

## A TREND IN SEMANTICS\*

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### 1

A linguistic scientist will initially select a set of potential 'raw material'; he will use his intuitive ideas concerning 'what is natural language?'. Then he will analyse this corpus – recognizing patterns in it, interrelating and correlating these, and setting up categories. His initial set of raw material is what he sets out to describe, by means of theories which are 'abstracted' out of the patterns he recognizes in it; the theory is unlikely to be 'complete' enough to describe all the initial set of raw material, and no more. An *optimum* balance has to be arranged between criteria of completeness, of faithfulness of description, and of simplicity (whatever form of simplicity principle is being employed: different scientists have varying conceptions of 'simplicity'), the whole theory being, of course, internally consistent. And so, because of the particular 'best theory' satisfying this optimum, the 'raw material' described by the theory may not *quite* coincide with the original corpus: but an aim of the theory is that the two sets should be as similar as possible. A theory is only 'good' in a comparative sense (relative to another theory, and employing explicit criteria): even if it were quite complete and appeared perfectly faithful<sup>2</sup>

\* This article is written around review notes concerning Paul Ziff's *Semantic Analysis* (Cornell University Press, 1960, pp. xi + 255), J. J. Katz's review of Ziff in *Language* 38.52-69 (Jan.-Mar. 1962), and *The Structure of Semantic Theory* by Jerrold J. Katz and Jerry A. Fodor (mimeographed, M.I.T., 1962, pp. 103).<sup>1</sup>

<sup>1</sup> Despite its length this article does not aim to present a *complete* review of either of the books. I am extremely grateful to M. A. K. Halliday and Angus McIntosh for reading a draft of this article and making some valuable suggestions for improvement. I am also grateful to Noam Chomsky for giving me a copy of Katz and Fodor's mimeographed essay.

<sup>2</sup> But in fact, whatever ultimate goals of 'completeness', 'faithfulness of description' or 'simplicity' are used, it is an empirical observation that a descriptive scientific

we would hardly be able ever to call it 'absolutely simple'; and so there is no 'best theory'. As any science progresses and one theory replaces another, the new theory will normally be 'more complete' than its predecessor.

Intuitive ideas about 'what is natural language?' are employed in deciding what to describe. And everyday ideas concerning this point are fairly consistent; it is in fact this consistency of ideas concerning 'what is natural language?' that makes possible a science of linguistics. But in a scientific analysis of the corpus a scientist should not utilise or exploit everyday ideas concerning patterns *inside* language. Scientific reasoning differs from everyday thinking in being rather more specific and consistent, and in being so explicitly. Scientific results differ from everyday conclusions: a linguistic scientist will gain a more insightful picture of a set of patterns which he sees in language than any man-in-the-street. All this is extremely obvious. Yet in linguistics in particular 'everyday units' are taken over as scientific units, 'what people think about so-and-so' is given as sufficient justification for a categorical statement, and so on. Ziff (21) explains that he has "not tried to say or even to indicate exactly what a word is. ... I have been using and I shall continue to use the word 'word' in an ordinary way." This is a quite normal practice amongst philosophers (Ziff is a philosopher) and linguists.

"To talk about what is meant by a certain element is to talk from a speaker's point of view. To talk about what is connoted by the element is talk from a hearer's point of view. But to talk about what an element means is, as it were, to be in between speakers and hearers. So that we must take care to distinguish between what a speaker means, what an element means, and what an element connotes." (Ziff, 95)

Katz and Fodor accept Chomsky's view of linguistics and his grammatical theory. Then "a synchronic description of a natural language seeks to determine what a fluent speaker knows about the structure of his language that enables him to use and understand its sentences" (Katz and Fodor, 7). Chomsky's idea of linguistics is an extreme of the 'informant' approach (always a dangerous method of investigation). He is concerned solely with people's ideas concerning language, with what the users of language say about language when they are discussing their use of it. That this is a partial consideration will be seen by considering

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theory will never reach, but only approach, the goal in each case. Like 'abstraction' – which is meant to imply a quasi-hierarchical complex of pattern-correlations and is far from corresponding to 'extraction', as in its everyday usage – these three are technical terms which must be explained within any explicit linguistic meta-theory.

an investigation into the difference between what people say they do, in language activity, and what they are observed to do: such an investigation would be pretty well impossible in terms of Chomsky's approach. His acknowledged psychological viewpoint – language from the speaker's point of view – is made pseudo-psychological by a limitation to what people say they say, or say they ought to say, rather than what they are observed to say (and write).

It is almost certainly the case that the speakers of every language do, as some fraction of their total language-activity, indulge in 'everyday linguistics' and talk about their use of language: although the way in which this is done seems to differ greatly from type of community to type of community.<sup>3</sup> These views often have ritualistic or religious implications; they have usually been handed down through generations and have been so changed and added to that they have a quite heterogeneous nature. In 'civilised' communities everyday ideas are often based on discarded scientific theories. A present-day investigation which takes such ideas as its basic operands may make us understand rather better what people do think about language: it can perform some degree of formalization of everyday ideas about language. But such a study is likely to tell us very little about the way language actually 'works' (as seen by an unbiased observer). A scientific analysis must begin from first principles, *taking as little as possible for granted*, and proceed by careful methodological steps. Many past linguistic theories have been seriously marred by being scientific in some ways, but taking a few everyday ideas on language as axiomatic. One has to choose between describing language, and formalizing everyday ideas about it; too often linguists produce theories which try to do a bit of both. For certain purposes, such as teaching people about their own language, these hybrid descriptions may be quite suitable. But there is a need for theories which confine themselves to describing language in the most direct and scientifically efficient way.<sup>4</sup> My viewpoint here is from theories of this type, where the central object of study is language as we *observe* it to be used in every sort of way and in every type of activity – each of these being looked upon

<sup>3</sup> Writing of the Trobrianders, Malinowski, 1935, p. 50 (citations in this form are to the list of references at the end of the article) mentions that "They are amused at anyone, whether it be a child or a foreigner or a feeble-minded person, who does not use words adequately and in the proper sense. They regard the knowledge of words as a symptom of wisdom. The seat of the *nanola*, 'mind', is located in the throat, in the larynx, because, as they say, it is from there that you speak."

<sup>4</sup> And compare with Bazell's distinction between 'descriptive grammar' and 'structural linguistics' (*Linguistic Form*, Istanbul, 1953, p. 102-6).

as just as important as each other. Such a theory must take into account the situations in which language is used, and correlate the varying types of language – distinguished by differing internal patterns – with distinct situation-types.<sup>5</sup> It will consider the relations between speakers and their language, and between hearers and the utterances they understand, as well as between writers and readers and language: all of these relationships are subsumed in a homogeneous general theory of ‘language as we see it to be’, in our role of scientific observers.

Chomsky’s approach to linguistics is mostly within the ‘formalizing everyday ideas’ bracket. Thus he is mainly systematizing what people think about what they do (‘grammaticalness’, for example), and in this sense his work is in no way original; what is so strikingly original is his new application of established formal logical methods to problems involving natural languages. Katz and Fodor take this a stage further and look at the semantic ability of speakers, “*the ability to interpret sentences*” (25). Their starting point is such ‘previous work’ as dictionary entries, which are part of our everyday linguistic equipment. We shall see in part 8 below the confusions which such an uncritical acceptance can bring about. Ziff’s position is less extreme than that of Chomsky and Katz and Fodor. His linguistics differs somewhat from theirs – although it is plain that he has been influenced and inspired by Chomsky’s work – and he often takes less for granted than them.

