Volume 3 in the Collected Works of M. A. K. Halliday

On **Language** and **Linguistics**

M. A. K. Halliday

Edited by Jonathan J. Webster

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PREFACE

This volume has three parts: the place of linguistics as a discipline; linguistics and language; and language as social semiotic. From the papers in this volume we find a compelling presentation of Professor M. A. K. Halliday's perspective on linguistics as the scientific study of natural language. What struck me in reading these papers was his integrity as a scientist engaged in the study of this most human of all phenomena, namely, language; his humility in the face of its potential and power; and his humanistic vision of a socially accountable linguistics, which is wholly compatible with his appreciation of the role of language in our lives as social beings.

Unlike some who in the name of science subtract out the very humanness from natural language, Professor Halliday instead provides a sound systemic basis for interpreting language as an essential part of the human experience. He sees in every act of meaning the potential for discovering the true nature of language, even and especially in the speech of children – for it is out of the mouths of babes, so to speak, that language develops and humanity evolves. Every act of meaning is an opportunity for change in language and society.

The papers in this volume also reflect Professor Halliday's sense of social responsibility for himself personally, as well as for a discipline engaged in the study of language as social semiotic. What comes across in his writings is a man with a great social conscience and strong convictions. While he makes no exaggerated claims about being able to radically transform language and society, he nevertheless sees the contribution linguists can make through achieving a better understanding of the power and potential of language for doing both good and bad.

Understanding language for all that it is rather than for how little we can make it out to be comes down to asking the right questions and having the necessary framework in place to search for answers.

Professor Halliday asks the crucial questions about language and develops the theoretical framework within which the search for answers may proceed. A highlight of this volume is a new piece from Professor Halliday, entitled "The architecture of language", in which he focuses on the assumptions or working hypotheses that enabled him to explore – as he has in the chapters presented in this volume – important questions about how language works. Describing the underlying theme of this volume, Professor Halliday writes that it is "the exploration – and perhaps celebration! – of the awe-inspiring power of language".

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INTRODUCTION: ON THE "ARCHITECTURE" OF HUMAN LANGUAGE

The chapters which follow will inevitably contain various assumptions about language. In some cases it will be clear how these assumptions were arrived at; this is the advantage of being able to present in a single volume papers that were written at different moments in my career, and to arrange them, by and large, in the order in which they were written. But not all the basic concepts will be made explicit in this way: partly because I never fully foregrounded them – and partly because, even when I wanted to do so, I used to think that an academic article should be like a finished garment, with all the tacking removed before it was put on display. That was a big mistake! In any case, simply by being presented in the context of a published text the organizing concepts are bound to appear as ready-made, as if they had been in place from the start and were at the controls directing my engagements with language. But they weren't; rather, they emerged as the by-product of those engagements as I struggled with particular problems – problems that arose in my own work, in literary analysis or language teaching or translation, human and mechanical; but also, increasingly, problems that were faced by other people in other disciplines and professions. The "assumptions" were more like working hypotheses that enabled me to formulate, and to begin to explore, a broad variety of questions concerning language.

But since these chapters were all written on different occasions, in response to different demands, they do not show any very consistent line of pursuit. So it seemed sensible to begin with a few observations outlining my sense of (as I used to put it) "how language works". Not because the ideas contained are original, still less revolutionary (or "challenging", in today's academic parlance); but because anyone coming to read these chapters is entitled to ask what sorts of things about language are being taken for granted – and even more, perhaps,

what things are **not** being taken for granted. Thus the presentation here is a compromise: I have not tried to rethink how I might have formulated the various points at other times during the four decades over which these chapters were first written, but nor have I set them out systematically in the way that I would do (and in fact have done elsewhere) if presenting them in a different context today.

1 Systems of meaning

A language is a system of meaning – a ***semiotic*** system. Here, as in all my writing, "semiotic" means 'having to do with meaning (***semiosis***)'; so a system of meaning is one by which meaning is created and meanings are exchanged. Human beings use numerous semiotic systems, some simple and others very complex, some rather clearly defined and others notably fuzzy. A language is almost certainly the most complicated semiotic system we have; it is also a very fuzzy one, both in the sense that its own limits are unclear and in the sense that its internal organization is full of indeterminacy.

What other kinds of system are there? I shall assume there are three: physical, biological and social. One way to think of these is as forming an ascending order of complexity. A physical system is just that: a physical system. A biological system, on the other hand, is not just that; it is a physical system (or an assembly of physical systems) having an additional feature, let us say "life". A social system, in turn, is an assembly of biological systems (life forms) having a further additional feature – which we might call "value": it is what defines membership; so, an assembly of life forms with a membership hierarchy. So a social system is a system of a third order of complexity, because it is social and biological and physical. We could then think of a semiotic system as being of a fourth order of complexity, being semiotic and social and biological and physical: meaning is socially constructed, biologically activated and exchanged through physical channels.

But this picture has to be reconciled with another: that of the two orders of phenomena which make up the world which we inhabit. Here "semiotic" contrasts with "material": phenomena of matter, and phenomena of meaning. George Williams puts it like this:

> Evolutionary biologists ... work with two more or less incommensurable domains: that of information and that of matter ... These two domains will never be brought together in any kind of the sense usually implied by the term "reductionism". You can speak of galaxies and

> particles of dust in the same terms, because they both have mass and charge and length and width. You can't do that with information and matter. Information doesn't have mass or charge or length in millimetres. Likewise, matter doesn't have bytes. You can't measure so much gold in so many bytes. It doesn't have redundancy, or fidelity, or any of the other descriptors we apply to information. This dearth of shared descriptors makes matter and information two separate domains of existence, which have to be discussed separately, in their own terms.
>
> (Williams 1995: 43)

But "information" is, I think, a special kind of meaning – the kind that can be measured (in bytes, as Williams says). Most higher-order meaning, it seems to me, cannot be measured, or at least cannot be quantified; it can sometimes be graded in terms of value. So I will prefer the opposition of "matter" and "meaning", the realm of the material and the realm of the semiotic.

The four types of system then appear as different mixes of the semiotic and the material, ranging from physical systems, which are organizations of material phenomena, to semiotic systems, which are organizations of meaning. (I am using "semiotic" in both these taxonomic contexts, but not, I think, with any danger of ambiguity.) Biological systems are largely material – except that they are organized by genes, and at a certain point in evolution by neurons, which are semiotic phenomena; and with social systems the meaning component comes to predominate. But even semiotic systems are grounded in material processes; and on the other hand in post-Newtonian physics quantum systems are interpreted as systems of meaning. Meaning needs matter to realize it; at the same time, matter needs meaning to organize it.

Human history is a continuing interplay of the material and the semiotic, as modes of action – ways of doing and of being. The balance between the two is constantly shifting (presumably the "information society" is one in which the semiotic mode of exchange predominates over the material). This is the context in which language needs to be understood.

Of all human semiotic systems, language is the greatest source of power. Its potential is indefinitely large. We might characterize it as matching in scope all our material systems – always able to keep up with the changes in the material conditions of our existence. But putting it like that overprivileges the material: it spells a technology-driven view of the human condition. Language is not a passive reflex

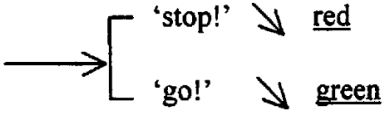
of material reality; it is an active partner in the constitution of reality, and all human processes however they are manifested, whether in our consciousness, our material frames, or in the physical world around us, are the outcome of forces which are both material and semiotic at the same time. Semiotic energy is a necessary concomitant, or complement, of material energy in bringing about changes in the world.

Whether or not language matches the scope of all other human ***semiotic*** systems must be left open to question. Some people claim that it does; they would say that anything that can be meant in any way at all can also be meant in language. In this view, the scope of ***semantics*** (the meaning potential of language) is equivalent to the whole of human semiosis. I am not so sure. Some semiotic systems may be incommensurable with language; witness the sometimes far-fetched attempts to represent the meaning of a work of art in language (but, again, cf. O'Toole 1994). But while the question is important, and deserves to be tackled much more subtly and fundamentally than this rather simplistic formulation suggests, it is not necessary for me to try and resolve it here. All that needs to be said in the present context is that other human semiotics are dependent on the premise that their users **also** have language. Language is a prerequisite; but there is no need to insist that language can mean it all.

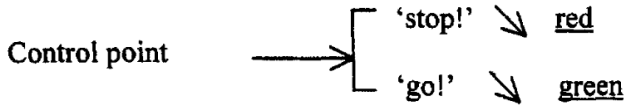
The crucial question is: how does language achieve what it does? What must language be like such that we are able to do with it all the things that we do?

2 Types of complexity in language

The simplest account of a semiotic system is as a set of ***signs***, a "sign" being defined as a content/expression pair, like "red means 'stop!'" A set of such signs is turned into a system by means of closure:



When we represent it like that we can see that it is not complete: we do not know how we get into the system. There must be a condition of entry: let us say "control point":



This states the domain of the system. At control point, the system is entered: one or the other option must be chosen. Other than at control point, the system cannot be entered. Note that 'control point' is itself a semiotic feature, though no doubt realized materially, like 'stop!' and 'go!'

Some semiotic systems are minimal, like this one (as presented here). A language, obviously, is not; it is vastly more complicated. The question is: how? In what ways is a language more complex than a minimal system of signs? We need to spell out the kinds of additional complexity which could transform a simple sign system into a language. The system is "thickened" along a number of different dimensions. If we posed the question in these terms, with the thought that language could be built up by expansion from a simple system of signs, we might recognize four dimensions along which such expansion would be taking place:

1. Signs may be combined, to form larger signs [syntagmatic complexity].
2. Signs may be uncoupled, to create new pairings [realizational complexity].
3. Signs may be layered, one cycling into another [stratificational complexity].
4. Signs may be networked, in relations of dependence [paradigmatic complexity].

