STUDIES IN LINGUISTIC ANALYSIS

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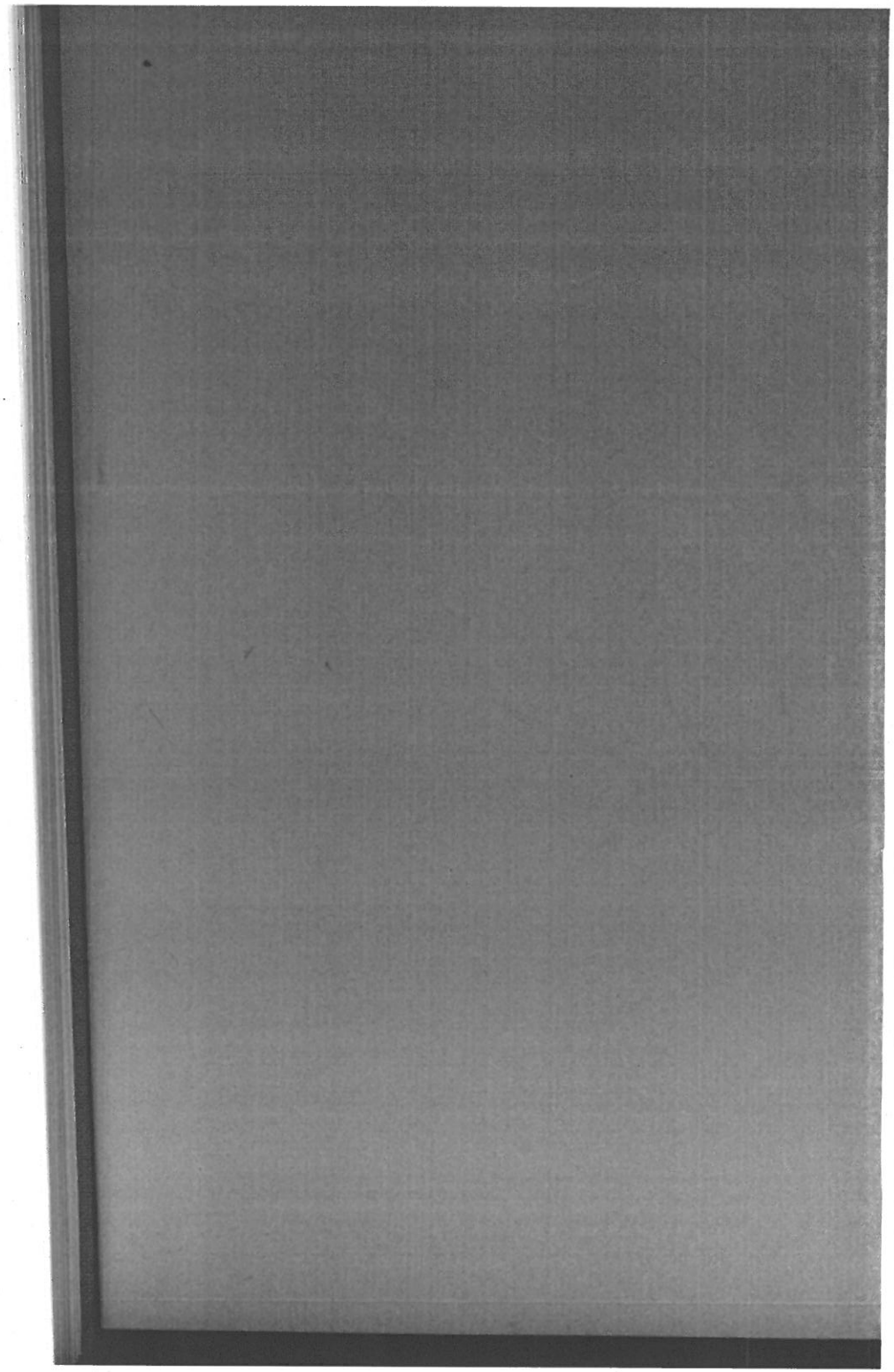

'Das Höchste wäre zu begreifen, das alles Faktische schon Theorie ist.'—Goethe.

THE theory of general linguistics here presented in outline, has some of its roots in India [1] but it also has links with the laboratory of to-day. It is anticipated that the elements of the theory will be found consistently interrelated though the building-up process has been gradual during the last twenty-five years, and however idiosyncratic it may appear, owes much to constant collaboration with my colleagues at the School of Oriental and African Studies in the University of London, especially during the last seven years.

Though retrospective in genesis, the theory as a whole starts from the present situation, taking into account the amplitude of our empirical knowledge. Again it must be pointed out that the excessive use of method and procedures is avoided so that theoretical relevance may not be hidden or obscured. The passion for the accumulation of so-called 'facts', the piling-up of trivialities to be treated statistically, perhaps with defective theoretical principles, are all too common symptoms among the 'scientistic technicians' multiplying in our midst. It is the view of the writer that linguistics must not be allowed to become more deeply engaged in methodology, but that a special effort is needed to keep it to theoretical order.

A theory derives its usefulness and validity from the aggregate of experience to which it must continually refer in renewal of connection. 'Under otherwise equal circumstances one will prefer that theory, which covers a larger field of phenomena, or which from some points of view appears to be simpler'—or as I should prefer—clearer. There is no doubt that 'intuition' or 'hunch' is the kind of 'common sense' that best serves the scientific theorist, but it has very little to do with the workaday common sense of our common sensual life. Dr. James Conant [2] employs a very useful notion of *the degree of empiricism* to indicate the extent to which our knowledge can be expressed in broad conceptual terms. According to this view, science may be considered as an attempt either to lower the degree of empiricism or to extend the range of theory.

'Every scientific discipline must necessarily develop a special language adapted to its nature, and that development represents an essential part of scientific work.' [3] It is especially to be emphasized that 'the meaning of a

[1] 'The Technique of Semantics,' *Transactions of the Philological Society*, 1935, p. 36. W. S. Allen, *Phonetics in Ancient India*. London: Cumberlege, Oxford University Press, 1953.

[2] James B. Conant, *Science and Common Sense*. London: Cumberlege, Oxford University Press.

[3] Richard von Mises, *Positivism—a study in Human Understanding* (translation), pp. 3, 5, 7, 51, 53. Harvard, 1951.

technical term in the restricted language of a theory cannot be derived or guessed at from the meaning of the word in ordinary language. What in mechanics is called *force* or *work* can in no wise be derived from the meanings these words carry in everyday language '.

In the following exposition, such technical words in linguistic theory include the expressions '*level or levels of analysis*', '*context of situation*', '*collocation*' and '*extended collocation*', '*colligation*', '*structure*', '*system*', '*element*', '*unit*', '*prosody*', and '*prosodies*', to name a few of the pivotal terms. Moreover, these and other technical words are given their 'meaning' by the restricted language of the theory, and by applications of the theory in quoted works. 'Many people think that if they can define words they are being scientific, as though science were merely a warehouse of dictionary definitions.' [1] Where would mechanics be if we were to use as point of departure, an explanation of what '*motion*' '*really is*'?

In linguistics, as in other social sciences, we start with man's active participation in the world we are theorizing about. And we are all participants in those activities which linguistics sets out to study. Speaking and listening, writing and reading, are simply accepted as 'meaningful' in human life in society. In brief, linguistics accepts speech and language texts as related to the living of, and therefore to the 'meaning' of life, and applies its theory and practice as far as it is able, to the statement of such 'meaning' in strictly linguistic terms—that is by employing the restricted language of linguistics [2] set in its own theoretical framework.[3]

In the most general terms, the approach may be described as monistic.

'If we regard language as "expressive" or "communicative" we imply that it is an instrument of inner mental states. And as we know so little of inner mental states, even by the most careful introspection, the language problem becomes more mysterious the more we try to explain it by referring it to inner mental happenings that are not observable. By regarding words as acts, events, habits, we limit our inquiry to what is objective and observable in the group life of our fellows.' [4]

'As we know so little about mind and as our study is essentially social, I shall cease to respect the duality of mind and body, thought and word, and be satisfied with the whole man, thinking and acting as a whole, in association with his fellows. I do not therefore follow Ogden and Richards in regarding meaning as relations in a hidden mental process, but chiefly as situational relations in a context of situation and in that kind of language which disturbs the

[1] Voegelin, *The New Science of Politics*. Illinois, University of Chicago Press, 1952.

[2] 'Une science n'est qu'une langue bien faite.' Condillac.

[3] See also 'General Linguistics and Descriptive Grammar', *TPS.*, 1951, especially pp. 82–6. 'My own approach to meaning in linguistics has always been independent of such dualisms as mind and body, language and thought, word and idea, *signifiant et signifié*, expression and content. These dichotomies are a quite unnecessary nuisance, and in my opinion should be dropped.'

[4] *Speech*. London, Benn's Sixpenny Library, 1930, pp. 38–9.

air and other people's ears, as modes of behaviour in relation to the other elements in the context of situation. A thorough-going contextual technique does not emphasize the relation between the terms of a historical process or of a mental process, but the inter-relations of the terms' [1] set up as constituents of the situation itself.

A similar point of view had been put forward in 1930 in *Speech* [2] from which the following passages with minor alterations are quoted as relevant.

'Ability to extract the fullest advantage from such properties of sound as propagation by refraction from heights—e.g., the tops of trees and rocks—even in high winds, and also by diffraction round and over obstacles and through openings, must have been of the greatest value in self-protection in the evolution of the race. Voice leaves the hands and eyes free, travels well, has characteristic quality conveying identity, and can become a characteristic function of a situation. Noises come to be used for concerted action, and then follows the confidence of group power. Perhaps those families in which the young quickly understood and responded to speech had the best chance. So that for the all-important family group, and later for other social groups, the successful use of speech, or systematic use of sound in relation to the sense of hearing, came to have a high survival value. Then came the descent from the trees. Liberated from the tyranny of smell, these animals walked upright with their arms free. They opened their eyes and, most important of all, opened their mouths. Their most important actions were systematic noises.