Chomsky<sup>6</sup> remarks that “most of our linguistic experience, both as speakers and hearers, is with new sentences; once having mastered a language, the class of sentences with which we can operate fluently and without difficulty or hesitation is so vast that for all practical purposes (and, obviously, for all theoretical purposes), we can regard it as infinite.” The number of sentences with which we can operate fluently and without difficulty or hesitation *is* vast. But Chomsky’s logic is rather specious when he can regard what must be a *number*, finite but very large, of sentences as an ‘infinite set’: the theoretical difference between these two notions is immense.<sup>7</sup> However both Ziff (19), and Katz and Fodor (7, etc.) subscribe to the ‘infinity’ view; this enables them to slur over quite important points and to supply some ingenious but false ‘proofs’.

<sup>5</sup> See the discussion on ‘registers’ in part 4 below.

<sup>6</sup> Noam Chomsky, “The Logical Basis of Linguistic Theory”, in *Preprints of Papers for the Ninth International Congress of Linguists* (1962), p. 509.

<sup>7</sup> To the ordinary person the difference between the ‘concept’ of a very large number, say several millions, and that of ‘infinity’ may not be very great. But in theoretical, scientific and mathematical, work these ‘concepts’ are of extremely different kinds. Again, one must not be misled by popular ideas.

Angus McIntosh<sup>8</sup> introduced the term ‘potential meaning’ to refer to the total *range* of the meaning of, for example, a lexical item. Then in a particular instance of the use of the item its ‘actual meaning’ in that instance will be an instantial segment of the ‘potential meaning’ range.<sup>9</sup> Some two hundred and seventy years earlier John Locke had come to much the same conclusions as McIntosh when he wrote “there being scarce any Name, of any very complex *Idea* (to say nothing of others) which, in common Use, has not a great Latitude, and which, keeping within the Bounds of Propriety, may not be made the Sign of far different *Ideas*”.<sup>10</sup> A word or other item in everyday speech may have a wide range of potential meaning, and it may not always be obvious just what its actual meaning was intended to be in any particular occurrence of it. It may be the Sign of one idea for the speaker and of another for the listener. In scientific discourse this must not be allowed to happen: and so in scientific writing and lecturing we use certain terms in particular senses, which we attempt to explain at some stage in the discussion but which are mainly to be understood from their *use in* that discussion. These are *technical terms* – and they are given a particular meaning solely within the particular discussion.<sup>11</sup>

Thus we have another reason for the insufficiency of taking everyday ideas about things as the basis for some academic investigation. Everyday use of a term may involve contradictory statements about different actual abstractions from the same potential range. ‘Meaning’, in particular, has a tremendous everyday latitude; it has also been used as a technical term in academic discussion in almost every conceivable sort of way. If the term ‘meaning’ is used in a scientific discussion it must be very clearly

<sup>8</sup> See McIntosh, 1961; and also Dixon, 1964.

<sup>9</sup> ‘Meaning’ is here used as a technical term in linguistic discussion and should be qualified by ‘formal’, ‘contextual’, or etc.: see Halliday, 1961, and Dixon, 1964. Any potential meaning can only be relative to some actual meaning; unless otherwise stated the actual meaning in question throughout this article is graphological/ phonological.

<sup>10</sup> John Locke, *An Essay Concerning Human Understanding*, Book III, Chapter IX, Section 8 (Eleventh Edition, London, 1735, Vol. II, p. 79).

<sup>11</sup> Cf. Firth, 1957, although in recognising that one could not ‘define’ a technical term in a dictionary manner, Firth went to the opposite extreme and forbade himself any attempt at explicit explanation of his terms. The meaning of a technical term is mainly to be derived from its use in the particular discussion: but this need not proscribe the ordinary customs of pedagogic exposition (particularly some explanatory note at the first use of a term). This may partly account for the extreme opacity of Firth’s academic style. Locke (*Essay*, Book III, Chapter XI, Section 12) also realised the necessity of having technical terms.

explained within that discussion. All too often an investigator imagines himself to be accounting for some 'absolute', Platonistic kind of meaning, whereas he is mostly concerned just with certain aspects of his *own* use of the term (although this does not always prevent him from quoting uses of the term corresponding to entirely different parts of the range in support of his points).

Ziff is fairly explicit: "I propose to give an account of meaning that will account for my intuitions about the matter" (41), although one has to gradually discover from his discussion what his intuitions appear to be, and what kind of 'meaning' he has in mind. Statements such as "That meaning and reference cannot be identified has been known since the time of Panini, has been a matter of public knowledge since the time of Frege" (115) would be rather more illuminating if 'meaning' were given amplification: it never is explicitly.<sup>12</sup> Throughout Ziff's book one gets the impression of being bounced between the 'this is my *technical term*, and this is what I mean by it' and the 'this is the expression of a fixed, discrete, absolute *concept*' attitudes; and that both are extremely elastic.

Katz and Fodor take 'meaning' and 'synonymity' as generally understood terms, which need no explanation: they appear to think of the meanings of terms, such as these two, as being quite discrete and constant, and common to all speakers of the language.<sup>13</sup> They are trying to account

<sup>12</sup> Cf. Ziff (151): "That words primarily, but not utterances or sentences, are generally said to have meaning is a fact, yet not, as it were, an inevitable fact, about language. Phonemes, morphemes, words, phrases, sentences, utterances, are all relatively arbitrary units singled out and employed in the analysis of language. If we were not the sort of creatures we are, if we could remember it or hold it in mind, we might tend to focus on some unit larger than an utterance, say a speech, or conversation, and then talk of the or a meaning of an utterance with respect to this larger unit"; and also Ziff (120) for 'everyday' ideas 'what is an assertion?'

<sup>13</sup> The present view point regards just one intuition as basic: 'what is natural language?'; the scientific analysis will proceed independently of intuitive ideas concerning patterns *inside* language. We have already mentioned that intuitive ideas concerning 'what is natural language?' are fairly consistent: only thus can we exploit this intuition and construct a science of linguistics. Everyday ideas concerning 'what is meaning?' – demonstrated by the exceptionally wide 'range' of lexical meaning of the term 'meaning' – are not consistent enough for intuitive ideas about meaning to be exploited in the same way. If something is called 'meaning' in a scientific analysis, then the word must be used as a technical term in that discussion. It should be noted that everyday ideas concerning 'what is grammatical?' – insofar as they exist: and they are only held by those people who have been to school and been taught about grammar – are rather more consistent than those concerning meaning and are thus just able to support an academic analysis. But the exploitation of this intuition is far less satisfactory than using that of 'what is natural language?' – it gives less consistency, for one thing, and, as we have already mentioned, serves rather to formalize our ideas about language than directly to describe language.

for people's ideas regarding meaning and synonymy. But their entirely exemplificatory account makes one wonder whether what they say are ideas about synonymy are held by anyone at all excepting Katz and Fodor. Ziff, for example, writes "But since I believe that hardly any words have exact synonyms in English, I have tried to choose my words carefully. And since I believe that it is difficult to construct or to hit upon exactly synonymous constructions in English, I have tried to use words carefully. For example, the question I begin with is 'What does the word 'good' mean?': to ask this question is not the same as asking 'What is the meaning of the word 'good'?'" (viii) He appears to be searching for the 'truth' about synonymy: something which is *present* in language and only demands a prolonged search. Katz and Fodor undoubtedly have the same aim: but that their unique 'truth' is, paradoxically, somewhat different from Ziff's may be apparent when they mention that, for instance, *Two chairs are in the room* has as paraphrase *There are at least two things in the room and both are chairs*, and that *Whatever is frightening to me is frightening to you* has *Anything that does not frighten you will not frighten me* (25).<sup>14</sup>

Ziff is always rather tentative, as when he suggests that "it seems reasonable to suppose that a morphological element of *E* that has meaning in English will not differ in meaning in each and every utterance of *E*" (147), and gives the general impression of looking upon his theoretical work in a fairly subjective way. Katz and Fodor talk of "correct interpretations" (54), "right" and "wrong" theories (Katz review, 53) in quasi-objective, everyday and quite unscientific ways.