We shall not remain within this schema – it is a builder's perspective, rather than an architect's; but it will serve to provide a way in.

2.1 Signs may be combined

We do not usually make just one meaning and stop there, like a traffic light. Meanings follow quickly one after another, each setting up a new context for the next. In this way, larger meanings are built up out of combinations of smaller ones: minimal signs – words, or even parts of words, like *I/you* realizing the contrasting roles of 'speaker' and 'addressee' in a dialogue – combine to make up larger signs, realized as a clause, or a paragraph, or an entire text like a public speech, a novel or a

– a task which seemed to me remarkably ill-defined. Then the same question arose for me some years later, when I started working in computational linguistics (which at that time, in the mid-1950s, was conceptualized solely as machine translation). It seemed to me that the computer had to become a meaning machine, and so needed to model a language in the form of a meaning potential; yet we still had no informed idea of the size of the job.

The nearest anyone came to spelling this out was by counting the number of words listed in a dictionary. But meaning was not made of words; it was construed in grammar as much as in vocabulary, and even if we could assess the quantity of words the learners knew it would give little indication of what they could do in the language. By the same token, the idea that a machine translation program consisted largely of a bi- or multi-lingual dictionary was not going to take us very far.

Typically in linguistics the paradigmatic dimension has been reduced to the syntagmatic: that is to say, sets of items (usually words) have been assigned to classes on the grounds that they occur at the same place in the syntagm – represented as a linear string or, more abstractly, as a structural configuration. This is, of course, an essential component in the overall organization of the system. But meaning is choice: selecting among options that arise in the environment of other options; and the power of a language resides in its organization as a huge network of interrelated choices. These can be represented in the form of ***system networks*** (from which "systemic theory" gets its name). In a system network, what is being modelled is the ***meaning potential*** of the overall system of a language, irrespective of how or where in the syntagm the meanings happen to be located.

Represented graphically, the system network has a horizontal and a vertical dimension. For example:

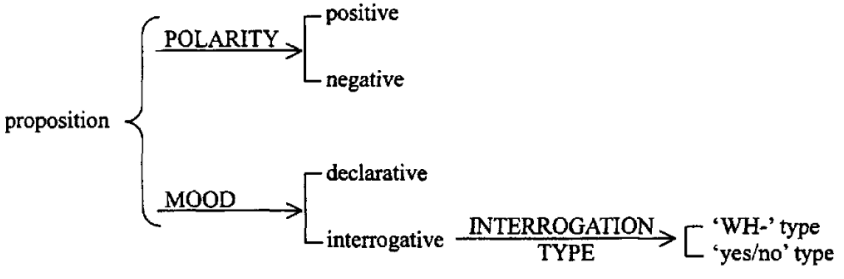


Figure 1

The vertical dimension represents combinatorial possibility: if you choose "proposition", you select simultaneously for POLARITY and for MOOD. There is no ordering on this vertical axis; systems related along this dimension are freely associated and it does not matter in which order the systems themselves, or their terms (features) are set out. The horizontal dimension, on the other hand, is ordered in ***delicacy***, whereby entry into one choice depends on another, or on more than one other. Interpreted procedurally (as in a text generation program), the output feature of one system becomes the input feature to another: 'if you select "interrogative", then choose either "'WH-' type" or "'yes/no' type".' A ***selection expression*** is the set of all the features chosen in one pass through the network; this is the ***systemic description*** of the type – clause type, group type etc. – in question.

The most general options, at this level (the stratum of ***lexicogrammar***), are those that we recognize readily as grammatical systems: small, closed sets of contrasting features which are implicated in very large numbers of instances, like POLARITY (positive/negative), MOOD (indicative/imperative), TRANSITIVITY (types of process: material/semiotic/relational), TENSE (time relative to some reference point: past/present/future) and so on. Systems of this kind, exemplified here from English, are central to the organization of meaning in every language.

By contrast, we think of lexical items as occurring in ill-defined, open sets with highly specific discursive domains; and so, in fact, they do. But they are not different in kind. They simply occupy the more delicate regions of one continuous lexicogrammatical space; and they can be networked in the same way as grammatical systems. But the systemic organization of the vocabulary is in terms not of lexical **items** (words) but of lexical **features** (see for example Hasan's (1985) study of the field of lending and borrowing in English). In other words, those regions of the meaning potential that are crafted lexically are organized in networks of more or less domain-specific features; certain of the combinatorial possibilities are taken up – that is, are represented by words, or ***lexicalized*** – while others are not. We become aware of such disjunctions when we find ourselves asking 'why isn't there a word for . . .?' (for instance, why isn't there a word for 'wheeled vehicle' in English?).

The power of language comes from its paradigmatic complexity. This is its "meaning potential". So to explore the question 'how big is a language?', we model it paradigmatically: not as an inventory of structures but as a network of systems (this follows Firth's theoretical distinction between system and structure). A ***system network*** is a means of theorizing

the meaning potential of a semiotic system and displaying where any part of it is located within the total semiotic space. It is designed to offer an overview – a comprehensive picture covering a language as a whole.

Comprehensive in coverage; but not exhaustive in depth of detail (delicacy). There is in fact no objective criterion for how far in delicacy the description should be pursued, because that would require a determinate answer to be given every time the question is asked 'Are these two instances the same (i.e. tokens of a single type) or not?' In practice, of course, we know that there are different occurrences of 'the same thing' – of a word, a phrase and so on, and we know when they arise; the best evidence for this is the evolution of writing systems, which require such decisions to be made: if two instances are written the same way, then they are (being said to be) tokens of the same type. But this also shows up the anomalies: for example, the English writing system does not mark intonation (despite the fact that it is highly grammaticalized), so clause types which are widely different in meaning when combined with different tones are treated as if they were identical. However, our networks are still some way off from reaching the degree of delicacy where such indeterminacy becomes problematic. A language will always be bigger than we are able to make it appear.

So how big **is** a language? Consider the example of a single English verb, say *take*. (We will leave aside the question whether *take* in *take medicine, take time, take a shower* etc. are or are not 'the same word'!) This may be either finite or non-finite; let's just consider the finite forms to start with. If the verb is finite, it selects either temporality ("primary tense") or modality; but there are three primary tenses, past (*took*), present (*takes*) or future (*will take*) and a large number of possible modalities. To simplify the illustration we will recognize just 24 of these, organized in four systems: value: low/median/high (e.g. *may will must*); orientation: away from/to speaker (e.g. *may can*); direction: neutral/oblique (e.g. *may might*); type: probability/obligation (e.g. *that may take time/you may go*). This gives us 27 possible forms. But each of these may be either positive or negative (e.g. *took/didn't take*); and each of these polarities may be either unmarked (e.g. *took, didn't take*) or marked (e.g. *did take, did not take*); $4 \times 27 = 108$. Each of these may be active or passive in voice, and there are two kinds of passive, neutral/mutative (e.g. *took, was taken, got taken*); $3 \times 108 = 324$. Then, each of these may select any of twelve secondary tenses, built up serially by shifting the point in time taken as reference (e.g. *took, had taken, had been going to take, had been going to be taking*); $12 \times 324 = 3{,}888$.

Picking up now on the non-finite options: there are two aspects, imperfective (*taking*) or perfective (*to take*); each may be positive or negative, active or either type of passive, and with any of the 12 secondary tenses: $2 \times 2 \times 3 \times 12 = 144$. Adding these to the 3,888 finite variants we arrive at 4,032. But this is without taking account of any of the prosodic options, the presence or absence of contrastive focus, and, if the option 'focal' is selected, the different locations, degrees and kinds of contrast that may be chosen. These options depend on other selections (for example, the number of possible locations of contrastive focus depends on the selections of tense and voice); at a conservative estimate, they increase the potential by an order of magnitude, yielding about 40,000 possibilities in all.

There are all kinds of further wrinkles, such as the choice between two variants of the secondary future (*is going to take/is about to take*), that between formal and informal finite forms, and different informal variants (e.g. *he is not taking/he isn't taking/he's not taking*), or that between different locations of the non-finite negative (e.g. *not to have taken/to have not taken*). But this account will suffice to illustrate the point – to suggest that the meaning potential of a language is extremely large. These are all variations on one lexical verb. If there are 10,000 transitive verbs in the English language (intransitives have no voice system, so their paradigm is reduced by about two-thirds), this would give 4×10^8 possibilities in choosing a particular variant of a particular verb.

To make this a little more real, let us fabricate an example and then toy with it. Here is a possible clause with the verb *take*:

> You might have been getting taken for a **ride**

The verbal group *might have been getting taken* is finite; the voice is passive, mutative; the contrast is non-focal; the modality is low value, oblique direction, orientation away from speaker, probability; and the secondary tense is present in past. Any one of these features could be varied by itself, leaving all the others constant:

> you might be going to get taken [tense]
> they might have been taking you [voice]
> you might not/needn't have been getting taken [polarity]
> you **might** have been getting taken [contrast]
> you must have been getting taken [modality]

... and so on. These are all real-life alternatives; they are not picked out of the grammar book – in fact it is hard to find a grammar book which

takes note of more than a small subset, because grammarians have traditionally assumed that their paradigms must be listable. They appear in the rich and ever-creative grammar of daily life.