'Nothing succeeds like success. Man became at once more social and more linguistic. In time "words", "signs", were made permanent, tangible, portable. And so language comes to function in specialized ways. Besides the word spoken, the word heard, the written word, and the word which is seen, there is the word felt by the blind, signalled by the deaf-mute, the African talking drums, and developments like the Morse code.' [3]

'The older conceptions of language as "the expression of thought by means of speech sounds", or "outward manifestations of inward workings of the mind", or "expression for the sake of communication, thought made apprehensible", are based on a now somewhat discredited psycho-physical dualism, speech being only an external manifestation of inner psychical processes. The American behaviourist, Watson, on the contrary, says there is no such thing as thinking. There is only "inner speech" or the incipient activity of laryngeal and other speech processes. A healthy conflict of views! Bertrand Russell in his *Outline of Philosophy*, while not necessarily agreeing with Watson, realizes how little we really know about speech and language, and advocates a thoroughgoing behaviouristic method in linguistic research. "I think myself," he adds, "that 'meaning' can only be understood if we treat language as a bodily habit." [4]

[1] See 'The Technique of Semantics', *TPS.*, 1935, p. 53.

[2] See especially Chapter V, pp. 38–43, 'The Problem of Meaning.'

[3] *Speech*, p. 10.

[4] Cf. L. Wittgenstein, *Philosophical Investigations*. Oxford, Blackwell, 1953, pp. 53, 61, 80, 81.

'This study of what people say and what they hear and in what contexts of situation and experience they do these things is properly the province of linguistics.' [1]

'One of the first to envisage the problem from the social point of view in the present century was Professor Bally, of Geneva, who wrote in 1913: "The problem of linguistics of the future will be the experimental study of the social functioning of speech."' [2]

Again, in 1937,[3] the following sentences re-emphasize the essential basis in abstractions from total behaviour.

'Let us begin by regarding man as inseparable from the world in which he lives. He is just part of it. He is not here primarily to think about it but to act suitably, which must be taken to include the ability to refrain from acting when the situation requires it. This applies to man's most important social action, the disturbance of the air and other people's ears by means of bodily utterance.

'Your speech is not merely tongue-wagging, larynx-buzzing, and listening. It is much more the result of the brain doing its job as a manager of muscle to keep you going in your situation. Similarly it would be misleading to use the word "listen" in describing the function of the ears in everyday speech. We do not "prick up" our ears just to catch a few sounds. Our ears are actively interested in what is going on.

'In dealing with the voice of man we must not fall into the prevalent habit of separating it from the whole bodily behaviour of man and regarding it merely as a sort of outward symbol of inward private thoughts. Neither should we regard it as something apart from what we all too readily call the outside world. The air we talk and hear by, the air we breathe, is not to be regarded merely as the outside air. It is inside air as well. We do not live just within a bag of skin, but in a certain amount of what may be called living space, which we continue to disturb with some success. And the living space of man is pretty wide nowadays. Moreover, we never really live in the present. In any situation in which we find ourselves there is a hang-over of the past, and, as Sir Charles Sherrington said, the "shell of our immediate future surrounds our heads which are fraught most with a germ of futurity!" In any situation, the normal human being and his environment are one; the past merges in the present in which the future is always on the point of being born. To be really alive you must feel this active personal interest in what is going on, and your speech must serve your natural familiarity with your surroundings.

'It will be obvious that such a philosophy has no particular use for the traditional duality of mind and body, idea and word. The voice of man is one component in a whole postural scheme, is part of a process in some sort of situation. And in this sense a man speaks with his whole body, and in particular

[1] *Speech*, p. 15.
[2] Ibid., p. 39.
[3] *The Tongues of Men*. London, Watts and Co., 1937.

with his breathing apparatus, his body, muscles, and his head . . . The brain gives us a grip on our world, and the world a grip on us. Sherrington regards the brain as a manager of muscle, "the restless world outside" giving it the word go, caution, or stop; it has great co-ordinating power amounting to a sort of general vigilance. If our voices and written words do not serve this mutual grip in some clearly demonstrable way there is something wrong somewhere. Parrots and other talking birds apparently manage some of the phonetics, but nothing of speech.' [1]

'The voice of man is dependent on the medium in which we have our being—the air . . . It is almost as if our postures and movements were determined by disturbances in the air, as those of fishes are in water. We balance our behaviour, so to speak, by give and take on the air.' [2]

II

In dealing with language in the matrix of experience as the above approach requires, the actual language text duly recorded is in the focus of attention and two main sets of relations are set up, *firstly* the interior relations connected with the text itself. These sub-divide into (*a*) the syntagmatic relations between elements of structure considered at various levels, e.g. elements of grammatical structure in colligations, and phonological structure. In these structures, one recognizes the place and order of the categories. This, however, is very different from the successivity of bits and pieces in a unidirectional time sequence.[3] (*b*) The paradigmatic relations of terms or units which commute within systems set up to give values to the elements of structure. For example, a five-term vowel system giving possible values for V in the first syllable of a CV^{5}-CV^{7}-CCV^{2} structure.

The second main set of situational relations again sub-divide into two: (*a*) the interior relations within the context of situation, the focal constituent for the linguist being the text. The text is seen in relation to the non-verbal constituents and the total effective or creative result noted. (*b*) Analytic relations set up between parts of the text (words or parts of words, and indeed, any 'bits' or 'pieces'),[4] and special constituents, items, objects, persons or events within the situation.

Relations are set up between the text and the other constituents of the situation, grouped and selected in attention as relevant. The linguist decides what is relevant and must be clear, in the light of his theory and practice, about what is on his agenda for the formulation of his statements of meaning in terms of linguistics.

The central proposal of the theory is 'to split up meaning or function

[1] Ibid., pp. 19–20.
[2] Ibid., p. 21.
[3] Cf. Aristotle, *Organon*, Chapter VI.
[4] To be sharply distinguished from the inter-relations, *not* of words, but of *categories* in syntagmatic relation.

into a series of component functions. Each function will be defined as the use of some language form or element in relation to some context. Meaning, that is to say, is to be regarded as a complex of contextual relations, and phonetics, grammar, lexicography, and semantics each handles its own components of the complex in its appropriate context.

' " No semantics without morphology "—therefore, I must briefly sketch the technique for the description of the forms, and indicate what is meant by phonetic, morphological, and syntactical functions, as component functions of the whole complex of functions which a linguistic form may have. Our knowledge is built up as the result of previous analysis. The study of the living voice of a man in action is a very big job indeed. In order to be able to handle it at all, we must split up the whole integrated behaviour pattern we call speech, and apply specialized techniques to the description and classification of these so-called elements of speech we detach by analysis.' [1]

Even in historical semantics and certainly in lexicography ' scholars have split up meaning into components or sets of relations in order to describe the facts '.[2] ' Throughout our review of the study of meaning we have seen how it has been split up and regarded as a relation or system of relations.' [3] ' We are accustomed to the subdivision of meaning or function. Meaning, then, we use for the whole complex of functions which a linguistic form may have. The principal components of this whole meaning are phonetic function, which I call a minor function, the major functions—lexical, morphological, and syntactical (to be the province of a reformed system of grammar), and the function of a complete locution in the context of situation, or typical context of situation.' [4]

' Let us therefore apply the term linguistics to those disciplines and techniques which deal with institutionalized languages or dialects as such. A statement of the meaning of an isolate of any of these cannot be achieved at one fell swoop by one analysis at one level. Having made the first abstraction by suitably isolating a piece of " text " or part of the social process of speaking for a listener or of writing for a reader, the suggested procedure for dealing with meaning is its dispersion into modes,[5] rather like the dispersion of light of mixed wave-lengths into a spectrum. First, there is the verbal process in the context of situation.[6] Social and personal commentary is especially relevant at this level. The technique of syntax is concerned with the word process in the sentence. Phonology states the phonematic and prosodic processes within the word and sentence, regarding them as a mode of meaning. The phonetician links all this with the processes and features of utterance.' [7]

[1] ' The Technique of Semantics,' p. 54.
[2] Ibid., p. 56.
[3] Ibid., p. 52.
[4] Ibid., p. 72.
[5] See *General Linguistics and Descriptive Grammar*, p. 76.
[6] See also ' Personality and Language in Society ', *The Sociological Review*, Vol. XLII, Section Two, 1950, p. 44.
[7] ' Modes of Meaning,' *Essays and Studies*, 1951, p. 120.

' To make statements of meaning in terms of linguistics, we may accept the language event as a whole and then deal with it at various levels, sometimes in a descending order, beginning with social context and proceeding through syntax and vocabulary to phonology and even phonetics, and at other times in the opposite order, which will be adopted here since the main purpose is the exposition of linguistics as a discipline and technique for the statement of meanings without reference to such dualisms and dichotomies as word and idea, overt expressions and covert concepts, language and thought, subject and object. In doing this I must not be taken to exclude the concept of mind,[1] or to imply an embracing of materialism to avoid a foolish bogey of mentalism.' [2]

' Descriptive linguistics handles and states meaning by dispersing it in a range of techniques working at a series of levels.' [3]

The above extracts are conveniently arranged to present the main principles of the theory, embracing a series of congruent analyses at a range of abstracted levels, which has been well tried since 1930. The use of the term *levels* in the phrase *levels of analysis* is not to be confused with other uses—for example, its use by Bloomfield in *Language*.

III

The basic assumption of the theory of analysis by levels is that any text can be regarded as a constituent of a *context of situation* [4] or of a series of such contexts, and thus attested in experience, since the categories of the abstract context of situation will comprise both verbal and non-verbal constituents and, in renewal of connection, should be related to an observable and justifiable grouped set of events in the run of experience.

The important thing to remember in this approach is the abstract nature of the context of situation as a group of categories, both verbal and non-verbal, which are considered as inter-related. Instances of such context of situation are attested by experience. The context of situation according to this theory is not merely a setting, background, or ' back-drop ' for the ' words '. The text in the focus of attention on renewal of connection with an instance, is regarded as an integral part of the context, and is observed in relation to the other parts regarded as relevant in the statement of the context.