<sup>14</sup> Cf. Chomsky ("The Logical Basis of Linguistic Theory", in *Preprints of Papers for the Ninth International Congress of Linguists*, 1962, p. 527), who has a tallboy full of concepts, against which he can check other people's operational methods: "When a criterion (operational or not) is proposed for some notion, we must first inquire, where the criterion is clear, whether the concept it delimits is at all close to the one in which we are interested. It is surprising how frequently this obvious point is overlooked. Thus many linguists have proposed that synonymy be measured somehow in terms of degree of distributional similarity (cf. e.g., H. M. Hoenigswald, *Language Change and Linguistic Reconstruction*, Chicago, 1960; H. Frei, "Désaccords", *Cahiers Ferdinand de Saussure*, 18.35-51, 1961), and have then concluded that such pairs as 'bachelor' and 'unmarried man' are not synonymous, since one, but not the other, can occur in the context – *hood*, etc. But all that this observation shows is that the proposed criterion is entirely wrong, as, indeed, it clearly is." Thus Chomsky apparently refuses to allow "defined" technical terms which do not – as they most often cannot – cover the whole range of the everyday meaning of the term; he insists upon formalizing intuitive ideas, and these are often so 'wide' that they are not properly formalizable at all! (And see part 7 below.)

## 3

A scientific observer can look on language as a form of behaviour, as one facet of a general scheme of human behaviour. Language activity interrelates with almost every other component of the scheme and cannot be given any significant consideration in isolation. One way of describing language is to set up a number of theoretic levels and to make distinct descriptions at each level: each of these, however, is carried out with full reference to the descriptions at the other levels. Complex interrelations hold between the levels; no one level has methodological priority over the others: analysis has to be carried out more-or-less simultaneously at all levels, employing a kind of mutual-iterative technique.

It is outside the scientist's terms of reference to question the efficiency of language as a form of behaviour: he has nothing against which to measure this efficiency. Many statements have been made that language is in some way redundant: this is deduced from some linguistic theory; the implication is just that the *theory* is inadequate since it has not taken full account of some of the functions or varying uses of language. In the same way statements that language is inadequate in some respects – because, for instance, of syntactic ambiguities<sup>15</sup> – are again likely to be derived from theories which, for example, do not contain enough levels to give a full account of language activity. We can easily enough get ambiguity at one level if we ignore all the others: this is not an inadequacy of language, but of the partial nature of the approach. A prime criterion for a linguistic theory to be an adequate description is that it should represent language as neither redundant nor inadequate with respect to the components of the theory – but instead as 'just right'.

Language is used in a particular situation in such a way as to be just adequate for that situation. In Ellis's terms, the 'delicacy of focus' employed is that delicacy which is appropriate to that situation.<sup>16</sup> Ziff never built this type of consideration into his theoretical approach but he gives an illuminating discussion on 'names' (106/7): "By using the phrase 'the blond girl' one can refer to a particular girl but one can achieve a definite reference only in the appropriate situation. One is in a room with the blond girl, a brunette, and another person. One remarks, 'The blond

<sup>15</sup> Exponents of Machine Translation are wont to refer to 'syntactic ambiguities'. The lack of success of MT during the last decade is partly due to a frequent failure to consider any other level but that of grammar, and to a lack of perspective from concentration upon particular types of language activity: 'isolated language', to the exclusion of 'non-isolated' forms. (See part 4; and Dixon, 1964).

<sup>16</sup> Ellis, 1964.



girl has a spinsterish look.’ to the other person nearby and nods in the direction of the two girls who are at the other end of the room. If there were two blond girls present, both at the other end of the room, one would have to employ either a different or a more elaborate descriptive phrase or do more than nod in the appropriate direction. Thus instead of ‘the blond girl’ one might say ‘the tall blond girl’ or ‘the tall blond girl in the corner’ or ‘the tall blond girl in the corner to the left’ and so on, depending always and relying always on the situation.”

But Ziff insists that morphological elements may be “identified on the basis of distributive and contrastive features” (149), that “it will not do to say as is sometimes said that one must answer questions about meaning in doing grammar” and that “only in so far as a syntactic analysis is given is it possible to raise a question about meaning” (45). That grammatical analysis can be performed by mechanical distributionalist, etc., procedures entirely *within* language has been recognised as a fallacy for some ten years. But Ziff takes this as a basis for doing grammar first and assigning meaning later: his ‘meaning’ corresponds to some extent, one supposes, to levels of ‘context’ and ‘situation’ which serve to relate language patterns to patterns in the non-language situation.<sup>17</sup> Here Ziff is subscribing to a predominant American view: as such it is inconsistent with his general discussion; in fact he is often on the verge of realising that ‘grammar’ presupposes ‘meaning’ as much as ‘meaning’ presupposes ‘grammar’, as when he mentions that “this is not to deny that there is some give and take” (45).

Katz and Fodor take up a clearer position. For them (as for Chomsky) grammar is given complete methodological priority over any other component (level) of linguistic theory. A sentence may be *n*-ways grammatically ambiguous; semantic theory tells us whether each of the *n* grammatical derivations is ambiguous, unambiguous or anomalous. If every derivation is semantically anomalous but one, and that one is unambiguous then the sentence is semantically unambiguous (65/68). Whereas a ‘language is as language does’ approach would recognise that every utterance is unambiguous (language is neither inadequate nor redundant) – this is the *starting point* – and try to erect a theory of description on this axiom, Katz and Fodor (and Chomsky) begin at the opposite extreme and *may* end by describing a sentence as unambiguous: but, as we shall see below, the possible components they deliberately exclude from their theory mean that they frequently conclude that a

<sup>17</sup> See Halliday, 1961; Dixon, 1963.

sentence is semantically ambiguous. And this will be their final remark about that sentence.

## 4

Historically speaking, in so far as they have been concerned with language philosophers have tended to focus their attention on two particular kinds of declarative-speech act: referring and making a true statement. Thus two types of semantic relationship have received considerable attention, that between an utterance part and its so-called 'referent' and that between a whole utterance and so-called 'truth conditions', sometimes hypostasized as 'a fact'.

Owing to their unduly narrow focus philosophers have failed to realize that what is fundamental here are conditions, not referents and not truth conditions and not even the satisfaction of conditions but just conditions. 'Hello!' has no referent. It cannot be associated with truth conditions. Neither can 'Why is it so hard to see what's what?'.

The act of referring is of particular interest here in that it seems to offer a way of avoiding consideration of conditions in favor of spatiotemporal entities. Somehow it has seemed simpler to associate words with things rather than with conditions. But restricting one's attention simply to spatiotemporal referents is not a fruitful approach to semantic analysis. Referring is only one among many speech acts. (Ziff, 82/83)

Ziff thus shuns the philosophical, and everyday, correspondences between 'words' and 'things'. He rightly substitutes the more general idea of 'conditions' for 'things'; but he retains the everyday unit 'word' for most of his discussion.