If we extrapolate from this one illustration, we can expect the system network of clause types in a language to run into the hundreds of millions. Such a figure might seem beyond the capacity of the human brain – or might have seemed so, until recent research came to demonstrate its extraordinary power. But this is where the concept of the system network is important (cf. the discussion in Butt 2000). There is no suggestion that the speaker selecting one out of 40,000 variants of a verb is running through and rejecting the other 39,999 (any more than in choosing a word our brains are flipping through a dictionary). The network diagram shows that in arriving at any one of these selections the speaker has traversed at the most about two dozen choice points. As Wimsatt (1986) has shown, the amount of neuro-semiotic energy that is involved in such a task is not at all forbidding; and it becomes less with each exact or approximate repetition.

I will have more to say about systemic representation of language in the final section of this chapter. First, though, I need to discuss the other aspects of the organization of language – other vectors contributing to the "thickening" process whereby language evolved to its present complex state.

4 Stratification: the layering of meaning

As I remarked earlier (Section 2), an infant's protolanguage – the "child tongue" that children typically construe for themselves towards the end of their first year of life – consists of an inventory of simple signs. We can see how these are beginning to be "networked" along functional lines if we look at the meaning potential of Nigel or Hal or Anna at around 12 months old (Halliday 1975a; Painter 1984; Torr 1997).

All these children exchange meanings all the time with their immediate meaning groups. But whereas their parents and elder siblings talk to them in adult language – it may be modified in the form of "baby talk", but that still has the organization of language – their own contribution is qualitatively different. Each element of their proto-language – each sign – consists of a meaning paired with an expression (which may be sound or gesture), with no further organization – no ***wording*** – in between. It resembles the signs that domestic pets use in communicating with their human families (I hope it will be clear that this is not to be read as derogatory!).

meet up with the lexicogrammar, and speech sound as articulatory and auditory processes taking place in the human body (***phonetics***).

There is thus, across the stratal dimension as a whole, a balance between the natural and the conventional as the essential form of the relationship at each interface. Within the (original) "content" facet, the relationship between the semantics and the lexicogrammar is **typically** natural: in general, what is construed systemically in the grammar (think of primary systems like polarity, number, person, tense/aspect, mood and so on) will resonate with some feature of our experience of the ecosocial environment. Likewise in the "expression": phonological systems usually "make sense" in terms of the way sounds are produced and heard (b : p : : d : t : : g : k : : . . .). There are arbitrary elements, on both sides – as there are bound to be, because there are too many variables to allow everything to "fit", and anyway languages change in all sorts of ways over time; but the predominance of the natural will always be preserved; otherwise the system as a whole couldn't function.

By contrast, the frontier between the grammar and the phonology – the two facets of the original sign – is **typically** crossed in an arbitrary fashion: things which sound alike don't mean alike, and vice versa – relatedness in sound does not match relatedness in meaning. There is no way in which *bill pill dill till gill kill* . . . make up a semantically reasonable set. Again there is a minor motif the other way (various forms of sound symbolism); but the principle of conventionality is preserved. And again, it has to be, for the overall system to work.

Stratification opened up the potential for another vector in the "content" region, that of metafunction.

5 Metafunction: the grammar at work

When children learn their first language, they are doing two things at once: learning language, and learning **through** language. As they learn their mother tongue, they are at the same time using it as a tool for learning everything else. In this way language comes to define the nature of learning.

Most obviously, perhaps, when we watch small children interacting with the objects around them we can see that they are using language to construe a theoretical model of their experience. This is language in its ***experiential*** function; the patterns of meaning are installed in the brain and continue to expand on a vast scale as each child, in cahoots with all those around, builds up, renovates and keeps in good repair the

semiotic "reality" that provides the framework of day-to-day existence and is manifested in every moment of discourse, spoken or listened to. We should stress, I think, that the grammar is not merely **annotating** experience; it is ***construing*** experience – theorizing it, in the form that we call "understanding". By the time the human child reaches adolescence, the grammar has not only put in place and managed a huge array of categories and relations, from the most specific to the most general, but it has also created analogies, whereby everything is both like and unlike everything else, from the most concrete to the most abstract realms of being; and whatever it has first construed in one way it has then gone on to deconstrue, and then reconstrue metaphorically in a different semiotic guise. All this takes up an enormous amount of semantic space.

But from the start, in the evolution of language out of protolanguage, this "construing" function has been combined with another mode of meaning, that of ***enacting***: acting out the interpersonal encounters that are essential to our survival. These range all the way from the rapidly changing microencounters of daily life – most centrally, **semiotic** encounters, where we set up and maintain complex patterns of dialogue – to the more permanent institutionalized relationships that collectively constitute the social bond. This is language in its ***interpersonal*** function, which includes those meanings that are more onesidedly personal: expressions of attitude and appraisal, pleasure and displeasure, and other emotional states. Note that, while language can of course **talk about** these personal and interactional states and processes, its essential function in this area is to act them out.

This functional complementarity is built in to the basic architecture of human language. It appears in the view "from above", as distinct modes of meaning – construing experience, and enacting interpersonal relationships. It appears in the view "from below", since these two modes of meaning are typically expressed through different kinds of structure: experiential meanings as organic configurations of parts (like the Actor + Process + Goal structure of a clause); interpersonal meanings as prosodic patterns spread over variable domains (like the distinction between falling and rising intonation). Most clearly, however, it appears in the view "from round about" – that is, in the internal organization of the lexicogrammar itself. When the grammar is represented paradigmatically, as networks of interlocking systems, the networks show up like different regions of space: instead of being evenly spread across the whole, the networks form clusters, such that

within one cluster there are lots of interconnections but there is rather little association between one cluster and another.

This effect was apparent when the "Nigel grammar" (the systemic grammar of the English clause used in the Penman text generation project) was first represented in graphic form. When it had reached a little under one thousand systems, it was printed out in network format in about thirty large "tiles", which when assembled covered one entire wall of the office. The most obvious feature was that the systems bunched into a small number of large dense patches. One such patch was made up of experiential systems; another was made up of interpersonal systems. What this meant was that the meaning potential through which we construe our experience of the world (the world around us, and also the world inside ourselves) is very highly organized; and likewise, the meaning potential through which we enact our personal and social existence is very highly organized; but between the two there is comparatively little constraint. By and large, you can put any interactional "spin" on any representational content. It is this freedom, in fact, which makes both kinds of meaning possible – but only via the intercession of a third.

There was in fact a third systemic cluster: those systems concerned with organizing the clause as a message. This is an aspect of what subsequently came to be called "information flow"; but that term suggests that all meaning can be reduced to "information", so I prefer the more inclusive term "discourse flow". These are the systems which create coherent text – text that coheres within itself and with the context of situation; some of them, the thematic systems, are realized in English by the syntagmatic ordering of elements in the clause. Others are realized by a variety of non-structural devices described by Hasan and myself (1976) under the general heading of "cohesion". I labelled this third component of meaning simply the ***textual***.

It turned out that one needed to recognize a fourth functional component, the ***logical***; this embodies those systems which set up logical-semantic relationships between one clausal unit and another. Grammatically, they create ***clause complexes***; sequences of clauses bonded together tactically (by parataxis and/or hypotaxis) into a single complex unit, the origin of what in written language became the sentence. These systems extend the experiential power of the grammar by theorizing the connection between one quantum of experience and another (note that their "logic" is grammatical logic, not formal logic, though it is the source from which formal logic is derived). Seen "from

below", they are very different from experiential systems, because their realization is iterative rather than configurational: they form sequences of (most typically) clauses into a dynamic progression; but seen "from above" they are closest in meaning to the experiential, and there is a lot of give-and-take between the two. It was important, therefore, to be able to bring together the logical and the experiential under a single heading; this was what I referred to as the ***ideational*** function.

The overall meaning potential of a language, therefore, is organized by the grammar on functional lines. Not in the sense that particular instances of language use have different functions (no doubt they have, but that is a separate point), but in the sense that language evolved in these functional contexts as one aspect of the evolution of the human species; and this has determined the way the grammar is organized – it has yielded one dimension in the overall architecture of language. Since "function" here is being used in a more abstract, theoretical reading, I have found it helpful to give the term the seal of technicality, calling it by the more weighty (if etymologically suspect) term ***metafunction***. This principle – the metafunctional principle – has shaped the organization of meaning in language; and (with trivial exceptions) every act of meaning embodies all three metafunctional components.

In Part 3 of Volume 1, the chapter on "Language structure and language function" described how structures deriving from experiential, interpersonal and textual metafunctions are mapped on to each other in the clause of modern English. Another chapter made the general suggestion that the metafunctions are also distinct in the types of structure by which they are typically construed. Thus while the metafunctional principle is a semogenic one, concerned with the making of meaning, it has repercussions "below", in the form by which meaning is constructed in the grammar. It also has repercussions "above", resonating as it does with the semiotic parameters of the context in which the discourse is located – the features characterized as ***field***, ***tenor*** and ***mode***; this is referred to at a number of points in the present chapters, and will be treated more systematically in a later volume.

6 Syntagmatic composition: parts into wholes

There is one further dimension in the organization of language to be taken account of here, and that is that of syntagmatic composition: constructing larger units out of smaller ones. This is the simplest and

most accessible form of organization for any system whether material or semiotic. The principle guiding this form of organization in language is again a functional one, that of ***rank***. Units of different sizes – different ranks – have different functions within the system of a language as a whole.

The principle of rank is fundamental to the two "inner" strata, that of lexicogrammar and that of phonology. In grammar, it seems to be true of all languages that there is one rank which carries the main burden of integrating the various kinds of meaning – that is, selections in the various metafunctions – into a single frame. This is what we call the ***clause***. The clause, in turn, consists of a number of elements of lower rank that present structural configurations of their own. In evolutionary terms, we can think of these smaller elements as ***words***: the origin of constituency in grammar was a hierarchy of just two ranks, clause and word, with a clause consisting of one or more than one word. Again this can be observed in the language of infants as they move into the mother tongue: for example, from my observations, *man clean car* 'a man was cleaning his car'. As languages evolved this basic pattern was elaborated in a variety of different ways. English displays a variant which is fairly typical; we can model its evolution in outline, in a theoretical reconstruction, as follows.

