural/artificial; plenitude/poverty; to the eventual couple, viz. philosophy/science; where philosophy appears on the side at which are also found, given; concrete; plenitude etc. Science is thus placed alongside construct; abstract;poverty. Bachelard noted quite correctly that it was philosophy which had made this allocation; that as well as being disputant in the debate philosophy was also the judge. Thus, believing itself to be analogous to the concrete, the given, and the real, philosophy believes itself to be the custodian and guarantor of truth. Now insofar as scientific knowledge is seem to be derived from a consideration of the given then a harmony is maintained between the above couples. This harmony corresponds to the philosophical notion of truth. Bachelard sees this as the conceit of the philosopher, who regards himself as the final arbiter of truth.

A central argument in Bachelard's writings is that whereas a situation such as that just outlined would be a fair representation of the relations which held between philosophy and pre-Einsteinian physics, it appeared to him that philosophy had failed to register the novelty of Einsteinian physics, believing it to be a development of the Newtonian system. In fact, Relativity Theory and the mathematical-physics which it comprises is seen now to have profound implications for philosophy as it, at worst dissolves the above philosophical couples, at best, inverses them. Of the couple given/construct Bachelard says: "The datum or given is relative to the culture, it is necessarily implied in a construction" (Bachelard, 1928:14).

A most influential agent helping towards the disintegration of these couples, however was the rethinking of concepts central to both Newtonian physics and philosophy, space, time, mass, etc. These constituted the Newtonian world, which corresponded to the world of common sense to such a degree that no effort of revision was necessary in order to move from the commonplace, natural world to the world of scientific discourse. In fact we lived in the Newtonian world as if in 'a spacious and bright dwelling' (Lecourt, 1975:35). With the establishment of the 'new' science any such correspondence was annulled; there appearred a dissociation between the commonplace notions about the world and the new, artificial scientific notions, which require an effort for comprehension. This is no more than re-emphasizing the fact that there is no transition between the Newtonina world and the world of mathematical physics. The implications for philosophy of this dissociation might be glimpsed by a consideration of the effects that this has on the philosophical couple subject/object.

. The 'object' of philosophical discourse is that thing which is given to ordinary knowledge, i.e. the philosophical 'object' has a direct value in ordinary experience. Scientists, however, use the word 'object' to refer to the <u>result</u> of a theoretical procedure. We might say then, that whereas philosophers construct theories on the basis of objects, scientists produce objects as a result of theories, philosophy is concerned with the organisation of the given, whilst science constitutes its own world. Moreover, the world that science constructs is a product of theories expressed in mathematical form. From now on mathematics does not express the observations on a 'real' world, rather it allows for the objectifying of a world which is not immediately given to sensory experience.

For as long as scientists were to express their observations using a mathematical 'language', and were to regard these mathematical statements as being a simplification, or generalisation and hence an abstraction from the complex 'real' world, then the philosophical couples, viz. subject/ object, and concrete/abstract, were to be maintained. Since the revolution in scientific procedure, however, these couples have been reversed; the abstract formulations of the new mathematical procedure might later be objectified under controlled experimental conditions. Now whereas Newtonian scientists had used mathematics as a means of expressing their experimental results, had translated into mathematical language the facts released by the physicist's experiments, present-day mathematical physics no longer proceeds from a non-mathematical fact or object. Rather the calculation proceeds from that already thought by mathematics. Further, in the mathematical process there is no 'object-result' envisaged or presupposed; the 'object-result' thus being a result of mathematical thought, i.e. it is not first philosophically thought. Mathematics, therefore, is no longer an expression of non-mathematical thought, rather, mathematics thinks 'for itself'. The calculation proceeding from that already-thought by mathematics and with no object-result envisaged, then neither the 'point-of-departure' nor the 'point-of-arrival' provide any criteria of philosophical 'reality' or 'truth'. Thus the 'shift', from regarding mathematics as a means of expressing experimental and observational data, i.e. mathematics as a language, to providing mathematics with an autonomy enabling it to 'think for itself', has required a corresponding change in the use of the term 'reality'. The term no longer refers to the object-things of empirical science, but to the process of mathematical thought.

If one were asked to abstract from these notes on Bachelard the fundamental notions of his writings, the following two points would have to be emphasized. One is that the criterion of scientific knowledge is not to be found outside its own field, i.e. there is no foundation from which the contemporary science proceeds and to which reference might be made for the purpose of verifying the results of such a procedure. Secondly, the process of scientific knowledge reveals that the world that is given to common sense is a 'tissue of errors'. By this world we mean the philosopher's world of Newtonian space, time, mass, etc. Rather, the world of mathematical physics is not an immediate given and does not exist prior to the process of its production.

If any one aspect were to be singled out as having the most profound implications for linguistic and anthropological research, it would have to be this final remark, viz. that the world of the new scientific discourse is not immediately given and does not exist prior to the process of its production. The object-result of this mathematical process will be a mathematical statement or equation for which there is no necessary corresponding element in the real world of common sense.

It has been noted that the present-day mathematical physics is not engaged in generalising nor abstracting from the world given to common sense. These mathematical statements and equations, however, in some way[6], do refer to the total environment in which we live, although in no sense can they be said to refer to realisable empirical objects. It would appear rather that these statements, etc., in some way, make reference to relations which are purported to pertain between the infinitely small.