Malinowski [5] regarded the context of situation as a sort of behaviour

[1] Gilbert Ryle, *The Concept of Mind*, London, 1949.
[2] ' Modes of Meaning,' p. 121.
[3] Ibid., p. 125.
[4] For *Context of Situation*, see: *Speech*, pp. 30–43; ' The Technique of Semantics,' pp. 64–71; *The Tongues of Men*, pp. 126–130; ' Modes of Meaning,' p. 135; ' General Linguistics and Descriptive Grammar,' pp. 83–4.
For *Levels of Analysis*, see ' Modes of Meaning,' p. 121.
[5] Malinowski took the rudimentary notion and the word ' situation ' from Dr. Ph. Wegener's *Untersuchungen ueber die Grundfragen des Sprachlebens*, Halle, 1885. Sir Alan Gardiner dedicated his *Theory of Speech and Language* to Wegener in recognition of the ' Situationstheorie '.

matrix in which language had meaning, often a ' creative ' meaning.[1] The context of situation in the present theory is a schematic construct for application especially to typical ' repetitive events ' in the social process. It is also an insurance that a text is attested as common usage in which the occasional, individual, and idiosyncratic features are not in the focus of attention.

Nonsense can, of course, be repetitive and referable to generalized context. Such nonsense language may be referred to literary, didactic or pedagogical context, treated serially—that is quasi-historically.

The present writer illustrates what is termed ' grammatical meaning ' by concocting such sentences as ' My doctor's great grandfather will be singeing the cat's wings ',[2] or ' She slowly rushed upstairs to the cellar and turned the kettle out to boil two fires '. Lewis Carroll's nonsense provides excellent illustrations of grammatical meaning, but it is now met with so frequently that it can be referred to quotation situations. Grammatical and ' prosodic ' meaning in German is similarly amusingly exemplified by such lines as[3]:

> ' Finster war's, der Mond schien helle, schneebedeckt die grüne Flur, als ein Wagen blitzesschnelle langsam um die Ecke fuhr,' etc. . . .
>
> ' Da sah ich vier Stühle auf ihren Herren sitzen, da tat ich meinen Tag ab und sagte : " Guten Hut, meine Damen." '

To make statements of meaning in terms of linguistics, we first accept language events as integral in experience regarding them as wholes and as repetitive and inter-connected, and then we propose to apply theoretical schemata consisting of a consistent framework of categories which are given names in a restricted language and in which all such specialized terms and expressions have their setting. The ' meaning ' in this sense is dealt with at a mutually congruent series of levels, sometimes in a descending order beginning with the context of situation and proceeding through *collocation*, syntax, including *colligation*, to phonology and phonetics, even experimental phonetics, and sometimes in the opposite order.

Such an analytic dispersion of the statement of meaning at a series of levels, taking the fullest advantage of all our traditional disciplines and techniques consistent with the theory, and drawing on the aggregate of experience, does not imply that any level includes or constitutes a formal prerequisite of any other. The levels of abstraction are only connected in that the resulting statements relate to the same language texts in the focus of attention in experience, and the theory requires them to be congruent and consequently complementary in synthesis on renewal of connection in experience.

[1] See Malinowski's supplement to Ogden and Richards, *The Meaning of Meaning*, London, Routledge and Kegan Paul, 1949, in which ' meaning ' in pragmatic speech is regarded as ' a mode of action ' in a ' context of situation '.

See also *Coral Gardens and Their Magic*, Vol. II. London, Allen and Unwin, 1935.

[2] ' The Technique of Semantics,' p. 60. See also Ogden and Richards, *The Meaning of Meaning*, p. 46.

[3] *Dunkel war's, der Mond schien helle* . . . edited by Dr. Horst Kunze, Ernst Heimeran Verlag, Munich, 1952.

No hard and fast lines can be drawn at present to form a strict classification for contexts of situation. Some might prefer to characterize situations by attempting a description of speech and language functions with reference to their effective observable results, and perhaps also with reference to a linguistically centred social analysis.

The technical language necessary for the description of contexts of situation is not developed, nor is there any agreed method of classification. At this level there are great possibilities for research and experiment. It will be maintained here that linguistic analysis states the inter-relations of elements of structure and sets up systems of ' terms ' or ' units ' as end-points of mutually determined interior relations.[1] Such interior relations are set up in the context of situation between the following constituents :—

A. The participants : persons, personalities and relevant features of these.
   (i) The verbal action of the participants.
   (ii) The non-verbal action of the participants.
B. The relevant objects and non-verbal and non-personal events.
C. The effect of the verbal action.

No linguist has yet set up exhaustive systems of contexts of situation such that they could be considered mutually determined in function or meaning. There is some approximation to this, however, in Malinowski's *Coral Gardens and Their Magic*, and here and there in special studies of contexts of personal address and reference, and of well-defined technological activities such as fishing or weaving or making war, and of rituals of various kinds.

In classifying contexts of situation and in describing such contexts as wholes, a language of ' shifted-terms ', that is to say a vocabulary and phraseology of descriptive definition involving notional elements is probably unavoidable. It is, however, a clear scientific gain if such notional language only appears at this level and is rigidly excluded from all other levels such as the collocational, grammatical, and phonological levels. But even the use of such notionally descriptive terms as *deictic situations*, or *onomastic situations*, or *situations of personal address* or of *personal reference*, either in the presence or absence of the person mentioned, does not involve the description of mental processes or meaning in the thoughts of the participants, and certainly need not imply any consideration of intention, purport or purpose.

The description of the context of situation by stating the interior relations of the constituents or factors,[2] may be followed by referring such contexts to a variety of known frameworks of a more general character such as (*a*) the economic, religious and other social structures of the societies of which the participants are members ; (*b*) types of linguistic discourse such as monologue, choric language, narrative, recitation, explanation, exposition, etc. ; (*c*)

[1] See ' General Linguistics and Descriptive Grammar ', pp. 74–7, 85–7. The relations between elements of linguistic structures or terms of linguistic systems and non-verbal constituents of the situation are called ' situational relations '.

[2] As stated above.

personal interchanges, e.g. mentioning especially the number, age and sex of the participants and noting speaker-listener, reader-writer and reader *or* writer contexts, including series of such interchanges; (*d*) types of speech function such as drills and orders,[1] detailed direction and control of techniques of all kinds, social flattery, blessing, cursing, praise and blame, concealment and deception, social pressure and constraint, verbal contracts of all kinds, and phatic communion.[2]

Statements of contexts of situation may be presented in tabular form under headings selected from the above list. One method of tabulation would comprise ten entries as follows: (i) type of context of situation; (ii) type of speech function; (iii) the language text and language mechanism; (iv) the restricted language [3] to which the text belongs; (v) the syntactical characteristics of the text (colligation); (vi) other linguistic features of the text and mechanism, including style and tempo; (vii) features of collocation; (viii) the creative effect or effective result; (ix) extended collocations and (x) memorial allusions, providing serial links with preceding or following situations.

Situations in which the text is egocentric are not without formal interest. Diaries, engagement books, personal notes and memoranda and perhaps most manuscripts, are egocentric in this sense. If a man finds nothing worth saying to himself, in monologue or soliloquy, he has nothing to say to anyone else. The reading situation [4] is full of interest and has been dealt with by Wittgenstein.

Choric contexts of the 'Sieg heil' type were terrifying to listen to in Nazi Germany, but they are pleasant enough in 'Are we downhearted?' 'No!!!' Chorus is a very common linguistic form in phatic communion or 'sharing'. Contextual studies of the linguistic recognition of social differences, of social hierarchy, of inferiority or superiority, of feelings of conformity and non-conformity, of class, religion, nationality or race, gain in force by more precise formulation.

A vast field of research in 'biographical' linguistics [5] still lies unexplored. The language of social control in the whole of education, including all forms of apprenticeship, and not only schooling, might well be systematically studied and stated by situational formulation. The *do* and *don't* texts and all the interrogatives and jussives of childhood and adolescence, lend themselves to such analysis. In this connection, a plea must be entered for the restoration in schools of a suitable language in which children can talk about their language as a vital part of their experience.

The contextualization of narrative is another obvious case for formulation.

[1] See L. Wittgenstein, *Philosophical Investigations*, pp. 7–8.

[2] See Malinowski's Supplement to Ogden and Richards, *The Meaning of Meaning*, p. 315. See also my 'General Linguistics and Descriptive Grammar', pp. 81–4; 'The Technique of Semantics,' pp. 67–72; *The Tongues of Men*, pp. 126–152.

[3] *Philosophical Investigations*, pp. 11–12.

[4] Ibid., pp. 61 ff.

[5] See 'The Technique of Semantics', pp. 66–7.

Traditional narrative employing 'fixed' or 'correct' language or having other characteristic formal features as in fairy tales, traditional forms less fixed, news, fiction, free narrative within customary observance and finally free personal invention,[1] can be exemplified in almost all societies.

Even in the study of vocabulary [2] when ordered series of words are presented, such as kinship terms, parts of the body, terms of orientation in time and space, numerals, calendrical terms, names of social units, proper names of persons as well as of places,[3] it is essential that they be separately and severally attested in contexts of situation. It is, however, necessary to present them also in their commonest collocations.

IV

The *placing* of a *text* as a constituent in a context of situation contributes to the statement of meaning since situations are set up to recognize *use*. As Wittgenstein says, 'the meaning of words lies in their use.' [4] The day to day practice of playing language games recognizes customs and rules. It follows that a text in such established usage may contain sentences such as 'Don't be such an ass!', 'You silly ass!', 'What an ass he is!' In these examples, the word *ass* is in familiar and habitual company, commonly collocated with *you silly—*, *he is a silly—*, *don't be such an—*. You shall know a word by the company it keeps! One of the meanings of *ass* is its habitual collocation with such other words as those above quoted.[5] Though Wittgenstein was dealing with another problem, he also recognizes the plain face-value, the physiognomy of words. They look at us! [6] 'The sentence is composed of the words and that is enough.'

From the preceding remarks, it will be seen that collocation is not to be interpreted as *context*, by which the whole conceptual meaning is implied. Nor is it to be confused with *citation*. When a lexicographer has arbitrarily decided how many 'meanings' he can conveniently recognize in the uses of a given word, he limits his entries accordingly and, after definitions of the 'meanings' in *shifted terms*, he supports them by *citations*, usually with literary authority. Lexicographical citations are keyed to the definitions, intended to exemplify a series of different 'meanings' arbitrarily selected and defined, and also to illustrate changes of meaning. The habitual collocations in which words under study appear are quite simply the mere word accompaniment,

[1] Many of Damon Runyon's 'inventions' follow the features of the fable. See especially 'Pick the Winner', in *Furthermore*, Constable, 1949.