Most generally, various features of the general situation of some language activity will be linguistically relevant: that is, it can be shown by commutation, for example, that various formal (grammatical or lexical) patterns in the language correlate in some way with these non-language situational features. But *direct* correspondences cannot often be set up between formal patterns, which are described by theories at the levels of grammar and lexis, and these situational features, which are considered at the level of situation. And so we have to set up an interlevel – called context – which will provide the theoretical apparatus whereby we can establish form-situation correlations. It is in terms of the categories of a theory of context that we are able to talk about 'contextual meaning' – it is this type of meaning which is closest in applicability to the vaguer 'meanings' which are used by Ziff, Katz and Fodor.<sup>18</sup> In some varieties

<sup>18</sup> This is a tentative statement, since we are never *quite* sure just what Ziff, and Katz and Fodor, expect us to understand by 'meaning' – but their 'meanings' probably correspond in some way to our contextual meaning, and also to our lexical meaning:

of language activity there will be a large number of relevant situational features which are employed in allocation of contextual categories: for example, in an everyday conversation or, still more so, when the captain of a cricket team is using language in setting his field. But during a narration, for instance, there is often a dearth of linguistically relevant situational features available. Here contextual categories are mainly constructed out of formal considerations – with the usual mutual-iteration – and with reference to similarities between patterns then present and those in activities where there *is* a large quantity of situational information directly available. Narratives and the like we can call ‘isolated’ language activity and the setting of the cricket field ‘non-isolated’ activity. Language activity can be ranged along a cline, a scale whose ends approach ‘complete isolation’ and ‘most un-isolated’. It must be noted here that whatever the position of some language material on this ‘isolation cline’ – that is, whatever quantity of situational features are available – the text will always be given *complete* formal and contextual descriptions. Every use of language is as important as every other and so we have a homogeneous theory of description: the complete description of some text is the sum of its formal meaning – its description in terms of the formal theoretic categories, which deals with its internal patternings – and its contextual meaning – its description in terms of the contextual theoretic categories, which deals with the correlations between its internal patternings and the relevant external patterns.<sup>19</sup>

In addition to being able to correlate formal patterns in language with situational features, through a theory of context, we can distinguish between different types of language which each occur in distinct kinds of situation. Such different ‘varieties’ of language we name *registers*<sup>20</sup>: the criterion for distinguishing between registers is *particular* grammatical and lexical patterning, combined with distinctive situation-type correlation. In order to effect an adequate register classification of a language such as English a fair number of distinct but interrelated dimensions of situation-type variation have to be considered. It will be noticed that our ‘isolation cline’ is a type of register classification: it need not be employed as one of the basic classificatory dimensions but can be defined in terms

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see Dixon, 1963. But no mixture of our meanings is likely ever to coincide with Ziff’s or with Katz and Fodor’s meaning in *complete* application.

<sup>19</sup> So that these meanings detail the patterns which a scientific analysis unveils in language; everyday ‘meaning’ deals with everyday ideas concerning what patterns are in language.

<sup>20</sup> Cf. Ellis, 1964; Dixon, 1964; Ellis, 1961 – particularly p. 41, footnote 3 for references to other uses of ‘register’.

of these. Thus there is a large distinction between situational features, which correlate with particular formal categories (in an indirect manner), and situation-types to which correspond different registers or 'varieties' of the language.

Ziff is aware of the need for a consideration of separate registers: "Even the speech of a single speaker varies and that even throughout the course of a single day. I speak one way at home, another while at the university; when I talk with my cat an utterance of the form 'What can I do for you?' has one intonation contour, another when I talk with a student; and so on" (23). But he does not build this register distinction into his theory: in fact, this is his most serious omission and renders much of Ziff's discussion long-winded and ultimately unrevealing. He says that "it is false to say that if 'The cat is on the mat.' is uttered then generally some feline is on some mat. On the contrary, if 'The cat is on the mat.' is uttered then generally a philosophico-grammatical discussion is under way" (59) and so on.<sup>21</sup> For Ziff 'some cat is on some mat' and 'a philosophico-grammatical discussion is under way' are both conditions, pure and simple. Here he conflates features of a situation (very roughly: some cat is on some mat) and the register classification of an utterance (philosophico-grammatical discussion). In a philosophico-grammatical discussion 'The cat is on the mat.' is likely to occur quite often and it will have a different contextual meaning here from the same utterance in any other register. In any other register, though, the utterance will often have associated with it the situational features corresponding to a cat on a mat. (This example is a simple one and direct correspondences can be set up: generally we will need to correlate *through* complex contextual categories.)

Of course one cannot generally directly relate formal and situational patterns – to think that one can is an aspect of the traditional 'words/things' fallacy. Katz appears vaguely aware of this (review, 64/65, etc.) but neither he and Fodor nor Ziff realise that only in such a way will many of the difficulties which appear to them to be insurmountable disappear.<sup>22</sup>

<sup>21</sup> Katz (review, 59) mentions that 'The rain in Spain falls mainly in the plain' "regularly occurs in situations where a lesson in English pronunciation is in progress, or nowadays where a certain show-tune is being sung": showing that these registers often have associated with them this idiosyncratic lexical patterning.

<sup>22</sup> Harris (*Structural Linguistics*, 1960, p. 347) mentions that "The meaning of any domain, whether morpheme or larger, may be defined as the common feature in the social, cultural, and interpersonal situations in which that interval occurs." Commenting upon this (*Linguistic Form*, Istanbul, 1953, p. 87-88). Bazell remarks: "It is evident that there cannot be any such field [of semantics], unless there is some common feature in the situations in which that interval (e.g. morpheme or word) occurs" and

And so for Ziff non-isolated language activity is given prior importance – since only then can an abundance of situational features be available – and he appears mostly to think of such activity when he is considering language.<sup>23</sup>

Situational features (corresponding to some of Ziff's 'conditions') are purely subjective abstractions, with no restrictions – metaphysical or otherwise – on their form. Katz, however, talks of 'physical objects' and 'real things': he appears to assume everyman's metaphysical ideas. Thus "types of utterances that fail to have concomitant conditions are utterances containing terms that do not refer to real things or possible actions, e.g. referentless nouns as in *That is a unicorn* or such verbs as *haunt...*" (review, 58/59); what of a children's book illustration which clearly shows a unicorn, and a child saying to its parent 'That is a unicorn'?

Ziff is not content with recognising situational features, or his other 'conditions': "Generally speaking, a metalinguistic statement of a regularity pertaining to  $u_1$  will have the form 'If  $u_1$  is uttered then generally such-and-such.'; e.g. 'If 'Hello!' is uttered then generally one person is greeting one or more others.'" (46). But he goes on to say that "The statement of a regularity such as 'If 'Hello!' is uttered then generally one person is greeting one or more others.' can be construed as a statement to the effect that a pairing of the utterances (whole or part) 'Hello!' and 'one person is greeting one or more others' is in accordance with a semantic regularity to be found in connection with the corpus *E*" (47). Such pairings have an extremely low probability of *occurring* (but see part 7 below: frequency considerations have no worth for Ziff) and it is

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then goes on to say that "the very thought of research of this kind should suffice to convince the linguist that there is no subject to investigate. Why should there be anything in common to all situations in which a morpheme occurs?" Bazell has firstly committed an error of rhetoric: situational statements can be made about the higher units (such as sentence-type classifications) but not about such small units as morphemes; he argues from the non-applicability of situational statements to morphemes to their general non-applicability. Secondly we can in any case seldom set up direct form/situation correspondences – we have to have a theoretic interlevel (which we call 'context') in order to provide the categorical machinery through which possible correlations can be made.

<sup>23</sup> Malinowski, 1935 (p. 52), shared this lop-sided view of language: "Language is *primarily* an instrument of action and not a means of telling a tale, of entertaining or instructing from a purely intellectual point of view ... if we are correct it is the pragmatic use of speech within the *context of action* which has shaped its structure, determined its vocabulary and led to various problematic characteristics such as multiplicity of meaning, metaphorical uses redundancies and reticences" (my italics). In actual fact it appears that each use of language is as important as every other in shaping its structure, and that each should be given the same consideration in a scientific linguistics.

difficult to see what advantage is gained from such a reformulation. Ziff talks of 'kinds of speech acts' and 'kinds of utterances' in a way which implies that they are to be technical terms within his discussion: he emphasises that "Kinds of speech acts need not be confused with kinds of utterances. An assertion is not a kind of utterance but a kind of speech act; to make an assertion and to give a description is to perform two different speech acts: in performing either act one may employ a declarative utterance ..." (79).