"The substance of the infinitely small is contemporaneous with its relations" (Bachelard 1933; in Lecourt, 1975:38). Bachelard, aware that 'substance' was an altogether misleading word, was later to propose the alternative term _existance_. The word substance was regarded as dangerously misleading because it carried an implication of 'thingness', of objects with existence in their own right, between which relations might pertain. Re-iterating this notion, Bachelard noted that no phenomenon is simple; rather, every phenomena is a 'tissue of relations'.

Floating the Linguistic Currency

Returning once more to review recent linguistic theory there now appears to be more than a slight correspondence between the methodological framework implicit in such theory, and the common sense presuppositions of Newtonian physics; the common feature being a notion as to the primacy of the substantive object for analysis, and subsequently the particles which comprise the whole.

The relationship between the 'structure of language' and the 'structure of knowledge' has been the location of research undertaken by Halliday, who has proposed that, for him, the term 'structure' refers to the relations which are seen to hold between elements in a particular field of knowledge. The 'structure of language', again only a cognitive, or 'ideational' structure, relates to the 'function' of language; this 'function' being to establish three sets of relations. Firstly, between speaker and hearer; secondly, between speaker and 'real' (i.e. empirical) world; and thirdly, between Noun Phrases of the utterance. It follows, ipso facto, that these Noun Phrases are regarded as elements, by Halliday. In fact it can be demonstrated that several recent formal linguistic theories share this very feature. The Noun Phrase, under which heading we must also include those processes, qualities, states, relations, and attributes, which upon being nominalised "... take on the potentialities otherwise reserved to persons and objects" (Halliday, 1967), has thus been credited with 'thingness', thereby maintaining Halliday's proposal concerning a connection between the 'structure of language' and the 'structure of knowledge'.

Now such a proposal might constitute a working hypothesis only on the basis of a structure of knowledge couched in terms of the Newtonian system. Under this sytem Noun Phrases, as the substantive elements of language, like the irreducible particles of the Newtonian world, have been attributed a status of being 'in themselves'.

Seen as substantive elements by linguistic researchers, the Noun Phrase became an object-thing corresponding to that immediately given of Newtonian physics, i.e. both have direct realist value in ordinary experience. It was remarked on, above, that having once accepted such a linguistic item as having an independent 'existence' linguistic researchers have engaged in the task of defining this object-thing, in terms of classificatory features, semantic markers, pleremes, etc., etc. It can be demonstrated further that it is of no significance whether the meaning of an utterance is to be equated with a set of compatible linguistic characteristics, or relations which are regarded as holding between such characteristics, as in either case the procedure necessitates the recognition of

the linguistic item as a static being.

It might be claimed, therefore, that the 'meaning' of an utterance does not correspond directly to those linguistic characteristics which have 'direct realistic value in ordinary experience'. Moreover, even a consideration of the various classificatory features which are accredited to each linguistic item, and which have no realistic value in an empirical sense, e.g. Nouns are classified as Common, or Proper, or Abstract, etc., does no more than introduce a greater complication.

The dictum expressed by Weinreich (1972:44), viz. that "... the meaning of a sentence of specified structure is derivable from the fully specified meanings of its parts" has been accepted by almost all recent linguistic theoreticians as an axiom, an established principle upon which to base their analyses. This was shown to be a procedural framework constituted under the aegis of the Newtonian scientific practice, which layed great emphasis upon the notion of truth, as philosophically defined. Bachelard, however, has demonstrated how Einsteinian science has revealed that the real world of ordinary experience is, in fact, a tissue of errors; further, that no consideration of that Newtonian world could provide an inductive theory sufficiently general as to unify our multiple and divergent experiences. It was first necessary to forsake the equilibrium and reassurance of the 'real' and objective world offered by the Newtonian system if a more general unification was to be accomplished.

In order to grasp the _novelty_ of the world constituted by the Einsteinian mathematical physics it is first required that we forsake the 'old' Newtonian world,where the correspondence between 'science' and common sense was immediate. This venture brings about an immediate experience of disequilibrium as a result of a fundamental _shift_ in the nature of our discourse. Our lexical items lose their status as substantive carriers of meaning, in themselves; they no longer represent object-things available for semantic analysis. Whereas before, these lexical items ('formatives': Chomsky, 1965:3) were regarded as the constituents of the sentence, each having its 'fully specified meaning', there is now no independent semantic component available for such scrutiny. We claim rather, that the meaning of a sentence corresponds to the object-result of its production; not to an abstraction from the object-thing.

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Notes

1. Strawson made such a suggestion in a paper presented to the Linguistic Circle of Oxford, 5.2.74.

2. Ross (1970) has noted that the continued extension of the 'base component' of the Chomskian grammar implies that the syntactic representations become more abstract, more closely resemble the semantic representations, therefore reducing the differences between apparently disparate languages.

3. Although Chomsky admits to the importance of Boole's writing in his formulation of a generative grammar (noted in Katz 1970), in fact he uses much more advanced mathematical and logical concepts, especially those concepts introduced by Post (1944).

4. The extent of such an influence is the subject of an article by Frank C. Parkinson (1972:55-63).

5. cf. Saussure: 'the whole system of language is based on the irrational principle of the arbitrariness of the sign'.

6. No more than a qualification which I hope might placate the more 'purist' amongst the scientists.

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