[2] See 'General Linguistics and Descriptive Grammar', pp. 80–1.

[3] *Onomastics* has so far neglected the structural and descriptive study of names in context and collocation.

[4] *Philosophical Investigations*, pp. 80, 109.

[5] See 'Modes of Meaning', pp. 124–7. In this essay, *collocation* is first suggested as a technical term.

[6] See *Philosophical Investigations*, p. 181.

the other word-material in which they are most commonly or most characteristically embedded. It can safely be stated that part of the ' meaning ' of *cows* can be indicated by such collocations as *They are milking the cows, Cows give milk.* The words *tigresses* or *lionesses* are not so collocated and are already clearly separated in meaning at the *collocational level.*

Situations of calendrical reference in which, for example, the names of the days of the week and of the month are a feature would attest the systematic use of the series of seven and twelve. But that is not by any means the complete cultural picture. In English, for instance, typical collocations for the words Sunday, Monday, Friday, and Saturday, furnish interesting material and would certainly separate them from the corresponding words in Chinese, Hebrew, Arabic or Hindi. The English words for the months are characteristically collocated: March hare, August Bank Holiday, May week, May Day, April showers, April fool, etc.

It is true that *Alice in Wonderland* is a world classic but foreigners must allow it to remain in English. An Italian colleague, commenting on the Italian attempt to render ' March hare ', felt embarrassed by *lepre marzaiolo*—' non si usa ! ' And though there is *marzolino*, it is not collocated with *lepre*—' ma non significamente, unito a lepre '.

Statements of meaning at the collocational level may be made for the *pivotal* or *key words* of any *restricted language* being studied.[1] Such collocations will often be found to be characteristic and help justify the restriction of the field. The words under study will be found in ' set ' company and find their places in the ' ordered ' collocations.

The collocational study of selected words in everyday language is doubly rewarding in that it usefully circumscribes the field for further research and indicates problems in grammar. It is clearly an essential procedure in descriptive lexicography. It is important, however, to regard each word separately at first, and not as a member of a paradigm. The collocations of *light* (n.s.) separate it from *lights* (n.s.) and *light* (n.adj.) from *lighter* and *lightest.* Then there are the specific contrastive collocations for *light/dark* and *light/heavy.*

The collocational study of such words as *and, the, this, for, one, it,* is only of profit in that it dictates the necessity of a more generalized treatment of words and raises the problem of the general and grammatical classification of words. Grammatical generalization of word classes and the setting up of categories for the statement of meaning in terms of syntactical relations is clearly indispensable.

Collocations of a given word are statements of the habitual or customary places of that word in collocational order but not in any other contextual order and emphatically not in any grammatical order. The collocation of a word or a ' piece ' is not to be regarded as mere juxtaposition, it is an order of *mutual expectancy.* The words are mutually expectant and mutually prehended. It is also an abstraction, and though the name of a collocation is the hearing,

[1] See ' The Technique of Semantics ', pp. 40, 44, 67, 70.

reading or saying of it, its ' meaning ' at other levels must not be directly taken into consideration. The statement of collocations and extended collocations deals with mutually expectant orders of words and pieces as such, attention being focused on one word or one piece at a time.

In the study of selected words, compounds and phrases in a restricted language for which there are restricted texts, an exhaustive collection of collocations must first be made. It will then be found that meaning by collocation will suggest a small number of groups of collocations for each word studied. The next step is the choice of definitions for meanings suggested by the groups.[1]

V

The statement of meaning at the grammatical level is in terms of word and sentence classes or of similar categories and of the inter-relation of those categories in *colligations.*[2] Grammatical relations should not be regarded as relations between words as such—between *watched* and *him* in ' I watched him '—but between a personal pronoun, first person singular nominative, the past tense of a transitive verb and the third person pronoun singular in the oblique or objective form. These grammatical abstractions state some of the inter-related categories within an affirmative sentence. Different categories of the negative conjugation with operators would be necessary to deal with ' I didn't watch him '.

In order to state the facts of negation in contemporary English, it is necessary to set up a class of from twenty-two to twenty-four syntactical operators which function not only in negation but also in interrogation with front-shifting of the first nominal element of the verbal phrase, in emphatic affirmation and also as code verbals. These twenty-four operators are not to be regarded as items of the verbal conjugations of *to be* or *to have* but are grouped as separate terms of the ordered series of operators. They are: *am, is, are, was, were, have, has, had, do, does, did, shall, should, will, would, may, might, can, could, must, ought, need, dare, used* (*to*).

These operators are then to be sub-classified and related to sentence structure. They are essential in negation when a finite verb is used with the negative particle and they form an element of structure in the negative conjugation. All the twenty-four operators are colligated with the negative particle without exception and all negative finite verbs are colligated with one of these operators. It is interesting that some of the actual *word* forms or exponents of the colligation operator-negative cannot be suitably divided with reference to the affirmative forms, though of course they must have phonetic and phonological shape—e.g. ʃal/ʃaːnt, wil/wownt, kan/kaːnt, duw/downt. Note the interrogative negative *aːnt ay* ?

When, say in Latin, a preposition is said to govern the accusative case or,

[1] See below.

[2] See H. F. Simon, ' Two Substantive Complexes in Standard Chinese,' *Bulletin of the School of Oriental and African Studies,* Vol. XV, pt. 2, 1953.

even more loosely, is said to be used with or joined with the ablative case of nouns or pronouns to define their relations with other parts of speech, for example, the verb, the statement refers to the inter-relation of a set of grammatical categories transcending the actual words which may fall into those categories. Syntactical analysis must generalize beyond the level of the word isolate, since in many languages the exponents of the grammatical categories may not be words or even affixes. In colligations of grammatical categories constituting the elements of a sentence structure in such very different languages as Latin, Hindi and Swahili, the exponents of gender and number are discontinuous. This is traditionally referred to as ' concord ' or ' agreement ' between actual word isolates. Words are said to ' agree '.

Collocations are actual words in habitual company. A word in a usual collocation stares you in the face just as it is. Colligations cannot be of words as such. Colligations of grammatical categories related in a given structure do not necessarily follow word divisions or even sub-divisions of words. Segmental analysis of the phonemic type cannot therefore correlate with such colligations. A colligation is not to be interpreted as abstraction in parallel with a collocation of exemplifying words in a text.

A single word isolate such as Latin *pedibus* might have to be considered in a sentence structure in which the categories in colligation would include gender, number and person, and the noun-substantive itself. But where are all these if the grammarian looks at the word *pedibus* itself ? The exponents of the categories are 'cumulative ' in the word and also discontinuous in the sentence.

A consideration of what has been written around the word ' morpheme ' since Vendryès' *Le Langage* in 1921,[1] leads me to the opinion that all analyses of phonic and graphic material having in view the statement of grammatical categories usually considered morphematic, and also the description of their exponents, should be applied to the piece, phrase, clause or sentence. ' Morphematics ' at the grammatical level is thus congruent with prosodic studies at the phonological level. It follows that the distinction between morphology and syntax is perhaps no longer useful or convenient in descriptive linguistics. No valid theory of the morpheme built on the phoneme has yet been framed. Systems of grammatical categories are not to be confused either with lists of phonic or graphic exponents, or with phonological systems. ' Morphological ' categories are to be treated syntagmatically and only appear in paradigms as terms or units related to elements of structure. This approach emphasizes the need for prosodic analysis at the phonological level. The exponents of articles, deictic particles, pronouns and all manner of so-called verbal auxiliaries in English, French and German for example, are obviously prosodically dependent on the nominal or verbal piece or phrase. The mutually expectant relations of the grammatical categories in colligation, however, cannot be regarded as necessarily having phonological ' shape '.

[1] See especially pp. 86–7, 101–3.

VI

In discussing the concept of colligation as the inter-relation of grammatical categories in syntactical structure, the term *exponent* has been introduced to refer to the phonetic and phonological ' shape ' or words or parts of words which are generalized in the categories of the colligation. It may be that such bits, pieces or features may be adequately referred to in terms of the orthography with additional prosodic, including punctuative, marks. Indeed, the consideration of graphic exponents is a companion study to phonological and phonetic analysis, unfortunately not always harmonious but often of provocative interest. Arising out of this is the need for a reconsideration of the categories of descriptive phonetics and the necessary notation to state them.

The setting up of phonological elements of structure and of the systems of units or terms from which their values may be known, results in ranges or sets of interior functional relations. Renewal of connection with the language under description in experience requires that recognizable phonetic and possibly graphic shape shall be given to what have been termed the exponents of the phonological categories. Not all the phonic data need, or indeed can, be given. From such data, the characteristic features only need be described and new additional categories of general phonetic description will certainly be necessary.

The phonetic description of exponents which may be cumulative or discontinuous or both, should provide a direct justification of the analysis. It may happen that the exponents of some phonological categories may serve also for syntactical categories. But the exponents of many grammatical categories may require *ad hoc* or direct phonetic description.

If the phonological analysis of longer pieces than the word is to be one of a congruent series at a number of levels of description, there would appear to be no alternative to some form of prosodic approach based on a theory of structures and systems.

The exponents of the phonological elements of structure and of the units or terms of systems are to be abstracted from the phonic material and stated in carefully considered phonetic terms and, if necessary, new ones must be created. The use made of the phonic material in the phonetic description of exponents does not require that the phonic details variously allotted should be mutually exclusive. The description of the phonetic characteristics of elements and categories of structure is relevant to that order, which is a different order from the order of units and terms in systems. It is thus quite likely that certain phonic details may be included in the phonetic characteristics of prosodic elements and structures as well as in those of phonematic units and systems. There are, so to speak, two distinct ' syndromes ' and there is no tautology or falsification if there is some overlap in ' symptoms '. There can be no question of ' residue ' in the phonic material after any particular abstraction for a specific purpose has been made. All the phonic material is still available for further abstractions for a different order in separate analyses.

The phonetic descriptions of features of the phonic material selected as characteristic exponents of the prosodies and the exponents of the phonematic units need not be mutually exclusive.[1] When they are involved in the interrelations of elements of structure, they are not referred to as exponents of phonematic systems.