1. Words expand to form ***groups***: e.g. nominal group *a man, that tall middle-aged man*; verbal group *was cleaning, must have been going to clean.*
2. Clauses combine to form clause complexes, e.g. *he used a hosepipe and cleaned/to clean his car.*
3. Clauses contract to form prepositional ***phrases***, e.g. [*he cleaned his car*] *with a hosepipe.*
4. Clauses and phrases get embedded inside (nominal) groups, e.g. *the middle-aged man who had a hosepipe/with the hosepipe.*
5. Words get compounded out of smaller units (***morphemes***), e.g. *cleaning, hosepipe.*
6. Units other than clauses combine to form their own complexes, e.g. nominal group complex *the middle-aged man and his son*, verbal group complex *was preparing to start cleaning.*
7. Groups and phrases "meet in the middle", in such a way that each can be embedded inside the other, e.g. *the car outside the gate of the house with the green roof* . . . .

We thus arrive at a typical "rank scale" for the grammar of a language, something like the following:

construed as verbs; in *a carwash*, however, a process is realized instead in the form of a noun. But nouns congruently construe entities, not processes; so something that started off as a 'doing', namely *wash*, is being reconstrued as if it was a 'thing'.

In calling this "metaphor" I am not indulging in any fancy neologism. I am simply extending the scope of the term from the lexis into the grammar, so that what is being "shifted" is not a specific word – a lexical item – but a word **class**; and I am looking at it from the perspective opposite to that which is traditionally adopted in the discussion of metaphor: instead of saying "this wording has been shifted to express a different meaning" (i.e. same expression, different content), I am saying "this meaning has been expressed by a different wording" (same content, different expression). We can represent this as in Figures 4 and 5.

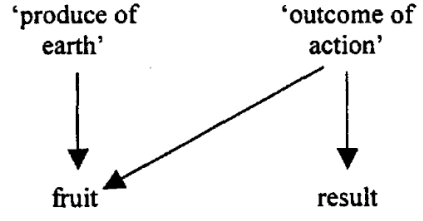


Figure 4 Lexical metaphor

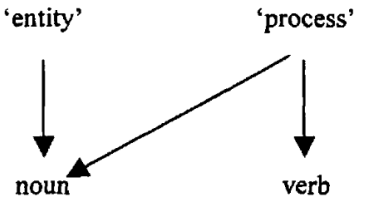


Figure 5 Grammatical metaphor

The point is, however, that it is no longer the same meaning. If a process (congruently realized by a verb) is reconstrued in the grammar as a noun (which congruently realizes an entity), the result is a semantic hybrid, which combines the features of 'process' and of 'thing'. In an isolated instance, such as *taking the car in for a wash*, this is of no great significance. But when large areas of human experience are reconstrued wholesale, through a wide range of different metaphoric processes in the grammar, as has happened in the evolution of the languages of science, the result is dramatic. It is no exaggeration to say that grammatical metaphor is at the foundation of all scientific thought. You cannot construct a theory – that is, a designed theory, as distinct from the evolved, commonsense theory incorporated in the grammar of everyday discourse – without exploiting the power of the grammar to create new, "virtual" phenomena by using metaphoric strategies of this kind.

This domain will be explored in more detail in Volume 5 of this series.

8 Probability

Let me come back for a moment to the question of size: how big is a language? We had reached a figure of the order of half a billion different verbs. It is quite likely, of course, that any one we might generate at random, say *couldn't have been going to go* ***ŏn*** *cringing*, or *ought* ***nòt*** *to have been getting telephoned*, has never before been either spoken or written; but it is still part of the meaning potential of the language. To put this in perspective: adults conversing steadily in English would be likely to use between 1,000 and 2,000 verbs in an hour; taking the lower figure, that would mean that half a billion occurrences (instances) would need about half a million hours of conversation. Now, if we collected half a billion clauses of natural speech (not inconceivable today), and processed it (still a little way off!), we would probably find that about half of them had one of the verbs *be*, *have* or *do*. We already know a good deal about the relative frequencies of lexical items, and something about those of the most general grammatical systems: for example, the negative will account for about 10 per cent of the total, the rest being positive; about 90 per cent of finite verbs will have primary tense or modality only, with no secondary tense, and within those having primary tense the past and present will account for over 45 per cent each, the future about 5–10 per cent. So if we combine the relative frequency of the verb *cringe* with the relative frequency of the grammatical features selected in that example above, we could work out how much natural conversation we would have to process before it became more likely than not that such a form would occur. And it would be a very large amount.

These issues will be brought up in Volume 6 of this series. The point here is, that these quantitative features are not empty curiosities. They are an inherent part of the meaning potential of a language. An important aspect of the meaning of negative is that it is significantly less likely than positive; it takes up considerably more grammatical energy, so to speak. The frequencies that we observe in a large corpus represent the systemic probabilities of the language; and the full representation of a system network ought to include the probability attached to each option in each of the principal systems (the figure becomes less

meaningful as we move into systems of greater delicacy, because the entry condition of the choice becomes too restrictive). We have not yet got the evidence to do this; but until it can be done, grammars will not have come of age.

What this is saying is that, to give a realistic estimate of the meaning potential of a language – of its semiotic power – we need to include not only the options in meaning that are available but also the relative contribution that each of these options makes. We take a step in this direction when we locate the options in system networks, according to their entry conditions: a system way down in the delicacy scale will have a relatively small domain of operation (for example, clausal substitute polarity transfer in English, as in *I think not/I don't think so*, which figures only in a certain type of projected clause nexus). But the relative contribution to the meaning potential also depends on these quantitative factors: a system whose options are very skew makes less contribution than one whose options are more or less equiprobable; and a system that is accessed only via a chain of low probability options makes less contribution than one that is accessed in a majority of selectional environments. Thus semiotic power is not simply a product of the number of choices in meaning that are available; their different quantitative profiles affect their semogenic potential – and therefore affect the meaning potential of the linguistic system as a whole.

Finally, we do not yet know how many systems it takes, on the average, to generate a given number of selection expressions. In other words, we do not know what is a typical degree of association among systems having a common point of origin – say, the systems of the English clause. The estimate given earlier of the total number of possible verbal groups did take account of the interdependence among the various systems; as already remarked, that network is unusual in the degree of freedom the various systems have to combine one with another – it took less than thirty systems to specify all the options available to any one verb. We can of course define the outer limits of possible association among systems. Stipulating that all systems are to be binary (they are not, of course; but it makes it easier), then given a network of n systems, (a) if all are dependent on each other (i.e. they form a strict taxonomy), there will be $n + 1$ possible selection expressions; whereas (b) if all are independent, the number of possible selection expressions will be 2^n. Compare four systems associated as in (a) and as in (b) in Figure 6.

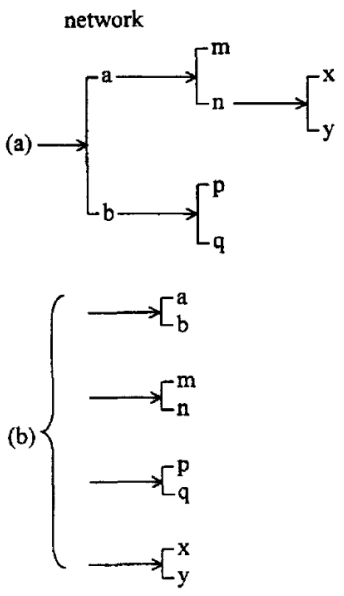


Figure 6

The networks written for the two major text generation projects in English that have used systemic grammar – the NIGEL grammar developed by Christian Matthiessen for William Mann's PENMAN project at the University of Southern California, and Robin Fawcett's GENESYS grammar used in his COMMUNAL project at Cardiff University – each had of the order of a thousand systems. Clearly they did not specify anything like two to the thousandth different selection expressions! The more systems there are in a network, the more densely they will be associated. When I wrote the prototype NIGEL grammar, consisting of 81 systems of the clause, Mann's off-the-cuff estimate was that it defined between half a billion and a billion selection expressions. This seems reasonable.

But such figures don't really matter, because we are far from being able to measure the size of a language in any meaningful way. All we can say is that a language is a vast, open-ended system of meaning potential, constantly renewing itself in interaction with its ecosocial environment. The phenomenon of "language death", so familiar in our contemporary world where the extinction of semiotic species matches the extinction of biological species as a by-product of our relentless population growth, is one where the community of speakers is no longer able to sustain this kind of metastable adaptation, and their language as it were

closes down (see Hagège 2000). If a language no longer creates new meanings, it will not survive.

9 Instantiation, variation, fuzz

The problem for linguists (two problems, in fact; or perhaps two aspects of one and the same problem) has always been: how to observe language, and how to interpret what has been observed. In some well-known languages – those that had been "reduced to writing" – there was no shortage of observable text; it might be difficult to process large quantities of it, but at least it yielded reliable examples. The problem is that it is in spoken language, especially in spontaneous dialogue, that the meaning potential of language is most richly explored and expanded; and until the age of tape recorders it was very hard to get hold of that. (And now that it has become relatively easy, for many of us the process has become so hedged around with legal restraints on invasions of privacy that we are almost back where we started!) But the second major technical advance, the computer, transformed the situation by making it possible to process large quantities of data; and meanwhile parsing programs are slowly being developed which enable us to recognize mechanically some of the principal grammatical patterns for large-scale quantitative analysis.