But, over all the rest, Katz, Fodor and Ziff still talk in conceptual terms, and their concepts are normative, in some way, and not merely abstractions from their observation of language. Katz and Fodor's whole analysis is based upon 'real things' and 'fixed concepts' – we shall examine it in more detail in part 8. Whatever Ziff's merits (and he does have many) he occasionally slips into traditional-sounding ways of saying things: "The naïve supposition that an attributive adjective serves to characterise the referent<sup>24</sup> of the noun construction (if it has a referent) is easily shown to be false; e.g. to refer to 'an utter fool', 'a perfect stranger', 'a complete idiot', is not to refer to anything having the characteristic of being 'utter', perfect, or complete" (200). His point is a good one, but his way of putting it reveals considerable naïvety.

## 5

Katz and Fodor accept Chomsky's grammar and general linguistic orientation: these views are well known. Ziff's linguistics is somewhat different.<sup>25</sup> One forms the impression that he has read quite widely amongst American linguistic writings, that he has taught himself some linguistic principles. Inevitably this means that his linguistics is a trifle thin in places. "A corpus of utterances can be analyzed at various levels so as to yield elements of different types. At the crudest level of analysis we find whole utterances. At the opposite extreme, at the level of syntax, we encounter such familiar elements as subjects, predicates, noun phrases" (Ziff, 13); and so when he says that "At another level of analysis, so-called 'morphological analysis', a corpus yields a set of elements called 'morphemes'" (13), one can only assume that this level is intended to lie somewhere in between the two extremes first mentioned. He talks mostly

<sup>24</sup> Ziff (85): "The so-called 'referent' of a so-called 'referring expression' is best thought of as the hypostatization of a set of conditions."

<sup>25</sup> Cf. Ziff (34): "I am concerned with regularities: I am not concerned with rules. Rules have virtually nothing to do with speaking or understanding a natural language."

of words, but when he mentions morphemes he adds as an aside: "That a morphological analysis has a unique result may be something of a fiction" (40, footnote). He indicates intonation by punctuation, as reproduced in all the examples quoted here, and explains this: "The use of italics or punctuation marks is perhaps a crude device for indicating intonation contours since it fails to distinguish between tone and stress or between primary stress, secondary stress, and so forth, but it will do for my purposes. I do not want to exploit these distinctions: I want to remind you of their existence" (11). But this somewhat frail grammatical framework does not invalidate any of his basic semantic ideas although, of course, he would have to develop a fully explicit and consistent description at all the other levels before his semantic ideas could be *applied* to a detailed description of language.

Ziff employs thesaurus-type methods in determining the meaning of morphological elements: "there are two sets of elements of *E* that are relevant in determining whether or not a given morphological element has meaning in English. The first set is a subset of the set of syntactically nondeviant whole utterances of *E* in which it occurs, and thus a subset of the distributive set for the element in *E*", such as 'That is good.', 'What good is that?', 'She is good to me.' for the element 'good'; "the second set is a subset of the set of contrastive elements in virtue of which the morphological identity of the element in question can be established", such as 'That is fine.', 'That is pleasant.', 'That is mine.', 'What use is that?', 'What man is that?', 'She is mean to me.' (147). Thus he has some first essentials of a method of lexical analysis, and his 'meaning' must correspond to lexical meaning<sup>26</sup> to some extent; but these ideas need considerable refinement before they could be fully workable within a comprehensive theory of 'describing language'.

Philosophers tend too often to use and develop ideas about language which have been handed down through centuries of philosophic teaching: and never actually to *look* at language to see if these ideas actually apply, or if they *still* apply. When reading Katz and Fodor one gets the impression that they have merely thought up examples to illustrate theoretical points which themselves have not been derived from language, but from quite abstract speculations; Ziff, on the other hand, has listened to language, for many of his ideas are unlike normal philosophical notions concerning what happens in language but are instead statements of what can actually be observed to happen. But even though he has gotten

<sup>26</sup> Lexical meaning is one component of formal meaning; the other is grammatical meaning; see Dixon, 1963.

inspiration and initial ideas from textual examination, his examples appear to be all of an exemplificatory nature. And so they can sometimes represent idiosyncratic ideas regarding usage, which are unlikely to be upheld by an observation of the habits of other speakers. He mentions that “one says ‘a pious young girl’ but not ‘a young pious girl’” (205),<sup>27</sup> for instance; this is not at all obvious to me, personally. But even so Ziff is to be congratulated for paying some attention to what goes on in language activity, instead of merely generalising upon what he was told went on.

## 6

“To suggest that English may be inconsistent is, as it were, to liken a natural language to a logistic system. There is of course something of an analogy between the two ... (There is of course a disanalogy here in that both the formation and transformation rules of a logistic system generally are syntactic whereas the analogues of formation rules in a natural language are syntactic while the analogues of transformation rules are semantic. But the disanalogy does not suffice to refute the analogy.)” (Ziff, 134/5). And then whilst discussing semantic paradoxes: “All that follows is this: if we were to attempt a definition of ‘false’, we should have to account for the fact that the occurrence of the word in environments ‘(10) is ...’ (where (10) refers to the resultant whole utterance and is thus self-referential), ‘What I am now at the very moment saying is ...’, etc., would constitute a deviant utterance type...”; so that “the difference between a logistic system and my language can be put thus: if in a logistic system I come across a contradiction, I cross out the system. But if in my language I find a contradiction, I cross out the contradiction” (Ziff, 138).

Ziff realises, at least in some degree, that there is a difference in principle between a natural language and a constructed logistic system or formalized language.<sup>28</sup> The fallacy that a natural language can be described by means of an amplified and generalised version of one of the logical languages at present in existence has persisted in various forms during the

<sup>27</sup> See part 7 below; statements of the form “Z is very likely to occur but Y is rather unlikely to occur” would be more acceptable.

<sup>28</sup> For an explanation of, and distinction between, these two terms see Alonzo Church, “The Need for Abstract Entities in Semantic Analysis”, in *Contributions to the Analysis and Synthesis of Knowledge*, vol. LXXX of the *Proceedings of the American Academy of Arts and Sciences*, 1951 (p. 100-114).



last thirty years.<sup>29</sup> In fact the formal patterns of a natural language need, for their adequate description, a considerably more refined set of categories than have been employed in any logical work: we need to recognise a hierarchy of units, to distinguish between a structure of one unit and a system of members of a lower unit, for example; correspondences, but seldom one-one correspondences, have to be set up to interrelate these categories. Again we must take account of the fact that the lexical meaning of an item in most registers of a natural language is a range, from which selection is made in particular instances: but different selections can overlap, be contained one within the other, and so on. And the truth-logic of a natural language is not a two-valued one, is not systemic (*n*-valued) at all, in fact.