Since systems furnish values for elements of structure, and since the ordering of systems depends upon structure, there is always the possibility of some overlap of phonic reference. The exponents of elements of structure and of terms in systems are always consistent and cannot be mutually contradictory.

If pharyngalization were to be abstracted as a prosody of a word or piece, it would not preclude the setting up of a system of pharyngal consonant units in the same piece. Similarly, if ' frontness ' or ' backness ' were to be set up as word or piece prosodies, it would still be possible to find systemic places for ' front ' consonant and vowel units in the pieces characterized by the prosody of frontness, and ' back ' consonant and vowel units in the pieces characterized by back prosodies.

This direct and positive phonetic approach avoids a false realism implied in such expressions as ' phonetic implication ', ' realization ', ' actualization ', and ' signal '. While keeping the levels of analysis separate, the introduction of exponents brings the results together and ensures renewal of connection in experience with the language under description.

In the analysis of the nominal phrase in Western European languages, the articles and demonstratives are to be taken with characteristic substantives, and adjectives. In German, the statement of the graphic exponents of number, gender, and case provides a useful approximation to an analysis. In dealing with the definite article by itself, for example, there are six forms in all as follows :

der	die	das	des	dem	den
a	*b*	*c*	*d*	*e*	*f*

If three categories of gender are set up, we get the following distribution forms :

masculine	*a, d, e, f*
feminine	*b, a*
neuter	*c, d, e*

For the two numbers, singular and plural :

singular	*a, b, c, d, e, f*
plural	*b, a, f*

[1] It is also possible to keep such abstractions from the phonic material strictly separate, if an adequate description is thereby achieved [cf. W. S. Allen, ' Retroflexion in Sanskrit : Prosodic Technique and its Relevance to Comparative Statement,' *BSOAS.*, Vol. XVI, pt. 3, 1954, and ' Aspiration in the Hārautī nominal ', pp. 68 ff. of the present volume]. Cf. F. R. Palmer, ' Openness in Tigre : A Problem in Prosodic Statement ', BSOAS., Vol. XVIII, Part 3, Section IV, pp. 576–7. See also para. 17 of Section XII, p. 31, which emphasizes the difference between a general theory for particular application and a theory of Universals for general application.

If four cases are recognized, the following table shows the mutual exclusiveness of the orthographic exponents :

nominative	*a, b, c*
genitive	*d, a*
dative	*a, e, f*
accusative	*f, c, b*

The tabulation above shows the necessity of considering both the articles and all the demonstratives in colligation with substantives and adjectives in the nominal phrase, and the nominal piece in colligation with the verbal piece. It will be agreed that the individual orthographic forms of the articles do not correlate with the grammatical categories resulting from the analysis of the nominal piece.

VII

The first principle of phonological and grammatical analysis is to distinguish between *structure* and *system*. We have already mentioned the interior phonological relations connected with the text itself : firstly the syntagmatic relations between elements of structure prosodic and phonematic, secondly the paradigmatic relations of the terms or units which commute within systems set up to give values to the elements of structure. The terms *structure* and *elements of structure* are not used to refer to a whole language or even to what may be called portions of a language, but exclusively to categories abstracted from common word form or textual form. And quite similarly, *system*, *systems*, *terms* and *units* are restricted to a set or sets of paradigmatic relations between commutable units or terms which provide values for the elements of structure. Though structures are, so to speak, ' horizontal ' while systems are ' vertical ', neither are to be regarded as segments in any sense. Elements of structure, especially in grammatical relations, share a mutual expectancy in an *order* which is not merely a *sequence*.

Grammatical analysis then deals with texts by setting up structures and systems. The constituent elements of syntactical structures are not words, but generalized classes and categories by means of which the interior relations of the elements may be stated.

The statement of the colligation of a grammatical category deals with a *mutually expectant order* of categories, attention being focussed on one category at a time. If two or more categories are in the focus of attention, the study of their colligations is in similar mutually expectant orders. Such categories are not considered as having *positions* in *sequence*, but can be said to be placed in order.[1]

Many linguists handle these problems of analysis by theories of the morpheme. In the United States, the terms *allomorph*, *morph*, and *empty morph* are found necessary. In this type of analysis also, there are no words

[1] Cf. Section II.

as such. The interior relations of the elements of structure are, however, obscured by certain theories of *distribution*,[1] which I held at one time but have since abandoned. The logic of distributional relations, useful as it may be, cannot be the main principle in any theory of the analysis of structures involving the statement of the values of the elements of structure by reference to systems.

Attention must first be paid to the longer elements of text—such as the paragraph, the sentence and its component clauses, phrases, pieces and lastly, words if they are institutionalized or otherwise established.

In dealing with such longer elements, notional generalizations are admissible in addition to the formal linguistic statements characterizing the categories. Such terms as affirmative, negative, interrogative, exclamatory, emphatic and non-emphatic, are applied to sentence types formally established—but there are also notional references summing up certain features of the contexts of situation. References to the non-verbal constituents of the situation are essential to the complete description of the verbal context, i.e. the linguistic text and its elements. This is obvious in describing colloquial speech using such grammatical terms as pronoun, demonstrative, number, numeral, gender (including classifiers) and so-called ' form-words '. Form-words are never empty.

The linguistics of orientation in time and place, of relative position and direction, of deixis, number and numeration, often involving gender and classification, must admit notional generalizations to state what have been described above as ' situational relations ',[2] but these are not references to thoughts, ideas or mentalistic content.

References to the non-verbal constituents of situations are admissible in corroboration of formal linguistic characteristics stated as criteria for setting up parts of speech or word-classes. Whatever criteria may have been used to set up, let us say, verbal and nominal categories, it will usually be found that verbal features are distributed over a good deal of the sentence. The statement of a verbal system and the order of its relevant categories leads to the statement of tenses, aspects, operators, auxiliaries, pronouns, negatives, interrogatives and other particles, person, number and gender, to mention only a few. Aspectival auxiliaries and particles necessarily lead to colligation with relevant adverbials and particles suitably grouped and classified, since they correlate with the various verbal aspects and will have been noticed at the situational and collocational levels.

The nominal phrase is to be treated similarly and the two sets of categories, nominal and verbal, are themselves mutually expectant in various forms when they are said to be in the same colligation. This leads to the statement of transitive relations by place and order, by particles and by case.

[1] See ' Use and Distribution of Certain English Sounds ', *English Studies*, Vol. XVII, pt. 1, 1935, and ' The Technique of Semantics ', especially p. 55, where ' an exhaustive study of distribution ' and ' contextual distribution ' are specifically mentioned.

[2] See p. 9.

Such verbal pieces as *Je le lui ai donné, il n'y en a pas* at the phonological level must be regarded as prosodic pieces, and the grammatical elements of the whole verbal phrase must be treated in colligation. Such sentences or verbal pieces as *He might have kept on popping in and out all the afternoon* or *He couldn't have kept on running up and down the stairs all morning* must be analysed with reference to periphrastic polynomial verbs, and the characteristic categories of tense, aspect, operators, particles, adverbials, state grammatical features abstracted from the whole piece. There can be little profit in any grammatical analysis which deals with the relations of the individual words as such with one another one by one. Surely such ' grammar ' is to be abandoned.

The decline of ' grammar ' as we have known it, especially of school grammar, is probably due to its naïveté and obvious incompleteness and inadequacy, both in formal description and in dealing with meaning. It has fallen down on the job.

Confining ourselves to English as the language of description, let us face the facts and admit that such words as *time, past, present, future* and all the rest of the ' temporal ' nomenclature, have been employed with gross carelessness to describe notions supposed to characterize the verb. No attempts seem ever to have been made to distinguish philosophical time (and space), clock time, calendrical time, solar time, personal and situational time from what should properly be called *grammatical time*. Notional time, generally speaking, is a different thing altogether from grammatical time, which differs from language to language. Grammatical time is not limited to or bound by the speaker's temporal world but has an unlimited range, always, however, within the verbal time-resources of the given language. Language itself is timeless, and as an instrument of life, must range over all ' time '. Each language has its own means of handling ' experiential ' time, has its own ' time-camera ' so to speak, with its own special view-finders, perspectives, filters, and lenses. It is childish to draw excessively over-simplified linear diagrams to deal with such linguistic structures and systems. The point is they are not time-systems but linguistic systems.

Similarly, the study of deixis in particular languages is hindered by mentalistic generalizations of orientation.

The system of demonstratives in English is totally different from that of French. The two sets are neither equipollent or equivalent, and there is no general theory of demonstratives universally applicable. Similar puerilities occlude our vision in dealing with number, gender and case in particular languages. The Elizabethan and seventeenth century grammars of Latin taught seven genders formally, and avoided the sex confusion. There are no ' ideas ' of ' singularity ' or ' plurality '. It is plainly necessary to distinguish between number, numbers, numerals, figures, the operations of counting and the singulars and plurals of articles and demonstratives where such categories are set up. How can the language *under* description be dealt with clearly if the language *of* description and the language of translation are loose and careless

and full of theoretical puerilities condoned by an obsolescent terminological tradition ? One fairly obvious course is to try other theories and within the framework of those theories overhaul our descriptive instruments and set up less inadequate languages of description and of translation.

It has been traditional practice to state the structure of the nominal piece and the inter-relations of nominal and verbal pieces in terms of gender, number, person and case, and sometimes even to give these categories some sort of conceptualist ' meaning '. Similarly, moods, tenses and aspects have been justified notionally, and in the main at manifest disadvantage both to the linguist and the learner. It would plainly be foolish to abandon all the miscellaneous equipment of two thousand years of linguistic endeavour. But the items and nomenclature are being checked and sorted out and it is suggested that they may be fitted into an entirely serviceable technical apparatus for linguistic analysis and statement, in keeping with the advances in linguistic theory and in harmony with the prevailing intellectual climate.

A necessary preliminary step is to put aside all notional explanations of such categories as gender and case, mood and voice, and also the paradigmatic approach to the morphology of separate words. The paradigmatic hyphenated lists of orthographic forms of individual words can and generally do obscure the analysis of the elements of structure in the syntagmatic inter-relations of grammatical categories. These inter-relations are not between words as such nor are they properly stated by inter-relating the exponents, whether these be graphic or phonetic.