The second part of the problem is no less intractable: this concerns the relationship between what is observed and the systemic principles that lie behind. Another way of formulating this is to say that it concerns the nature of a semiotic fact. In fact the two parts of the problem probably have to be solved together, as they were in physics by the efforts of Galileo and Newton (and of the age in which they were both able to flourish). Before their time, when technology had not yet evolved to permit accurate observation and experiment, even advanced thinkers such as Roger Bacon, who were aware of the need to experiment and observe, could still not formulate adequately the relationship between observation and theory. This relationship is complex enough with phenomena of matter; it is much more complex with phenomena of meaning; in that respect, twentieth-century linguistics was more or less where physics had been back in the sixteenth century.

Physical processes could be measured, and that gave rise to a rather clear conception of a physical theory: it was one formulated in terms of mathematics. Mathematics made it possible to predict physical

with what inside the grammar itself, the patterns of agnation as revealed in the system network. Any of these perspectives may be given prominence. What is called "functional linguistics" means privileging the view from above; but whatever perspective is favoured the resulting account involves compromise – most of all, of course, if one tries to give equal weight to all three. This "metacompromise" by the grammarian is both model and metaphor for the compromise that is a central feature of the grammar itself, whose theorizing of the human condition is nothing more than a massive reconciliation of conflicting principles of order – this being the only way of "semioticizing" our complex ecosocial environment in a way that is favourable to our survival.

In other words, the all-round thickening of language, its multidimensional "architecture", reflects the multidimensional nature of human experience and interpersonal relationships. If the processes whereby we interact with the ecosocial environment are now so exceedingly complex, then any system which transforms these processes into meaning – which ***semioticizes*** them – is bound to evolve analogous degrees and kinds of complexity. Language is as it is because of what it has evolved to do. The underlying theme of the chapters which follow is the exploration – and perhaps celebration! – of the awe-inspiring power of language. Different languages differ, of course, as regards what, and how much, is demanded of them; this is a manifestation of the variety of human culture. But all languages have the **potential** to meet any demands that their speakers may contrive to make of them.

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PART ONE

THE PLACE OF LINGUISTICS AS A DISCIPLINE

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EDITOR'S INTRODUCTION

In the first paper in this section, "Syntax and the consumer", originally presented in April 1964 at the Fifteenth Annual Round Table Meeting on Linguistics and Language Studies, Professor Halliday makes the point that "the features of a description, and therefore of the model that lies behind it, are relatable to the aims of the model and through these to particular applications of linguistics". Halliday characterizes his own work as aiming "to show the patterns inherent in the linguistic performance of the native speaker". One of the requirements for such exploration into 'how the language works' is "a general description of those patterns which the linguist considers to be primary in language, a description which is then variably extendable, on the 'scale of delicacy', in depth of detail". The concept of delicacy "proves useful in providing a means whereby the linguist analysing a text can select a point beyond which he takes account of no further distinctions and can specify the type of relation between the different systems in which he is interested". The expectation being that textually oriented studies – involving "a characterization of the special features, including statistical properties, of varieties of the language used for different purposes ('registers'), and the comparison of individual texts, spoken and written, including literary texts" – should contribute to "literary scholarship, native and foreign language teaching, educational research, sociological and anthropological studies and medical applications".

The next three papers in this section were originally delivered as open lectures, spanning the decade from 1967–77. They were later published together by the Applied Linguistics Association of Australia (1977). "Grammar, Society and the Noun" was first presented in 1967 on the occasion of the inauguration of the Department of Linguistics at University College London; "The Context of Linguistics" was given at a Georgetown University Round Table Meeting (1975); and "Ideas about Language" celebrated the foundation of the Linguistics

Chapter One

SYNTAX AND THE CONSUMER (1964)

At the Seventh Annual Round Table Meeting, held at the Institute of Languages and Linguistics in 1956, Professor Archibald Hill read a paper entitled 'Who needs linguistics?' In it he referred to "the kinds of people who can now be shown to be in need of linguistic knowledge for practical reasons", including among them teachers of foreign languages and of the native language, literary scholars and those concerned with the study of mental disorders. His concluding paragraph contained the words "It is the linguists who need linguistics. ... It is we who have the task of making linguistics sufficiently adult, and its results sufficiently available so that all people of good will, who work within the field of language, language art, and language usage, can realize that there are techniques and results which are of value to them."

Professor Hill could, if he had wished, have added others to the list; what he was emphasizing, as I understand it, was that any benefits which those other than the linguists themselves may derive from linguistic work depends on the linguists' own pursuit and presentation of their subject. Within those areas of activity, often referred to as "applied linguistics", in which languages are described for other than purely explanatory purposes, the linguist's task is that of describing language; and he will not, for example, attempt to tell the language teacher what to teach or how to teach it, nor claim to be a pediatrician because his work may contribute to studies of language development in children.

While recognizing the limitations on their own role, however, linguists are not unaware of the needs of the consumer. Language may be described for a wide range of purposes; or, if that is begging the question I want to

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ask, there is a wide range of purposes for which a description of language may be used. The question is: do these various aims presuppose different ways of using the same description, or are they best served by descriptions of different kinds? Is there one single 'best description' of a language, or are there various possible 'best descriptions' according to the purpose in view?

One of the many important contributions made by Chomsky has been his insistence that linguists should define the goals of a linguistic theory. According to his own well-known formulation, the grammar should provide a complete specification of an infinite set of grammatical sentences of the language, enumerating all sentences and no non-sentences, and automatically assign to them structural descriptions. The theory should include a function for the evaluation of grammars, so that a choice can be made among different grammars all of which fulfill these requirements. The grammar can then be validated for compatibility with the given data and evaluated for relative simplicity (Chomsky 1961, 1962).

Associated with this is the underlying aim that "the formalized grammar is intended to be a characterization of certain of the abilities of a mature speaker"; "we should like the structural description to be the basis for explaining a great deal of what the speaker knows to be true of speech events, beyond their degree of well-formedness" (Chomsky 1962: 531–2). Compare also Katz and Fodor's formulation: "Grammars answer the question: What does the speaker know about the phonological and syntactic structure of his language that enables him to use and understand any of its sentences, including those he has not previously heard?" (1963: 172), and Chomsky's summing-up: "As I emphasized earlier, the central problem in developing such a theory is to specify precisely the form of grammars – the schema for grammatical description that constitutes, in effect, a theory of linguistic universals and a hypothesis concerning the specific nature of the innate intellectual equipment of the child" (1962: 550).

The evaluation of a linguistic description means, naturally, its evaluation in the light of the goals recognized for the theory. A formalized grammar is evaluated for its success in achieving the aims of a formalized grammar, or of that particular formalized grammar; the relevance of this evaluation to any other aims will depend in part on the extent to which a formalized model yields the kind of description that is most appropriate to them. That there are other possible aims is not, I think, in question; to quote Chomsky (1962: 530) again, "I do not, by any means, intend to imply that these are the only aspects of linguistic competence that deserve serious study", to which I would like to add that

linguistic competence is not the only aspect of language that deserves serious study: the explanation of linguistic performance can also perhaps be regarded as a reasonable goal and one that is still, as it were, internal to linguistics. But I would also wish to include, among the possible goals of linguistic theory, the description of language for the purpose of various specific applications; goals which may be thought of as external to linguistics but for which linguistics is part of the essential equipment.

This is not of course to question the validity and importance of the goals defined by Chomsky; nor is it to suggest that, given these specific goals, the model that provides the 'best description' will not be of the type he specifies. But we should not perhaps take it for granted that a description in terms of a formalized model, which has certain properties lacking in those derived from models of other kinds, will necessarily be the best description for all of the very diverse purposes for which descriptions of languages are needed.[1] In assessing the value of a description, it is reasonable to ask whether it has proved useful for the purposes for which it is intended; and such purposes may be external as well as internal to linguistics.

There tends no doubt to be some correlation between the model a particular linguist adopts for his own work and the place where he grew up, linguistically speaking. Nevertheless I would defend the view that different coexisting models in linguistics may best be regarded as appropriate to different aims, rather than as competing contenders for the same goal. One may have one's own private opinions about the relative worth and interest of these various aims, but rather in the same way as most of us probably like the sound of some of the languages we study better than we like that of others. Estimates of the relative attainability of different goals may be more objective, although even here the criteria for the assessment of one goal as more difficult of attainment than another can probably be made explicit only where the two are basically different stages in the pursuit of a single more general aim. It is difficult to measure the relative demands made on a theory by requirements such as, on the one hand, that "the structural description of a sentence must provide an account of all grammatical information in principle available to the native speaker" (Postal, 1964: 3) and on the other hand that the grammar should be of help to the student learning a foreign language or to the pediatrician in his diagnosis and treatment of retarded speech development; nor is it any easier to measure the degree of success of a description in meeting these demands.

Yet in spite of the difficulty of measuring attainment linguists "intuitively" – that is, by their experience as linguists – recognize a

good description, and most of them seem to agree in their judgements. This is not in any way surprising, but it illustrates an important point: that linguistic theory is no substitute for descriptive insight. Naturally different descriptions of a language will follow when different models are used to describe it; but the differences imposed by the model tend to obscure the similarities, and also the differences, in the linguists' interpretation of the facts. It is true, in the first place, that two descriptions will differ precisely and directly because different models are being used and these impose different kinds of statement. In the second place, however, the descriptions may differ because the linguists disagree at certain points in their interpretations. And in the third place, the models themselves may impose different interpretations, either because one solution is simpler in one model and another in the other or because they have different terms of reference and different aims.