Katz and Fodor obviously think of a natural language in a very 'symbolic logical' way. When they say that *Whatever is frightening to me is frightening to you* has as paraphrase *Anything that does not frighten you will not frighten me* (25) this might be acceptable to a logician – and so the statement is valid for the particular registers a logician employs – perhaps as two ordinary language interpretations of 'equivalent' formulae. But to a non-logician such a paraphrase relation is far from transparently obvious. Then they insist that: "in indefinitely many cases, a discourse or a stretch of discourse (i.e., a sequence of *n* sentences from the discourse) can be treated as a single sentence in isolation by regarding the sentence boundaries as sentential connectives. As a matter of fact, this is the natural treatment, since, as a rule, the sentence break in discourse is simply *and*-conjunction" (35). One has only to examine a transcription of spontaneous English conversation to see that this 'indefinite number' is only a small fraction of the actual 'sentence breaks' in discourse. In any case this rewriting of language material, by using 'paraphrases', into a

<sup>29</sup> See Carnap, *Logical Syntax of Language* (London, 1937); and Dixon, 1963, section 3.3. This fallacy is a recent one: until this century logic was, with ethics and aesthetics, looked upon as one of the normative sciences, laying down "rules which ought to be, but need not be followed" (C. S. Peirce, *Collected Papers*, Vol. I, 1931, p. 314). It is a far cry from this traditional viewpoint to a modern opinion (Church, *op. cit.*) "although all the foregoing account has been concerned with the case of a formalized language, I would go on to say that in my opinion there is no difference in principle between this case and that of one of the natural languages". But it is refreshing to find the insightful remarks of John Lotz in the same volume of the *Proceedings of the American Academy of Arts and Sciences* ("Natural and Scientific Languages", p. 87-88): "Natural languages and calculi (constructed scientific languages) isiffer more basically than is generally assumed by logisticians, and the supposed domorphy, e.g., between English and the language of *Principia Mathematica*, does not hold" and "Thus a scientific calculus is always dependent on a natural language; the calculus is always *parasitic*".

form more suitable for analysis than the original form of occurrence is largely evading the issue. A scientific theory is to describe what is observed to occur: the theoretician must not *look for* material which, if *rewritten* according to his intuitive ideas, will be describable by his theory.

A *formal*<sup>30</sup> logic is one in which certain definite rules are given, and in which one can only infer the truth of a certain formula from application of the rules, knowing the (postulated or previously inferred) truth of other formulae; and so on. The quasi-mechanical nature of such *formal rules* is supposed to make precise the reasoning involved, which might otherwise be capable of being misunderstood – for instance, it might be potentially ambiguous – if it were described in a non-formal manner. Thus such rules are often expressed entirely in symbols since these are held to be potentially less vague and ambiguous, and without the ‘variabilities and uncertainties of meaning’ of words. And so it is believed that one can understand formal rules in a mechanical way, without having to employ one’s intuitive knowledge of the ‘meanings’ of the language items involved. Such devices can certainly make discussion more efficient, in a certain sense, although the reasons given for this are often not the relevant ones. The use of ‘formal rules’, and the appropriate symbolisms, are an extreme of the ‘using technical terms in a limited discussion’ procedure which we mentioned in part 2; here we not only give lexical items a particularly restricted ‘actual meaning’, and may use symbols to emphasise this, we may also employ a ‘technical grammar’, a simplified version of the full grammar of a natural language, in order further to streamline, in a certain direction, the very particular type of discussion which is under way. So that formal rules, and logical languages generally, are restrictive abstractions from natural languages. Because they are, in some ways, so much simpler in structure they can be exploited in ways that a natural language cannot. (Thus it can be seen that it is quite reasonable that natural languages are not grammatically and lexically describable as *generalisations* out of logical systems.)

But there is no such thing as an ‘absolutely precise’ restricted language. We can have a language which is more ‘formal’, in certain defined and verifiable ways, than a natural language – but this is always a matter of degree, not of finality. For we can only understand what the rules are, and how to apply them, by using our intuitive knowledge of the language

<sup>30</sup> ‘Formal’ in the collocations ‘formal logic’ and ‘formal rules’ is a different lexical item from our use of ‘form’ to denote the level of grammar and lexis in linguistics: they should not be confused.

involved. If the rules are expressed in terms of symbols, the symbols and their arrangements must be *explained* by means of a natural language. Even if this meta-language is some further symbolic abstract, we shall have to have the meta-meta-language (or something higher, but *something* eventually) as a natural language which we intuitively understand.<sup>31</sup> And so a logical system may be rather more precise, in a certain sense and for certain purposes, than a natural language. But we cannot say that one is precise and the other isn't. Being formal, being precise, is a matter of degree. The full natural language must come in at some stage, otherwise one could not understand the abstractional systems: the degree of 'formal-ness' of a system depends, in part, upon just where it does come in.<sup>32</sup>

But Katz and Fodor, like very many philosophers and logicians, believe that there exists a dichotomy between, on the one hand, informal rules as expressed in a natural language, and formal rules on the other. They do not recognise any cline of 'formal-ness'. So that they assume that their rules "are formal rules. That is to say, their application must be determinable solely in terms of the shapes of strings of symbols and the operations they effect upon their input strings must be mechanical. The necessity for this assumption stems from the need to avoid vacuity. A semantic theory is vacuous if its rules are constructed so as to use in the determination of their applicability the very semantic relations they are intended to reconstruct ..." (91/92). They are confusing several separate points in this discussion; in particular the justificational analogy (92, footnote 38) to a machine which employs rules without having them

<sup>31</sup> This point is often not known to, or ignored by, logicians; cf. H. B. Curry, *A Theory of Formal Deducibility* (Notre Dame, 1957), page 1: "The central concept in these lectures is that of a *formal system*. This is quite a different notion from that of a postulate system, as naively conceived a half century ago. In the older conception a mathematical theory consisted of a set of postulates and their logical consequences. The trouble with that idea is that no one knows exactly what a logical consequence is, and the paradoxes have shown that our intuitive feelings on the subject are not reliable. In the modern conception this vague and subjective notion is replaced by the objective one of derivability according to explicitly stated rules."

<sup>32</sup> Cf. Church, *op. cit.*: "For speaking in principle, and leaving all questions of practicality aside, the logician must declare it a mere historical accident that you and I learned from birth to speak English rather than a language with less irregular, and logically simpler, syntactic rules, similar to those of one of the familiar logistic systems in use today – or that we learned in school the content of conventional English grammars and dictionaries rather than a more precise statement of a system of syntactical rules of a kind which has been described in this present sketch." But it should be noted that the workings of one of Church's formalized languages can be explained in English and understood through this explanation; the reverse is not the case.

explained to it by means of a natural language is quite irrelevant: an analogy would be more in order between a machine and a person who was trained to perform some action merely by repeated reflex training, something like Pavlov's dogs.<sup>33</sup>

## 7

"There would be certain advantages in restricting attention here to a single idiolect. It might help dispel the widespread illusion that any useful and significant inquiry about language must be primarily statistical. That is not true. I speak a language and my language can sensibly be investigated without recourse to statistics. Statistical data derived from an investigation of an idiolect are not likely to be of much linguistic interest ..." (Ziff, 7). A linguistic investigation should not be primarily statistical: but probabilistic and statistical statements do undoubtedly have their place in linguistic description and create lacunae, or produce distortions, if they are omitted. Most scientific statements of any sort have to be initially made in a probabilistic style, although it is sometimes (but certainly not always) possible later to narrow these down and restate them in systemic 'this or that or the third one, and no other' terms. Ziff mentions that "unfortunately I find it impossible to state the principle of composition in a precise and explicit form" (62) – this will be discussed in part 9 below – Katz (review, 64) achieves a preciser formulation, which is less ambiguous in application, by bringing in the simplest quantitative considerations.