The various structures of sentences in any given language, comprising for example at least two nominal pieces and a verbal piece must be collated, and such categories as voice, mood, affirmative, negative, tense, aspect, gender, number, person and case, if found applicable and valid in descriptive statement, are to be abstracted from, and referred back to the sentence as a whole. The exponents of the categories may be cumulate or discontinuous or both, and their phonetic description may necessitate the use of terms and notation not based on orthography or, indeed, on any scheme of segmental letters in the tradition of the roman alphabet. Order, place, transposition, commutation within systems, pause, stress or prominence, contonation[1] and intonation are, among others, clearly relevant as possible exponents of grammatical categories.

In Sanskrit, Latin and Greek the categories of case, for example, must be abstracted from the piece or sentence whether nominal or a combination of nominal and verbal, and in renewal of connection by means of further texts, syntactically referred to by description of the exponents of the elements of structure. Voice, mood, tense and aspect would be treated similarly.

In Modern Hindi,[2] the analysis of the nominal phrase and the verbal piece,

[1] See A. E. Sharp, ' A Tonal Analysis of the Disyllabic Noun in the Machame Dialect of Chaga,' *BSOAS.*, Vol. XVI, pt. 1, 1954.

[2] See W. S. Allen, ' A Study in the Analysis of Hindi Sentence Structure,' *Acta Linguistica*, Vol. VI, fasc. 2–3, Copenhagen, 1950–1.

and both of these in combined structures, involves the description of both discontinuous and cumulate exponents of the necessary categories of gender, number, person, case, voice, mood, aspect and tense, distributed over the whole sentence. Hindi is one of the languages in which the problems of so-called transitive and intransitive verbs, of voice, and of concord and agreement, illustrate the obvious advantages of the present approach.

Linguists are only just beginning to realize the dangers and pitfalls of ' personification ' of categories as universal entities.[1] There is a constant need to beware of such bogus philosophizing in linguistics.

There is always the danger that the use of traditional grammatical terms with reference to a wide variety of languages may be taken to imply a secret belief in universal grammar. Every analysis of a particular ' language ' must of necessity determine the values of the *ad hoc* categories to which traditional names are given.[2] What is here being sketched is *a general linguistic theory* applicable to *particular linguistic descriptions*, not *a theory of universals* for *general linguistic description*.

Though it is found convenient to employ the words *noun*, *verb*, *pronoun*, *particle*, for example, it must not be assumed that in all languages, nouns and verbs *are to be found* as the universalists might express it.

It has been held that in some Melanesian languages the noun-verb distinction is unnecessary. The ' universalist ' fallacy is constantly with us. It is sometimes said that there are ' no real adjectives ' in Swahili, and that ' adjectives are really verbs ' in Japanese. The first step towards adequacy in the higher levels of linguistic analysis is the same rigorous control of formal categories set up and of the terms applied to them, as is now the rule in all forms of phonological analysis. This does not mean that the analysis of discourse—of the paragraph and the sentence, for example—can be directly developed from phonemic procedures or even devised by analogy from such procedures.[3] The main criticism to be offered of American structuralist linguistics based on

[1] A reviewer in a recent well-known linguistic periodical (*Word*, Vol. II, No. 1, pp. 132–4, April, 1955), found it possible to personify the Optative and the Subjunctive and state that ' Apart from Tocharian, Greek is the only IE language with a real opposition between Optative and Subjunctive, all other languages having merged the two ', and further that ' the Optative is clearly connected with the preterite tense (aorist or imperfect) and not with the future tense '. From the point of view of the present theory, such personifications or hypostatizations add nothing of value to any type of linguistic statement and only offer short cuts to confusion. To suggest that one can combine ' *a preterital element* ' with ' a futuristic one ' to form an Optative is an abuse of terms in a confusion of grammatical and semantic thinking which can only cloud the precise statement of the facts in terms of linguistic analysis.

[2] Cf. Frei, ' A Note on Bloomfield's Limiting Adjectives,' *English Studies*, Vol. XXXVI, October, 1955, also Meillet, *Linguistique Historique et Linguistique Générale*, Paris, 1938, pp. 29–35.

[3] Cf. Zellig S. Harris, *Methods in Structural Linguistics*. Chicago, University of Chicago Press, 1951, especially pp. 165–171, 197, 213, 218, footnote 48. It will be noticed that from this point onwards, the languages *under* description suffer from an obsolescent language *of* description and the language of translation is not as carefully weighed as the language of phonemics, morphemics and morphophonemics. Grammatical ' meaning ' is brought in by conceptual terminology, and categories which presumably are abstract and indeed ineffable, ' express

phonemic procedures is that, having attempted just that, it has not furnished any valid grammatical analysis of any language by means of which renewal of connection in experience can be made with systematic certainty. At the present time, descriptive linguistics is suffering from a pre-occupation with phonemics and other forms of segmental phonology, and in the next decade it is probable that linguistic theory and practice will turn to synthesis. The present theory offers, it is submitted, not only a theory of synthesis, but the possibility of a synthesis of the main advances made in the subject during the last thirty years.

Reverting to the discussion of grammatical categories in closed systems for any given language, the 'universalist' is reminded that the grammatical 'meanings' are determined by their inter-relations in the systems set up for that language. 'A nominative in a four case system would in this sense necessarily have a different "meaning" from a nominative in a two case or in a fourteen case system, for example. A singular in a two number system has different grammatical meaning from a singular in a three number system or a four number system such as in Fijian which formally distinguishes singular, dual, "little" plural and "big" plural. The system of, say, three word classes, noun, verb and particle, is different from the meaning of the category *noun* in a system of five classes in which *adjective* and *pronoun* are formally distinguished from the noun, verb and particle. The application of the word "meaning" to the function of an element with reference to the specific system of which it is a "term", "unit", or "member" in a given language is an example of'[1] a quasi-mathematical theorem.

VIII

Some linguists seem to regard phonemics as a kind of pure mathematics handling ultimate linguistic units, and morphophonemics as a kind of applied mathematics to prove morphemics. Such analysis does not go beyond the basic principle of linear and successive segmentation, and therefore proves inadequate for statements of meaning of such complexes as a sentence or paragraph, or any suitably abstracted longer piece of discourse. From the present point of view such meaningful complexes are described as a relational network of structures and systems at clearly distuinguished but congruent levels, converging again in renewal of connection in experience. In attempts to meet such difficulties of analysis from the phonemic point of view, there have arisen involved discussions of theories of juncture and junction. So far none of these juncture theories are satisfactory from the grammatical point of view.

what is often called grammatical agreement.' 'A single morphemic segment *l . . . l . . .* "the".' 'A morphemic segment consisting of the change . . . and the meaning past.' 'A morphemic segment, meaning noun.' 'Changing the meaning from female to male.' 'Indicating command.' 'With verb meaning.' 'Emphatic meaning.' 'Meaning question.'

[1] 'General Linguistics and Descriptive Grammar' p. 85.

The object of linguistic analysis as here understood is to make statements of meaning so that we may see how we use language to live. In order to do this analysis we must split up the problem and deal with it at a series of levels. Studies at one level must take into account findings at other levels. In all phonological statements for example, it is always useful, and I would suggest even necessary, to have studied the grammatical meaning of the materials, and even to have some systematic knowledge of the collocations of the words selected from the *corpus inscriptionum* as examples. There are signs of a widespread, though as yet inarticulate, dissatisfaction with the general linguistic results of phonemic analysis 'without meaning', and the pressure of this discontent calls for a new grammatical technique on the one hand, and on the other a greatly developed technique of phonetics and phonetic notation in the service of impressionist description.

To begin with, grammatical classification limits and groups the data in parallel with phonological analysis, for example there is no need for unduly complicated phonetic procedures in order to separate the following pairs: tax (*v.* and *n.sb. sing.*), tacks (*v.s.* and *n.sb. pl.*); band (*v.* and *n.sb.*), banned (*v.p.* and *n. adj.*).[1] Many examples can be given from English to illustrate the difficulties of attempting to build the whole edifice of linguistic analysis exclusively on a phonemic basis. Other levels of analysis are required to deal with such isolates as are lexically represented as follows: heel (*v.* and *n.sb.*), heal (*v.*), he'll (*v. op. 3rd sing. masc.*); weed (*v.* and *n.sb.*), we'd (*v. op. 1st pl.*). The elements of such verbal pieces as *ay ʃl əv siyn im* are prosodically interdependent.[2] If used in easy familiar style and tempo, the structural characteristics must be referred to the whole verbal piece. The elements of the piece structure involve syllabic analysis providing for possible distribution of stress and length over the five syllables in a mutually expectant order. Only two take the potentialities of stress and length, the first and the fourth. If the fifth be considered for potential stress and length the whole prosodic structure would involve separate statement. Analagous formations would employ such verbal forms as *wiy l əv, yuw l əv, ðey l əv,* and such forms as *ay kəd əv,* etc.

In the phonological analysis of longer pieces with grammatical correlations in mind, it will be found useful to take as first isolates stretches that can be regarded as prosodic groups. In the West Yorkshire sentence *ða d ə dunt 'seem ðy'sen, if ða d ed ʔt 'tʃɔns* (you would have done the same yourself, if you had had the chance), we may recognize two prosodic sub-groups separated by a prosodic comma. There are seven syllabics in the first sub-group and five in the second. It is clear that the first five syllabics of the first group are prosodically interdependent and mutually determined. The value of the first syllabic is dependent on a system of vowel units, the second is the neutral

[1] See my 'Use and Distribution of Certain English Sounds'.

[2] See my 'Sounds and Prosodies', *TPS.*, 1948.

syllabic and a prosodic unit, the third, like the first, one of a system of vowel units, the fourth a prosodic unit being a syllabic stop. The penultimate syllabic in the second sub-group is a glottalized stop.