For example, transformational grammars of English recognize a passive transformation relating such pairs of sentences as *the man eats cake* and *cake is eaten by the man*. The analogue in a "scale-and-category" grammar (to use a name by which the version of a system-structure grammar that my colleagues and I have been working with has come to be known) would be a system at clause rank whose terms are active and passive: as for example the question transformation is paralleled by a clause system whose terms are affirmative (transformational grammar's "declarative") and interrogative. In fact no system of voice at clause rank is introduced into our present description of English. We could say that this is because it does not represent our interpretation of the facts. But the question is: what "facts" are being interpreted? The ***system*** implies proportionality: given a system whose terms are a, b, c, then the set of their exponents a_1 a_2 a_3 ..., b_1 b_2 b_3 ..., c_1 c_2 c_3 ... are proportionally related: $a_1 : b_1 : c_1 :: a_2 : b_2 : c_2$ and so on. This holds good, it seems to us, to a reasonable extent (such that the simplicity of the general statement is not outweighed by the complexity of further statements that are required to qualify it) of affirmative and interrogative in the clause, and of active and passive in the verbal group where the description does recognize a system of voice; but not of active and passive in the clause. In other words, *John was invited by Mary, this house was built by my grandfather, the driver was injured by flying glass, John's been dismissed from his job* and *it was announced that the committee had resigned* are not explained as all standing in the same relation to a set of their active counterparts. Such a relationship is shown, but indirectly (as the product of a number of systemic relations) and not always by the same route.

But this does not necessarily imply different notions about English; it may simply mean a difference in what is being required of the description. While there may be some similarity between the system in a scale-and-category grammar and the transformation in a transformational grammar, in the sense that instances of the two often correspond, they are not and cannot be saying the same thing, because these are different kinds of model.[2] The nature of a grammatical description, in fact, is determined as a whole by the properties of the model in which it has status, as well as being conditioned by the goals that lie behind the model.[3]

If I were asked to characterize the work in which I have been engaged together with some of my colleagues, I would say that our aim is to show the patterns inherent in the linguistic performance of the native speaker: this is what we mean by "how the language works". This presupposes a general description of those patterns which the linguist considers to be primary in the language, a description which is then variably extendable, on the "scale of delicacy", in depth of detail. It involves a characterization of the special features, including statistical properties, of varieties of the language used for different purposes ("registers"), and the comparison of individual texts, spoken and written, including literary texts. This in turn is seen as a linguistic contribution towards certain further aims, such as literary scholarship, native and foreign language teaching, educational research, sociological and anthropological studies and medical applications. The interest is focused not on what the native speaker knows of his language but rather on what he does with it; one might perhaps say that the orientation is primarily textual and, in the widest sense, sociological.

The study of written and spoken texts for such purposes requires an analysis of at least sentence, clause and group structures and systems, with extension where possible above the rank of sentence. The analysis needs to be simple in use and in notation, variable in delicacy and easily processed for statistical studies; it needs to provide a basis for semantic statements, and to handle with the minimum complexity grammatical contrasts such as those in English expounded by intonation and rhythm; and it should idealize as little as possible, in the sense of excluding the minimum as "deviant". Idealization of course there is; as Putnam (1961: 26) has said, "I shall assume here that some degree of idealization is inevitable in linguistic work, and I shall also assume that the question of how much idealization is legitimate is one that has no general answer ... Anyone who writes a grammar of any natural language is ... automatically classifying certain sentences as non-deviant, and by

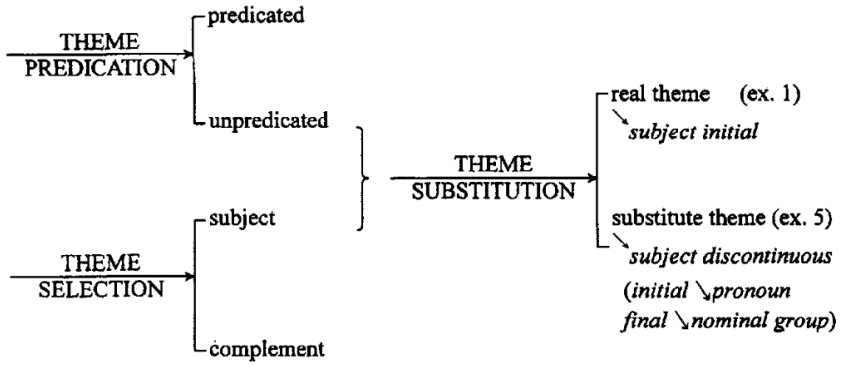

Figure 2 The left-facing brace indicates multiple (conjunct) derivation; the other conventions are as in Figure 1.

With the cut-off at this point, the clauses in set (2) have the same grammatical description. In order to discriminate between them, the further distinction shown in (4) may be introduced; the members of set (2) will then have different grammatical descriptions.

Substitution as such is not of course restricted to the ***thematic element***: compare *a party they're having this evening the Smiths, we've invited them the Smiths, I call it a good idea to do that*; but the thematic element can be "substitute" only if it is both subject and unpredicated, and this would justify the treatment of ***theme substitution*** as a separate system. Theme substitution is required, incidentally, to explain a number of ambiguities, as for example *they're leaving the others* (as ex.1, or as ex. 5) and *it's the truth that we don't know* (as ex. 4 'what we don't know is the truth', or as ex. 5 'that we don't know is the truth').

Each system represents a dimension of potential discrimination in the grammatical description of items. Thus where one system is shown as derived by delicacy from a term in another – that is, as hierarchically ordered in respect of another – this represents a point at which the analysis may either proceed further or stop short. At this point a pair of items distinguished only in the higher-order system have not yet been differentiated: they have the same description. When the lower-order system is taken into account, however, they have different descriptions, and are thus shown to be distinct. Here therefore the answer 'both yes and no', to the question whether such items have or have not the same grammatical description, means as it were 'first yes, then no'.

The ordering of two systems in this way, by derivation in delicacy, means that freedom to select in the lower-order system is conditional

on the selection made in the higher-order system. The illustration above shows multiple derivation, in which two higher-order systems are involved: only the conjunction of ***subject theme*** with ***unpredicated theme*** permits selection between ***real theme*** and ***substitute theme***. Simple derivation could be illustrated by ***theme polarity***, where freedom to select positive or negative depends on the selection of predicated theme in the ***theme predication system***: *it's a party the Smiths are having this evening* contrasts with *it isn't a party the Smiths are having this evening.*

Where two systems are simultaneously ordered in delicacy, as are theme selection and theme predication above, this means that they are shown as being related (derived from a common point of origin) but with no restriction on the combination of their terms. Each item that selects in the one system thus selects also unconditionally in the other. If two items are differentiated in the one system but not in the other, the question whether such items have or have not the same grammatical description might still be answered 'both yes and no', but here this would mean 'partly yes, partly no', or 'in this respect yes, in that respect no'.

These two kinds of ordering in delicacy, the hierarchical and the simultaneous, may be used to represent the simple relations of dependence and independence between systems: fully dependent systems are ordered hierarchically, fully independent systems simultaneously. More often than not, however, the linguist is faced with systems displaying one or another of various kinds of partial dependence, where selection in one system is partly conditional on selection in another: the relation of theme substitution to the other two systems above is in fact one of partial dependence.[9] Such systems may be shown either as hierarchical or as simultaneous in delicacy; nor are they necessarily all to be treated in the same way, since they fall into different types.[10]

Perhaps I might conclude with an illustration from familiar material in English of a grammatical feature which is connected with one kind of partial dependence between systems: this is the apparent "neutralization" (in one of the many senses of this word) of systemic distinctions. Such "neutralizations" are related to, though not exactly coterminous with, Bolinger's category of "syntactic blends" (1961: 21).

Clauses in English containing, as predicator, a verbal group in the passive and, as adjunct, a prepositional group initiated by *by* yield examples such as *he was deceived by a trick* where it does not seem to matter whether the prepositional group is considered as agentive or as instrumental: whether, in other words, the voice/theme contrast is with

a trick deceived him or with *they deceived him by a trick*. Other examples are *he was comforted by their reception of him, this is proved by Gödel's theorem* and *he was killed by a blow on the head*.

These are of course quite distinct from the ambiguities, involving agentive or instrumental on the one hand and locative on the other hand, such as *he was knocked down by the wall* or *she was comforted by the warm fire*. Each of these represents two discrete items and two grammatical descriptions are required, any occurrence being assigned to one only. This ambiguity arises also with active verbal group: *I'll toast it by the fire* may mean 'I'll use the fire to toast it' or 'I'll go near the fire while I toast it'; compare *hold it there by the handle* and *he came out by the back gate*.

The point at which neutralization occurs may be regarded as the intersection of two unrelated systems in partial dependence: voice in the verbal group and what we may call ***agency*** (agentive and instrumental) in the prepositional group, agency combining only with passive. Exponents of active and passive are of course monovalent (unambiguously identifiable), but both terms in the agency system may be expounded by the prepositional group with *by*.[11]

There are restrictions, in one direction, on the classes of verb and noun: some verbs and some nouns cannot occur with the instrumental, so that *suggest* and *colleague* in *this is suggested by Gödel's theorem* and *this is proved by my colleagues* seem to make these uniquely agentive. Of the two, the noun class seems the more obvious one; but animate and even human nouns can occur with the active verbal group and therefore, on this criterion, instrumentally: *they make their money by their travelling salesmen, he does his correspondence by a secretary*. Moreover, in many instances it is difficult to specify what marks a particular item as clearly agentive: this often seems to result from the collocation of noun and verb together.