Ziff, in common with so many other people, believes that "one cannot show or even try to show that two sentences differ in significance in the way one can show or try to show that two words differ in meaning; e.g. that 'assert' and 'state' differ in meaning is indicated by the fact that 'assert' but not 'state' occurs without oddity in the environment 'He is going to ... himself.'. One cannot in this way show that two sentences, e.g. 'He stated his views.' and 'He asserted himself.' differ in significance" (149/50). Any occurrence in a certain environment, or co-occurrence of two items, is essentially a probabilistic matter. We can restrict this to 'yes or no' cases *more often*, and losing less, in the case of words in sentences, than sentences in higher units; although it is always preferable

<sup>33</sup> Their distinction between fully understanding certain interpretations of, and using a rule (for example) is a valid one. But in order to use a rule one must understand the use of the rule.

to work in terms of probabilities. We are able to make probabilistic statements about the co-occurrences of two sentences, or the occurrence of a sentence in a certain textual environment; and we can make stronger statements of this type about classes of sentences.

Katz and Fodor are equally categorical in their remarks. Instead of statements like 'X occurs, but Z doesn't', which are found throughout both Ziff and Katz and Fodor, one should rather make statements of the form: 'people say X very often, Y less often and I have no recorded instances of Z, although all the patterns in it do occur separately and in every combination but this, and so Z might be very likely to occur just occasionally'; or else statements similar to this but ending 'Z is very unlikely ever to occur'. We are repeatedly told in these and in many other books that 'bachelor' and 'unmarried man' are synonyms. Yet 'bachelor girl' is a quite common collocation: Katz and Fodor would be sure to classify this as anomalous. But the minority collocational instances of any item are as valid as its majority employment. Only by considering probabilities in a discussion of synonymy, and of most other relations, can we get adequate descriptions.

## 8

Let us now look at Katz and Fodor in more detail. They begin with a generalization, "a sufficient condition for determining when an ability of speakers is the proper subject-matter of a theory in linguistics"; this is: "*Whenever there is an ability of speakers which enables them to apprehend the structure of any of an infinite set of sentences without reference to information about settings and without variation from speaker to speaker, then this ability is properly the subject-matter of a theory in linguistics*" (20). Then they ask: "Can we find an ability which satisfies the antecedent of the above generalization, which is beyond the range of grammatical description, and which is semantic in some reasonable sense? If we can, then that ability falls within the domain of a semantic theory" (20/21). One facet of a speaker's semantic ability ("*the ability to interpret sentences*") is that he can detect non-syntactic ambiguities: for instance, *The bill is large* can refer to a beak or to *l'addition*. Another facet "is that of determining the number of readings a sentence has by exploiting semantic relations in the sentence to eliminate potential ambiguities": *The bill is large but need not be paid* is unambiguous. A third facet is detecting semantic anomalies: *I hear the completely inaudible sounds* is anomalous

but of the same syntactic structure as the non-anomalous *I hear the nearly inaudible sounds*. Fourthly, paraphrasing skill: their examples have already been quoted, at the end of part 2 (21/25).

This ability must be in the subject-matter for semantic theory; and this fixes the lower bound on semantic theory. In consideration of the upper bound they ask whether a semantic theory should “account for the manner in which settings determine how an utterance is understood” (26). They declare that this upper bound – a quite usual one for semantic theories – is too high. For interpreting ‘setting’ as linguistic context, they mention (as we have described in part 6) that a sequence of sentences can be written as one sentence, and so *this* upper bound just coincides with their lower bound. A theory of non-linguistic settings would be impossible, they maintain, because in order to describe everything which serves to “determine the way speakers understand a sentence”, “it would be required that the theory represent *all* the knowledge speakers have about the world” (31). But “none of these considerations are intended to rule out the possibility that, by placing relatively strong limitations on the information about the world that a theory can represent in the characterization of a setting, a *limited* theory of selection by socio-physical setting can be constructed. What these considerations do show is that a *complete* theory of this kind is not a possibility” (33/34). In point of fact we can put forward general categories of situational features<sup>34</sup>: detailed statements of the relevant features in each category are made for each piece of text analysed. The entire situational statement is probabilistic, like every other linguistic description: features corresponding to a certain situational category are more important than those of another, and are weighted accordingly. Thus at a certain stage of situational analysis the relevance of the remaining lower-probability features becomes so small that they can perhaps be neglected. At some later time we may wish to improve our theory and take account of further features. This is all in keeping with the general empirical principle that one can *never* be finally exhaustive in investigation of natural phenomena – there is probably no such thing as an ‘absolutely complete’ theory in an empirical science.<sup>35</sup> In synthetic systems – logics and mathematics, and so on – we are, quite trivially, able to be exhaustive; Chomsky’s and Katz and Fodor’s conception of linguistics is of a quasi-logical system, with ‘ungrammatical’, etc., loose ends trimmed off: their approach is a mathematical logical one rather than being scientific (in the sense used

<sup>34</sup> See Ellis, 1964.

<sup>35</sup> Cf. part 1, and footnote 2, above.

here), and they can thus dismiss a theory of non-linguistic settings as too high a bound for their semantics since it can never be 'complete'. In the level of situation, as in other levels, we have a scale of 'delicacy': beginning with the most relevant patterns, we gradually get more delicate as we account for more and more patterns, each progressively less important by itself than the patterns at primary delicacy and often of increasingly subtle constitution. In situation and in at least one of the levels of grammar and lexis (which one depends upon how these are defined) there is no clear-cut final, most delicate analysis: we fix some *particular* lower limit of delicacy for each theory we construct.

Throughout their discussion, Katz and Fodor appear to begin with a theory, or a tentative theory, and then to try to relate it to some language patterns. So that they can consider sentences quite apart from any possible settings: "It is clear that, *in general*, a sentence cannot have readings in a setting which it does not have in isolation" (29); grammar is the central level – and semantics accounts for 'what is left over', it provides conditions for resolving syntactic ambiguities. In an observational approach, a sentence always occurs in *some* setting; a more valid scientific method is to begin with observational data and construct a theory out of the patterns recognised in observation.

Having eliminated the unwanted they "arrive at the following conception of a semantic theory. The basic fact that a semantic theory must explain is that a fluent speaker can determine the meaning of a sentence in terms of the meanings of its constituent morphemes. To explain this fact a semantic theory must contain two components: a dictionary of the morphemes of the language and a system of rules (which we shall call 'projection rules') which operate on full grammatical descriptions of sentences and on dictionary entries to produce semantic interpretations for every sentence of the language" (43).

A dictionary entry consists of a string of grammatical markers, a string of semantic markers, and a distinguisher, for each sense of that entry. (Each entry can be represented as a (semantic) tree, where each separate path down the tree is a sense.) Each grammatical derivation of a sentence (it will have *n* derivations if it is *n*-ways structurally ambiguous) is represented by a typical Chomsky 'grammatical tree' diagram: the lowest entry for each path down the tree is a morpheme, which has a dictionary entry. The projection rule component begins at the bottom of the grammatical tree and works upwards: it considers two items on the tree which are the direct binary derivatives of a higher item, and given the possible semantic paths of these two, a rule decides upon a set of possible

semantic paths for the higher item. The set of semantic paths for the lowest items (morphemes) are those senses of their dictionary entries which have grammatical markers compatible with the grammatical description of the item in the tree. One sentence is worked through in detail: the easy example *The man hits the colorful ball*. The dictionary entry for *ball* has three senses:

- “1. *Ball* → Noun concrete → (Social activity) → (Large)  
→ (Assembly) → [For the purpose of social dancing]
2. *Ball* → Noun concrete → (Physical Object) → [Having  
globular shape]
3. *Ball* → Noun concrete → (Physical Object) → [Solid  
missile for projection by engine of war]” (73)

(We can thus see that homonyms are included under the same dictionary entry<sup>36</sup>: no distinction is made between different ‘senses’ of the same lexical item and different lexical items. An item is regarded as having, not a range of meaning, but a system of discrete meanings. Dictionary entry methods are, in fact, unsuitable for dealing with ‘range of meaning’ statements – collocational and other, thesaurus-like, studies are needed for linguistic analysis of lexical meaning.) Grammatical markers are without brackets, semantic markers are within round brackets, and distinguishers within square brackets. Distinguishers (merely ‘names’ for paths) are not used in the projection rule component – only semantic markers are allowed to reinforce or contradict each other in amalgamations up the tree. Here the marker ‘(Social Activity)’ is retained in two of the four paths of *colorful ball*, in two of the four paths of *the colorful ball* but is in none of the four paths for *hits the colorful ball* since both the paths of *hits* have the constraint that its (grammatical) object must bear the semantic marker ‘(Physical Object)’. The given sentence is shown to be four ways semantically ambiguous: the variables are that either the distinguisher ‘[Having globular shape]’ or ‘[Solid missile for projection by engine of war]’ can correspond to *ball*, and that either ‘[Collides with an impact]’ (as in *The rock hits the ground with a thud*) or ‘[Strikes with a blow or missile]’ (as in *The man hits the ground with a rock*) can correspond to *hits*.