All these syllabics can be correlated with the syllable structure of the whole group, with the syllabic structure of the nominal and verbal elements and hence with the whole colligation. The grammatical analysis of other verbal pieces can be stated more clearly if the pieces are regarded as prosodic groups for phonological analysis; e.g. (West Yorkshire) *a st ə 'dun·t if a 'kud, a sl̩ 'siy ðə t·'mɔɔn t·'niyt, a kəd ə 'dun·t iʔt· 'mɔɔnyn, a kɧ 'gi ðə·t wen tə 'kums̩ 'bak.* The verbal pieces *a st ə 'dun·t, a kəd ə 'dun·t, a kɧ 'gi ðə·t* are prosodically and grammatically holophrastic and once these facts are accepted the phonological analysis can be stated without attempting to justify the joining up of segments or ' words ' by theories of juncture. The inter-relations of the grammatical categories stated as colligations, form the unifying framework, and the phonological categories are limited by the grammatical status of the structures. The linguist can then draw on all the technical resources of phonetics, both descriptive and instrumental, in stating the characteristic prosodic features and giving, whenever possible, phonetic shape to exponents.

The syllable structure of any word or piece is itself to be considered as prosodic, quite apart from other phonetically describable features such as length, stress, tone, intonation, the distribution of which is linked with such structures. It is in this connection that one must allot to each syllable a nucleus which may be termed a syllabic. Syllabics need not be considered as coterminous, and almost any phonetically describable type of feature may be the exponent of such a syllabic. On the other hand, a monosyllable for example may have an added element of structure without that added element being necessarily regarded as a syllabic. For instance, in the examples above quoted *tacks* may be analysed as CVC + the sign of the plural or the 3rd person singular, whereas *tax* carrying a similar addition involves a syllabic. Even if the phrase ' The Society for the Prevention of Cruelty to Animals ' in familiar quick tempo style is represented as follows: *ðə s·'saəty f·ð·pr·'venʃn·v 'kruwlty tw 'an·mls̩*, sixteen syllables would have to be reckoned in the structure, only four of which are stressed, the syllabics being vowel units. All other syllabics need not involve any vowel system or vowel units, and might be treated prosodically in relation to the whole title.

The alphabetic representation in the reading transcription given is not intended to represent the results of a phonemic analysis. Prosodically treated, certain features, such as the distribution of stress and intonation, are not segmentable in the phonemic sense. May I remark in passing that phonemic segmentation may find eventual application in the first crude linguistic machines, but by the time the first models are built linguistics may well have abandoned linear units of successive segmentation as a method of handling the mechanism of language.

The prosodic approach to phonological analysis requires a much finer

as well as a more extensive range of abstract categories of phonetic observation and several correlated systems of phonetic notation. The single classified phonetic alphabet with supplementary diacritics may have served the earlier stages of one-level-phonemics well enough, but multi-level analysis of longer pieces will necessarily require a considerable development of the phonetic sciences, including the use of instruments and machines.

Elsewhere in this volume are examples of the critical use of phonological and phonetic nomenclature and also of notational invention. Moreover, linguistics has been taken into the laboratory, which is a very different scientific procedure from what is usually called experimental phonetics. The application of instrumental as well as of impressionist phonetics correlates with statements of phonological and grammatical meaning.[1]

IX

In the remaining sections of this synopsis, summary indications are given of the bearing of the theory on stylistics and descriptive lexicography, and attention is drawn to the fundamental problems of translation which are a challenge both to philosophy and linguistics.

The widespread interest in language and the rapid development of general linguistics have affected the study of literature and the practice of literary criticism, and the linguistic trend grows steadily. Even if ' syntax ' is said to hold poetry together, in a ' musical ' rather than in a ' linguistic ' way, the approach is recognizable from the point of view of prosodic linguistics. The careful following of a literary text with painstaking precision requires some sort of linguistic technique, and ' syntactical ' concentration does not permit the critic ' to let himself go '.

In a previous essay [2] I have given illustrations of two branches of stylistics, (*a*) the stylistics of what persists in common usage over long periods, and (*b*) the stylistics of the idiosyncratic language of such a poet as Swinburne. The suggested stylistic analysis is made at the levels of phonetics (including phonaesthetics), phonology, syntax, word and phrase formation, collocation and vocabulary. In almost any form of English studied from the stylistic point of

[1] E. J. A. Henderson, ' The Main Features of Cambodian Pronunciation,' *BSOAS.*, Vol. XIV, pt. 1, 1952. W. S. Allen, ' Notes on the Phonetics of an Eastern Armenian Speaker,' *TPS.*, 1950. J. Carnochan, ' Glottalization in Hausa,' *TPS.*, 1952. ' A Study in the Phonology of an Igbo Speaker,' *BSOAS.*, Vol. XII, pt. 2, 1948. R. H. Robins and N. Waterson, ' Notes on the Phonetics of the Georgian Word,' *BSOAS.*, Vol. XIV, pt. 1, 1952. J. R. Firth, ' Word-Palatograms and Articulation,' *BSOAS.*, Vol. XII, pts. 3–4, 1948. J. R. Firth and H. J. F. Adam, ' Improved Techniques in Palatography and Kymography,' *BSOAS.*, Vol. XIII, pt. 3, 1950. Natalie Waterson, ' Some Aspects of the Phonology of the Nominal Forms of the Turkish Word ', BSOAS., Vol. XVIII, Part 3, especially pp. 589–591. Articles on gemination by J. Carnochan, T. F. Mitchell, and F. R. Palmer which appear in this volume.

[2] ' Modes of Meaning.' See especially pp. 118, 125–131.

view, the characteristics of nominal phrases or pieces and the collocations of the key or pivotal words, whether substantives or adjectives, will be found rewarding, and similarly in the complete verbal piece the adverbials and particles will often prove characteristic. The conjunctives, and words with deictic or anaphoric reference are also important features of any given stretch of discourse. The use and distribution of the so-called logical particles are often a marked feature of style and form part of any close syntactical analysis of certain types of discourse.

The elements of style can be stated in linguistic terms. They are formally presented in the text which can be said to have a physiognomy.

X

The application of the theory to lexicography would lead to new types of dictionary, to glossaries of restricted languages, and other specialized studies of vocabulary at several different levels of analysis.

The most productive preliminaries to almost any kind of descriptive dictionary are :

(*a*) To find criteria for the limitation of the circumscribed field of a restricted language or languages within which selected words or classes of words are to be studied.

(*b*) The listing or preparation of written materials in the restricted language from which exhaustive collocations of the selected words are to be collected.

(*c*) It will then be found that meaning by collocation will suggest grouping of the collocations into a manageable number of sets.

(*d*) Each set of grouped collocations may suggest an arbitrary definition of the word, compound or phrase which is being studied in collocation.

(*e*) If the materials are being collected from informants, definition texts may be recorded by them in their own language, as their own version of the meanings, group by group. Definition texts provided in this way can be extremely informative but must be critically handled.

Draft entries can now be made, one for each group, definitions can be given and from the *collocations* one or two may be chosen to become *citations* keyed to the definitions.

The use of photographs and diagrams in connection with definition texts often provides the informant with a basis for his statements, and the linguist working in the field will generally know when a photograph or film is perhaps more valuable than a tape recording of the language text.

It is obvious that linguistics to-day points the way to new types of lexical statement. The day has gone by when lexicographical work must embrace all words just as they come, quite generally from what is called a language or a pair or group of languages, and at the same time follow the order of the alphabet. Dictionaries of the ' bits ' which words may comprise and of pieces and phrases

are equally necessary. Systems of words and selected groups of words or phrases in the more exotic languages could profitably be presented in dictionaries, always securely based on good descriptive grammar. The lexicographer must always have well founded grammatical categories for his materials and entries. Indeed, specialist dictionaries restricted to materials of certain grammatical categories might prove of great interest, since in most bi-lingual dictionaries the grammatical categories applicable in the two languages would not be strictly parallel or equivalent, though in some cases a certain common grammatical measure might be established and this would prove useful in the application of machines.

XI

Finally, there are the many theoretical problems raised by the achievements of translation throughout history. There is no point in denying the possibilities of *complete* translation. One of the most important assignments for linguists in the future is the formulation of satisfactory theories of the nature of the translation bridges between languages. Do we really know how we translate or what we translate ? What is the ' interlingua ' ? Are we to accept ' naked ideas ' as the means of crossing from one language to another ? Are these ideas clothed first in Chinese and afterwards in English ? Or does the Chinese clothe a collection of naked ideas from which only a selection may accept English raiment ? And do fresh naked ideas come in with the English raiment ? There are no clear answers possible to these questions and perhaps the questions themselves are not legitimate. Translators know they cross over but do not know by what sort of bridge. They often re-cross by a different bridge to check up again. Sometimes they fall over the parapet into limbo. There is a good deal of smuggling and surreptitious evasion, and deliberate jettisoning of embarrassing difficulties.

The theory of analysis summarized in this essay suggests that the total meaning complex be split up and that each level of analysis be regarded as dealing with one of a congruent range of modes of meaning. The accumulation of results at various levels adds up to a considerable sum of partial meanings in terms of linguistics without recourse to any underlying ideas, naked or otherwise.

If it be conceded that linguistic analysis at a series of levels produces statements of congruent modes of meaning, then these results must lead to a more critical analysis of congruent modes of translation.[1] If linguistics is to throw any light on the mechanism of translation, it might do worse than to attempt to design interlingual bridges making use of levels of analysis and measuring modes of translation by the theory of modes of meaning.

Nothing of the kind has been attempted yet in linguistic analysis. In

[1] See John MacFarlane, 'Modes of Translation', *Durham University Journal*, 1953.

structuralist works translation is commonly used almost casually, even when the linguist imagines he has left out ' meaning '. After considerable inquiry it appears evident that the use of all kinds of loose, impressionistic, even casual translation vitiates linguistic analysis. All the discussions on metalanguages are vapid, if slipshod and uncritical translation is not only overlooked but considered legitimate practice.

It has been realized that ' translation meanings ' are identification names for language isolates abstracted from the language under description. This is legitimate if the translation procedure has not been surreptitiously used as a criterion for the abstraction. Such translation meanings must be systematic if the isolates from the l.u.d. are systematic. The languages of translation accompanying the presentation of texts may be additional, even parenthetical. Indeed, there is a wide range of languages of translation, from bit-for-bit translations to what are called word-for-word translations, running translations, idiomatic translations and free translations. A careful watch should be kept on all these.