Since the word-class restriction is both indeterminate and one-way, it seems useful to consider agentive and instrumental as systemically contrasting classes of the prepositional group operating at the same place in clause structure. Since further the contrast between agentive and instrumental is one which can be neutralized, unlike that between these two on the one hand and locative on the other, the former is best treated as more delicate than the latter: that is, agentive is shown as distinct from instrumental only after the two together have been separated from the locative and other classes of the prepositional group. In other words, combining these two requirements, the description may show a system of

agency in the prepositional group, with terms agentive and instrumental, which is in partial dependence with the system of voice in the verbal group, instrumental combining with active and passive but agency only with passive;[12] agency is in turn fully dependent on a higher-order system contrasting agentive/instrumental with locative (and others), which is fully independent of voice and where multivalent exponents are in fact ambiguous. In an analysis which stopped short of the system of agency, the ambiguities would have different grammatical descriptions but the "neutralizations" would not.

Instances of this kind, where a systemic contrast appears to be "neutralized", may perhaps be thought of as those where the answer 'both yes and no' to the question whether or not two items have the same grammatical description means 'both yes and no at the same time'. In other words, *by his colleagues* and *by his efforts* are both alike and different in respect of the same variable. Here possibly one single token might be said to be at the same time a token of two grammatical types: the clause occurrence *this is proved by Gödel's theorem* would represent two items with different grammatical descriptions. Be that as it may, it seems appropriate perhaps that systems which yield "neutralizations" of this sort should appear at a lower order of delicacy than those which yield ambiguities.

This brief discussion of the scale of delicacy has been meant to serve a twofold purpose. I have hoped both to illustrate an aspect of the current work of a small group of linguists with whom I am associated, bearing in mind here the title of the present panel; and to exemplify my earlier point that the features of a description, and therefore of the model that lies behind it, are relatable to the aims of the model and through these to particular applications of linguistics. In this instance the concept of delicacy proves useful in providing a means whereby the linguist analysing a text can select a point beyond which he takes account of no further distinctions and can specify the type of relation between the different systems in which he is interested.

In speaking about one possible approach to a particular type of pattern in language, I am not implying that we handle it more effectively than other linguists working with different models, but intending to show how its treatment links up with other features of a model conceived with the specific aims we have in view. Other models will handle such patterns differently in light of their own goals. But while accepting, and indeed applauding, the fact that linguists today are working with models of different kinds, I would at the same time

underline one point of which no teacher of linguistics needs to be reminded: that there exists a vast store of knowledge which is just linguistics, and common ground to all linguists whatever model they happen to be using.

Notes

1. This is, of course, a different question from that of the relative evaluation of different formalized grammars.
2. The issue is **not** whether, as Katz and Fodor say (1963: 206) "sentences that are related to each other by the passive transformation ... have the same meaning, except perhaps in instances where quantities are involved". The system does have implications for the grammatical semantics, but not this one; it implies that exponents differing only in respect of the selection in question (i) differ in meaning but (ii) differ in a regular way. Thus exponents of different terms in a system by definition have not the same meaning; but this merely illustrates the fact that the line between 'have' and 'have not the same meaning', like that between grammar(/lexis) and semantics, is drawn by the theory (or rather, by the description and in the light of the theory).
3. Compare Chomsky, on the procedures by which different structural descriptions are assigned (1962: 534), "These specifications must involve no appeal to the intelligence or linguistic intuition of the reader because it is just this that we are attempting to characterize". I use here the term "grammatical description" in preference to Chomsky's "structural description" since in this model the description of an item is (by definition) structural-systemic.
4. This is analogous to the procedure suggested by Chomsky (1961: 236–7).
5. Katz and Fodor (1963: 171). Such an assertion cannot be 'substantiated': it is true or false by definition, as is shown by the suggested procedure for its substantiation, "checking texts for the number of times a sentence is repeated". On any reasonable interpretation of the grammatical type-token relation the repetition rate for sentences would obviously be low, although it might be predictably rather than indefinitely low. (Extrapolation from the repetition rate for morphemes, words and groups in English in a manageable sample of texts would permit the prediction of at least the order of magnitude of the average repetition rate of clauses and sentences; there is no reason to assume that the sentence is unique in this respect – the group already admits recursive structures, for example.) Cf. Dwight L. Bolinger (1961: 381): "At present we have no way of telling the extent to which a sentence like *I went home* is the result of innovation, and the extent to which it is a result of repetition, countless speakers before us having already said it and transmitted it to us in toto." To say this is of course in

Chapter Two

GRAMMAR, SOCIETY AND THE NOUN (1966)

The central concern of linguistics is the systematic study and interpretation of language. But in the course of this study there are times when we need a broader framework than that which is provided by linguistics itself, at least in its narrower academic sense. My aim here is to look into certain questions of language from the outside, with the focus on language in its social environment. The questions I have chosen fall within an area that might be called "sociogrammar" – or perhaps "sociosemantics", since grammar is a mode of entry to the study of meaning. In the study of human behaviour, and not only linguistic behaviour, there are some questions that can, it seems to me, be posed only in sociolinguistic terms; and for our purposes the definition of sociolinguistics as 'the study of the relations between linguistic structure and social structure' can be allowed to stand, provided that "structure" is taken in its broadest sense, to include the underlying semantic patterns of language on the one hand and systems of cultural behaviour and of knowledge on the other. For while some sociolinguistic questions arise from an examination of co-variation between linguistic and social phenomena, others face the linguist in the course of his own work.

There are many questions which a linguist may think of asking for himself for which he has to go outside linguistics to begin looking for an answer: for example, concerning the function of language in establishing and maintaining value systems and systems of social control, and in defining the roles which for the individual, child or adult, make up the role set that constitutes his identity – not only his identity from the point of view of society but also the identity he

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regards as his "self" (note in passing that in English 'you' and 'I' possess our 'selves', while 'he' and 'they' are merely qualified by theirs – we say *myself, yourself* but *himself, themselves*). The late J. R. Firth, Professor of General Linguistics in the University of London, wrote in 1950:

> The meaning of *person* in the sense of a man or woman represented in fictitious dialogue, or as a character in a play, is relevant if we take a sociological view of the *personae* or parts we are called upon to play in the routine of life. Every social person is a bundle of *personae*, a bundle of parts, each part having its lines. If you do not know your lines, you are no use in the play ... [Linguistics] is mainly interested in persons and personalities as active participators in the creation and maintenance of cultural values, among which languages are its main concern.

As an example of the sort of enquiry Firth envisages, involving both a precise formulation of certain questions and an experimental approach to their solution, might be cited the work of Basil Bernstein, of the University of London Institute of Education. Bernstein's starting point is the differential response of children of different types of social background to educational opportunity. Asking "The behavioural implications of the physical and social environment are transmitted in some way to the child. What is the major channel for such transmissions?", Bernstein suggests that the answer must be sought in a sociolinguistic study of "the interrelationships between social structure, forms of speech and the regulation of behaviour" (1964). In other words, he finds it necessary to confront linguistic and sociological findings in order to be able to understand the social processes involved.

Bernstein's questions arise out of a sociological enquiry; but the linguist seeking to understand the nature and functioning of the linguistic system will find himself asking questions that are not unrelated or dissimilar to these. It has sometimes been said that linguists have shown too little interest in the social background of language, although it might be argued that, if they had not concentrated, almost exclusively for a time, on the internal workings of the linguistic system in its specific manifestations in different languages and dialects, such further questions could never have been broached. Be that as it may, it seems likely now that in the coming decades some of the most fundamental work on language will take the form of sociolinguistic enquiry. This may be taken to include both the comprehensive, qualitative approach envisaged by Hymes in his programme for a "comparative ethnography of communication" (1964), which implies the "structural analysis of the cultural behaviour

of a community", and the microscopic, quantitative methods of Labov in which "hypotheses are established by observing the co-variation of objectively defined variables" (1964), for example hypotheses about the status of individual phonemes in the New York dialects. From the linguist's point of view, the focus must be allowed to shift.

In this connexion we might note Fishman's apparently fairly confident hope that "the linguist aware of the social context of language will lose his naïve sociological outlook" (1967):

> The linguist might realize that categories represented by "natural" human groups (whether these be generational, religious, ethnic, educational, occupational, etc.) ... merely represent the palest reflection of folk sociology. The sociologist's categories and strata are no more than handy ways of getting at recognizably different rates of various social behaviours: values, attitudes, socialization patterns, leisure activities, political behaviours, interactions across group boundaries, etc.

Fishman also expresses the hope that sociologists will lose their naïve linguistic outlook; and while applauding both these sentiments I should wish to add that the ethnographic study of folk linguistics, such as can be observed for example in the 'Eng. Lit.' classes in our schools, is itself a valuable area of sociolinguistic research, just as the study of folk sociology is an important branch of the sociology of knowledge. Professor Randolph Quirk, in describing the aims and scope of the Survey of English Usage which he is directing at University College London, wrote: "One should aim at seeing educated usage as far as possible against the background of educated reaction to usage" (1960). The study of any culturally determined behaviour involves the study of its description and evaluation by the culture.

One of the lessons of sociology is that all knowledge is folk knowledge, and all science folk science; there are merely different folk, and any one of us may include among our roles different levels of folk membership. Ever since Schliemann discovered Troy we have been being encouraged to believe in our own mythology; and the danger nowadays, at least in linguistics, is not so much one of a false dichotomizing between myth and truth as one of failing to keep different mythologies apart. Now I want to take, on this occasion, a folk linguistic standpoint; to start from a statement of a kind often made about language, and to ask what questions and assumptions lie behind it. This particular example is of something that is said not only about English; and that is usually couched in general linguistic terms with at least typological and perhaps universal implications. But the discussion

will relate to English, since that presumably is our common language here if we have one – we may not in fact understand each other but we have to keep up the pretence, since it is a faith in communication, rather perhaps than communication itself, that marks our claim to social interaction.