This semantic theory accomplishes little, and its results are surprisingly unrevealing. If put in terms of probabilities – a probability attached to each path and a clause in each projection rule for amalgamation of

<sup>36</sup> Ziff, on the other hand, takes care to distinguish between homonyms.



probabilities – it would be a little more insightful. The idea of using formal rules of some type is an admirable one: but when in order to do so a quite inadequate and out of date set of linguistic ideas have to be used, the result is naturally a little disappointing. Leaving aside the quite vital question of settings, a dictionary entry approach – mirroring everyday ideas about meanings, but quite distorting the linguistic truth that meanings are always ranges (in all but extremely restricted logical or etc. discourse) – ignores the fact that the meaning (in most ‘technical term’ senses) of any unit (such as a sentence) can *not* be stated, in anything like so simple a manner, in terms of the meanings of lower units (such as words, or morphemes).

A dictionary is a device to help people in their everyday use of language: it is not strictly a linguistic device; dictionaries have been established, by tradition, as the givers of the ‘meanings’ of ‘words’: it is highly probable that a thesaurus-type compilation, as well as being able to be based upon consistent linguistic analysis of texts, would be more useful for everyday purposes, if it once ‘caught on’. Attempts to formalize, in some sense, dictionary entry synthesis or analysis procedures are likely to run into some form of the traditional vicious circles of dictionary-orientated philosophers, and are likely to prove either inconclusive or trivial. Katz and Fodor edge away by thinking “that those theorists who have insisted upon a mechanical procedure for deciding whether or not a putative dictionary entry is optimal have set their aims too high and we regard the practical impossibility of such a decision procedure as also in the nature of the case” (62/63), and they “warn the reader against construing the conception of a semantic theory proposed in this paper as attempting to present either a mechanical discovery procedure or a mechanical decision procedure for dictionary entries” (63). Moreover they give no lead *at all* as to how a dictionary entry is to be constructed. Perhaps just from the *Shorter Oxford Dictionary* (without enquiring into how these entries were assembled): but Ziff (70) mentions that “The main entry for the word ‘inspect’ in the *Shorter Oxford English Dictionary* is: ‘1. *trans.* To look carefully into.’ The dictionary is clearly mistaken. Despite the dictionary one has no assurance that an inspector will do his job properly. He may inspect something carelessly, which is not to say “He looked carefully carelessly into it.” ...”. Katz and Fodor hold that “only the theory as a whole can be subjected to empirical test. This means that if a semantic theory gives incorrect interpretations for sentences, one must then decide whether to revise some dictionary entries, some projection rules, or some of each.” (63) But how do we revise some dictionary entries, for

example? How can we even tentatively decide upon a set of new entries, to replace a set of old ones?

## 9

Ziff's book unveils a prospect which is often distinctly more encouraging. Here we find the indication of a trend in the way philosophers are looking at language: in some respects his viewpoint is more refined than those of many linguists.

He is mostly concerned with non-isolated speech activity and with the semantic regularities he can perceive. "What a (nonsyntactic) semantic regularity is can be seen by considering one. Utterances of the type 'Pass the salt!' have been uttered almost always when there was salt present..." (27). "I never say 'Pass the salt!' when I either know or believe that there is no salt present unless I want to give an example, to startle people, or the like..." (28). "There is no obvious word for speaking of deviations from semantic regularities. Neither 'meaningless' nor 'senseless' will do at all..." (33); and he just calls them 'deviations from regularities' (33).

Ziff's *Principle of Conventionality*, "a necessary but not a sufficient condition of a regularity being semantically relevant in the analysis of a corpus is that the speakers of the language associated with the corpus can deviate from the regularity at will" (57), leaves us free to ignore irrelevant "psychosomatic correlations, physiological correlations, and the like" (57). The *Principle of Composition* is, roughly: "The expression  $w_k$  may in fact, on the basis of observed regularities, be paired with  $u_i$ . But suppose that there is an utterance  $u_j$  that is markedly similar in structure to  $u_i$  and such that on the basis of observed regularities  $u_j$  has  $w_j$  paired with it. Further suppose that there is a  $w_i$  such that  $w_i$  is structurally similar to  $w_j$  and such that the structural similarity between  $w_i$  and  $w_j$  can readily be construed as a reflection of the structural similarity between  $u_i$  and  $u_j$ , whereas what structural similarity there is between  $w_k$  and  $w_j$  can hardly be so construed. Then it is simpler to pair  $w_i$  rather than  $w_k$  with  $u_i$ " (60/61). And so 'The cat is on the mat.' is paired with 'some feline is on some mat' rather than with 'a philosophicogrammatical discussion is under way' on the basis of the pairing of 'The dog is on the mat.' with 'some canine is on some mat'. Katz (review, 62) rewrites this principle in a quantitative form: as it stands it could be used the other way round to associate 'Some philosophical discussion is under way in which the word 'dog' occurs' instead of 'Some canine is on some mat' with 'The dog is on the mat.', on the basis of a pairing between 'Some philo-

sophical discussion is under way in which the word 'cat' is used' with 'The cat is on the mat.'

These ideas are extended in the middle part of the book, where informal rules concerning distributive and contrastive sets are given, and quite straightforward definitions of whether a word has meaning or not ('to' in 'I want to go through Istanbul.' has no meaning since nothing else can be substituted for it in this sentence), whether two words are synonyms, and of the meaning of a word in terms of conditions, are discussed. (Part V, 146-199).

The encouraging aspect of Ziff's work is not his results – which are restrictive in application anyway<sup>37</sup> – but his general way of looking at language. He mentioned that his researches on the topic began when he was working on a manuscript in aesthetics and wanted to know what 'good painting' means in English. "And so I worked back and back to the beginning of this essay" (vii). This is self-evident. The final part (200/247) is concerned with the word 'good', and makes less than a full use of the scanty results of the earlier part of the book. He finishes "I conclude that apart from certain minor, derivative, or deviant cases, 'good' in English means answering to certain interests" (247). He cites 157 'utterances' to uphold this conclusion, and three to illustrate the deviances:

"(158) It is a good two miles off.

(159) He played a good hour on the cello.

(160) He's looking pretty good in there today." (247)

And so "there are variations on the theme, but this is what 'good' means: answering to certain interests" (247).

Ziff has undoubtedly given us a good book. And not even "Occam's eraser" (Ziff, 44 and 203) can prevent us from saying that so have Katz and Fodor. But there could be better, in a certain sense.

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<sup>37</sup> As there must be when, without realising the necessity of an interlevel, he attempts to set up *direct* form/situation correspondences.

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NOTE: After this article had been set up, an abridged and mildly revised version of Katz and Fodor's essay was published in *Language* 39.170-211 (1963) under the altered title: "The Structure of a Semantic Theory".