Since the statement of meaning by translation is inevitable in the presentation of ethnographic texts, it is to one of our greatest ethnographers that we must turn for the first organized attempt to face the problem. Malinowski was one of the very few ethnographers to analyse the principles and methods of ethnographic analysis from the linguistic point of view. Though he made contributions to linguistic theory and extended the application of the concept of situational context, his weightiest contribution was the study of the ethnographer's statement of meaning by various forms of translation and definition.[1]

At the phonological level there is no inter-alphabet if symbols are phonemic. In the history of phonetics we have moved from the notion of one sound—one symbol to the principle of one symbol per phoneme. Impressionistic transcriptions in I.P.A. if accompanied by notes and diagrams and statements of correspondences with and differences from the l.o.d. comes near to a bridge at the phonetic level. But the phonetic mode is the most intractable in translation.

Between English and French there are some correspondences at the grammatical level, but many more differences. In more exotic languages it is desirable that the grammatical analysis should be keyed to the translations of the texts, and correspondences and differences specifically noted.

In the study of vocabulary there are some cases of parallel lexical systems and parallel lexical fields in cognate and mutually assimilated languages. Generally speaking, however, both in grammar and dictionary there are very few parallel systems or parallel ranges. However that may be, translation meanings and various forms of translation are inevitable and it is suggested

[1] In a forthcoming publication on Malinowski's work there will appear a chapter in which this subject is fully dealt with.

that the relations between the language under description and the languages of description and translation should be controlled if not specifically stated.

Finally, the word ' translation ' as used in this essay might also be applied to cover statements within any one language following such questions as *Tell me what that means in your own words* or *In other words* or *Give a précis or abstract*. In the interpretation of texts in earlier forms of any language, a translation has to be attempted. In assessing old historical records and documents similar problems of translation are involved. Historians are not the only workers in the other social sciences who would benefit from the advance of linguistics in the theory and practice of translation.

The rise of Asia and Africa and the contraction of Europe make the building of the bridges between languages and cultures an imperative enterprise for all the social sciences. For linguistics there is no better programme than to deepen and extend the description of modes of meaning, with critical reference to modes of translation.

XII

General Conclusions

1. Using language is one of the forms of human life, and speech is immersed in the immediacy of social intercourse. The human body is that region of the world which is the primary field of human experience but it is continuous with the rest of the world. We are in the world and the world is in us.[1] Voice-produced sound has its origins in the deep experience of organic existence. In terms of living, language activity is meaningful.

2. The meaning of language can be stated in linguistic terms if the problem is dispersed by analysis at a series of congruent levels.

3. It is unnecessary to assume any ' facts ' prior to statement. No fact is merely itself so to speak. There are no brute facts. A fact has to be stated in technical language at each level for each technique and for each discipline. An isolate is always an abstraction from the language complex which is itself abstracted from the mush of general goings-on. The notion of a mere fact is the product of the abstractive intellect. It is, however, imperative that we remember what we are doing and how we are doing it, and especially at what level or levels of abstraction and of statement. The various linguistic nets get the materials for the statement of the facts in technical language, with the aid of notations and diagrams of various kinds. We then expect to handle similar relevant events in renewal of connection with experience.

4. Attested language text duly recorded is in the focus of attention for the linguist. In dealing with such texts abstracted from the matrix of experience most of the environmental accompaniment in the mush of general goings-on

[1] See A. N. Whitehead, *Modes of Thought*. Cambridge University Press, 1938.

must of necessity be suppressed. Nevertheless the linguist must use his nest to catch and retain on his agenda such selected features or elements of the cultural matrix of the texts as may enable formal contexts of situation to be set up, within which interior relations are recognized and stated. Notional terms are permissible at this level. All language pre-supposes other events linguistic and non-linguistic issuing from each other. The abstraction here called context of situation does not deal with mere ' *sense* ' or with thoughts. It is not a description of the environment. It is a set of categories in ordered relations abstracted from the life of man in the flux of events, from personality in society.

5. The first principle of analysis is to distinguish between *structure* and *system*.

Structure consists of elements in interior syntagmatic relation and these elements have their places in an order of mutual expectancy. The place and order of the categories set up are recognized in structure and find application in renewal of connection with the sources of the abstractions.

Systems of commutable terms or units are set up to state the paradigmatic values of the elements.

The statement of structures and systems provides, so to speak, the anatomy and physiology of the texts. It is unnecessary, indeed perhaps inadvisable, to attempt a structural and systemic account of a language as a whole. Any given or selected restricted language, i.e. the language under description is, from the present point of view multi-structural and polysystemic. In fact rather like the human body itself, into which it goes and out of which it comes. As Whitehead said,[1] animals enjoy structure and to be human requires the study of structure.

6. Modes of meaning presuppose modes of experience and when two participants have places in a context of situation, the linguistic statement implies two articulated memories in relation.

It is clear we see structure as well as uniqueness in an *instance*, and an essential relationship to other *instances*. The inclusion of *person* and *personality* recognizes unity, identity, continuity, responsibility and creative effort in communicativeness or diffusion in experience which we may call *vox*. This is a different notion from what is now often called ' *communication* '. This leads to a theory of reciprocal comprehension, level by level, stage by stage, in a stated series of contexts of situation. There can be no reciprocal comprehension if there is no situation.

7. The meaning of texts is dealt with by a dispersal of analysis at mutually congruent series of levels, beginning with contexts of situation and proceeding through *collocation*, syntax (including *colligation*) to phonology and phonetics with or without the use of machines. Stylistics with some notice of the phonaesthetic features, lexicography and the place and use of translation are to be included to complete the spectrum.

[1] Ibid., pp. 105, 115, 230.

8. When an exhaustive scheme of situational contexts cannot be set up, a first approach through a systematic collection of collocations is valuable in both grammatical and lexicographical studies.

9. Every analysis of any particular language must of necessity determine the values of the *ad hoc* categories to which traditional names are given. The meanings of the categories at the grammatical level are stated in terms of structures and systems.

From the point of view of the present theory, it is not considered profitable in linguistics at any rate, to regard them as inner language forms, forms of thought or as mental habits or attitudes.

10. Studies of words in attested collocations emphasizes the importance of the piece, phrase, clause, sentence, even of a closely knit group of sentences.

11. The statement of the main features of sound, characteristic of such longer pieces as such, makes new and exacting demands on the phonetic sciences. Similarly, phonological statement is not limited to phonemics. Prosodic categories are being developed in addition to the necessary phonematic analysis and both are keyed to the word or piece as a whole.

12. It follows that morphology as a distinct branch of descriptive linguistics has perhaps been overrated, owing to its very different place and value in historical linguistics.

13. A graphic, phonetic or phonological ' shape ' or ' form ' may be regarded as an exponent of a category at a level other than its own. The exponents of prosodic and of grammatical categories may be continuous or discontinuous, discrete or cumulative. The general idea underlying such analyses is the mutual expectancy of the parts and the whole, rather than a unidirectional sequence of successive linear segments.

The use made of the phonic material in the phonetic description of exponents does not require that the phonic details variously allotted should be mutually exclusive. There may be some overlap of ' symptoms ' in different ' syndromes '.

14. All texts are considered to carry the implication of utterance, all utterance is considered among other things to be in terms of syllabic structure, though no general definition of syllable is either implied or indeed possible.

Syllabic structures are prosodic as such, and further prosodic features may be referred to them. The terms *syllabic* and *syllable* can be used as substantives or adjectives if the language of description is English.

15. Both in phonetics and phonology the widest range of notational and formulaic statement is clearly desirable, and so also are experiments with the use of various founts and sorts of type.

16. The use of machines in linguistic analysis is now established. The present approach prefers to take linguistics into the laboratory rather than to look into laboratories for linguistics.

17. The synopsis presents in outline a general linguistic theory applicable to particular linguistic descriptions, *not* a theory of universals for general linguistic description. The main purpose is to guide the descriptive analysis of languages,

especially restricted languages, and also to provide the necessary principles of synthesis to deal not only with the longer pieces of language, but also with the results of the linguistic studies of the past.

It is obvious that a theory of analysis dispersed at a series of levels must require synthesis at each level and congruence of levels. Such a theory requires what has been called the prosodic approach in phonology, since this is congruent with studies of the piece and of the longer text in collocation and extended collocation, of colligation, and finally with syntactical analysis. Grammar and lexicography are both keyed to the statement of the meaning of the restricted language under description by the controlled language of description, supplemented by well considered languages of translation.

The business of linguistics is to describe languages, and the main features of the theory, more particularly if applied to restricted languages, should produce the main structural framework for the bridges between different languages and cultures.

ZERO IN LINGUISTIC DESCRIPTION

By W. Haas

1. Introduction

'ZERO' in Linguistic Description stands for what is acoustically nothing. But linguists using the sign do obviously refer to something. Many, it seems, take themselves to be referring to a particular kind of *linguistic element*. In that case, what is indicated by 'zero', although acoustically nothing, is yet supposed to have determinate location in speech and distinctive value in the language; being on a par, in that respect, with any of the more common elements which occur in the form of sounds and sound-features. The question I wish to ask is this: What are the conditions in which, without detriment to adequacy of linguistic description, what is acoustically nothing may yet be an element of speech?

The question has been put before. But the answers, so far, do not seem to have been satisfactory. They have been found to open the door to some very dubious linguistic descriptions. My immediate aim in this attempt to ascertain what the conditions are, for the proper use of 'zero', was merely to escape from some current abuses of it. But the special task was found to raise questions of general significance. Scientific research is familiar with such situations; they are its opportunities. Specific questions, arising within some quite limited sphere of interest, and of little account in themselves, are found when pursued to force decisions of fundamental importance.

It is not surprising that the problem of 'zero' should be of this sort. If we accept it that something which is devoid of any sound-shape whatever may yet be a linguistic element, then we are extending the original and usual sense of 'linguistic element'. The question is bound to arise: if the acoustic property of an element be zero, what will then be left to it of the properties characterizing a 'linguistic element'? If not its acoustic appearance, what is there to indicate its presence?

Clearly in trying to state the conditions for the use of 'zero' in Linguistic Description, we are trying to say what we mean by 'linguistic element'. I propose to distinguish two completely different uses of zero: one referring to an *element in speech* (section 2); the other serving as a mere *class-index in grammar* (section 3).

2. *Zero* Elements

2.1. *Extending the Use of the Term 'Element'*

Revisions of scientific terms, extending their use from typical to marginal cases, are often a sign of progress. The extension of the notion of 'number' to cover fractions or zero or imaginary numbers is a familiar example. The