In his well-known *ABC of Plain Words*, under the entry headed "Abstract words", Sir Ernest Gowers writes (ascribing the sentiment to Mr. G. M. Young): "an excessive reliance on the noun at the expense of the verb will, in the end, detach the mind of the writer from the realities of here and now, from when and how and in what mood the thing was done, and insensibly induce a habit of abstraction, generalization and vagueness" (1951). This is an example of the formulation of a very general attitude to what Rulon Wells, in his summary of such attitudes, calls "nominal style" or "nominality" (1960). (One might also add that it is a good example of what it is criticizing, containing as it does, aside from linguistic technical terms, eight abstract nouns.) Two questions may be asked: first, what is this "nominality", or "nominal style", and second, what are the reasons for it? It is not something unnoticed by linguists; but it is also, unlike many features of English, something of which there is a general cultural awareness, and which is widely subjected to popular linguistic criticism, an activity at which the English excel. It is thus not only part of our cultural knowledge but also a determinant of cultural behaviour.

Nominality, we may assume, has something to do with nouns. At the simplest, it might be merely a matter of the number of nouns per running words of text; but in fact it is easy to show that it is not, and it is likely therefore to involve either, and probably both, of two other factors; some entities other than simple nouns, and some aspect of the functioning of nouns (and of the other entities if these can be specified) rather than merely their density of occurrence. It is often suggested, moreover, that the features referred to in this way are such as to distinguish Modern English, or at least some varieties of it, from any or all of: earlier stages of the English language, other styles of contemporary English, or other languages.

In one sense, rather superficial but perhaps not totally irrelevant, it may be true that the noun is very much in the air, so to speak. Among other things, nouns are used to name classes of objects; and with every advance in technology there are likely to be more classes of object to be named. A few may disappear, like trams, although even some of these are still talked about; but many more come into existence, and the

language has to make provision for them. Not that every time a new machine part is designed a new word of the class "common noun" is added to the vocabulary. There are various ways of meeting this need, as described in studies of industrial lexicology; an existing lexical item, for example, may be transferred through formal or functional analogy, like the word *goose-neb* (goose's beak) introduced for a part of the loom by early immigrants to the towns and preserving for them a linguistic shadow of their cultural past. In modern English the preference is rather for recursively structured nominal compounds: we keep up with the technological times by devising forms such as those described by Joan Maw (1963) in her study of the instructions issued to fitters of gas appliances: *flue pipe support strap, gas pressure test nipple* and (an invented one on the same model) *main burner oil feed adjustment cover retaining screw.* This tendency is then reinforced by the use of similar structures in headlines, as an example of which we could construct *tourist holiday coach death crash enquiry verdict appeal decision sensation.* Such inventions may be monstrous, but we have no difficulty in knowing how to pronounce them.

Compounds of this kind are built up structurally by a linear process of regressive bracketing (bracketing associating to the left), in which the addition of each new item puts a bracket round all those that have preceded it. The rightmost item is the head of the structure; when a further item is added to it this has the effect of making it a modifier. Such a pattern yields a taxonomy, going from most specific, on the left, to most general on the right; a form like *flue pipe support strap* implies that we can ask 'what kind of strap?' (there will be other kinds), 'what kind of support strap?', and so on. There may be some internal bracketing, but if so this merely inserts either a co-ordination or a sub-structure of the same type.

This form of the structural organization of lexical items is reminiscent of the systematic taxonomic organization of the lexicon itself. The lexicon of a language can be viewed at least partly as a set of taxonomies, or even perhaps as a single taxonomy. Roget's *Thesaurus*, for example, could be interpreted as a ten-level taxonomic arrangement of the lexicon of English, though the nodes are in fact not named (they are labelled where referred to at all); and sociolinguistic studies of folk taxonomies suggest that some taxonomic naming is a universal feature of the organization of lexis. It seems moreover that this form of organization is very early learnt by the child; as he masters the class-naming principle he also quickly understands that some classes include

found in all languages. Headlines are often cited in this connexion, like *nude murder detectives* and *police drink test tables review*; these are more noticeable, because they tend to strike us without context – the owner of the newspaper leaves the train before we can read the smaller type. But there are many other sources of structural ambiguity in English besides these complex nominals. The texts from which I cited some of the earlier examples also contained *to replace, insert the lip on the top of the front panel behind the return flanges at the top edge of the opening in the main casing* and *remove battery holding down bolts or hook bolts at both ends of the battery*, each of which may represent any of about a hundred possible structures. This sort of ambiguity is normal in language, and nominal compounds are no exception; there is usually only one possible interpretation in the context (provided one includes here the social context: in this case the reader must have been trained as a gas fitter), although it is true that headlines and other display languages have to a certain extent their own 'economy grammar' dictated by the simultaneous requirement of communicative effect and extreme brevity.

Among other English naming devices is the brand name, which has a rather special linguistic status. Etymologically, a brand name may be more or less anything: proper noun (*Morris, Ajax*), possessive proper noun (*Kellogg's*), common noun, count or mass (*Embassy, Surf*), modified common noun (*Double Diamond, Gold Leaf*), or not a noun at all (*Digestive, Startrite*); it may be an existing item of the language, like the foregoing, with or without orthographic innovation, or an invention within the limitations of the phonological system, or anything in between. Syntactically, as pointed out by Geoffrey Leech (1966), "there are signs that brand-names have an unstable syntactic function". The brand name has some of the features of a proper noun – its modifiers are usually descriptive, not defining, for example – but more of those of a common noun: it is assigned count or mass status (*a Morris, some Ajax*; this assignment is independent of the status of the model where this is an existing common noun, cf. *some Tide*), and selects for specific or non-specific determiners *a, the*, etc. The brand name may play a significant role in the search for names for new objects, although there is wide variation here between different language communities. English is particularly prone to accepting brand names into the language; this may in the long term have its effect on the nature and functioning of the English noun, by contributing to a blurring of the distinction between common and proper, the extension of countability to all nouns, and a

still greater tendency for interchange of membership between the noun and other word classes. It is possible to construct whole sentences in English in which every lexical item is a brand name, like *the dripolator needs brilloing; let's just have some nescafé in the denby.*

So the simple common noun is certainly outnumbered, in modern English, as a device for naming classes of concrete objects. Proper nouns, as in brand names, nominal compounds and modified forms of various kinds (as in *vitreous enamel, locking nut, tin opener, spirit of salt*) are all widely exploited. What all such forms have in common is that, with minor exceptions, they take on all the syntactic potentialities of their parent class the common noun. This means not only the potentiality of entering into further compound forms and susceptibility to the various choices that are open to the English nominal group – all forms of determination and numeration – but also the set of functions which the nominal group may take on in the clause: subject, direct object, and a number of others. When function in the clause is taken into account, however, there turn out to be still further elements that behave in a noun-like way.

It is for this latter reason that grammarians group together nouns, nominal groups (noun phrases), and nominalizations. The noun is the class of words (including compounds) that name classes of things; centrally, concrete objects and persons, but also abstractions, processes, relations, states, and attributes: whatever can stand for a pronoun, as Quine (1948) suggests ("Pronouns are the basic media of reference; nouns might better have been named propronouns"). Nominal groups are nouns plus their determiners and any other modifiers; while in nominalizations some element other than a noun, a verb perhaps, or a whole clause, has nominal status assigned to it. There is no sharp line, in English, dividing compound nouns from nouns plus modifiers, or the latter from nominalizations. So if scientists or others are said to write in a "nominal style" (and nominals are no less relevant to poetry), this refers to the use of nominals of all kinds; and criticism of such a style does not necessarily mean that the critic has found more nouns per sentence than he likes. Rather otherwise, perhaps; what is objected to is more likely to be the use of nominalizations, since it is the nominalization for which alternative devices could be found, whereas there is ordinarily no alternative to the use of a simple common noun like *cat* or *carburettor*, except not to talk about cats and carburettors at all.

What are these alternatives, and what is the nature of the choice among them? There are certainly many ritual features associated with stylistic variation in language: features whose function is merely to

signal a particular mode of linguistic behaviour. But it seems strange that nominalized structures, which are very often longer than the non-nominalized alternatives, should be so consistently preferred in uses of language in at least some of which brevity might be thought to be a virtue. The question that might be asked is whether there are any significant corollaries, within the language, of the phenomenon of being or behaving like a noun.

Other than in certain minor sentence functions, appellative, exclamatory, and responsive, the speaker of English structures his message around a verb. If we use the term "process" as a general term for that which is designated by the verb, then two broad types of process are distinguished: action, including perception, as in *he threw the ball, he heard a noise*, and what we may perhaps call "ascription", the assigning of attributes, as in *he is clever*. In many, though not all, respects action and ascription are alike: both must be located in time, with the same range of tense choices; both are subject to modality; and these and other similarities are what justify the introduction of a general term such as "process" by which to refer to them both together.

If the process is of the "action" type a distinction is made, at least in terms of potentiality, according to whether or not the action implies a goal. Hence the familiar distinction into transitive (goal-directed) and intransitive verbs. However, a cursory glance at a dictionary shows a large number of verbs assigned to both classes ("vb. trans & intrans."); and this is because the potential distinction, between implying and not implying a goal, is largely overlaid in modern English by an actual distinction according to whether or not a goal, or more accurately a goal feature, is present in the clause. Since with many, probably most, verbs this feature may be either present or absent, the potential distinction has relatively little significance, in the sense that it has very few 'consequences' (co-variants) elsewhere in the grammar of English. It is thus the clause rather than the verb that is transitive or intransitive. So although, for example, *ride* is transitive and *walk* intransitive, English does not show a grammatical difference according to type of action between the two halves of a sentence like *you ride and I'll walk*.

We could put this positively: the two clauses are treated alike in important respects. In particular, taking "directed" action (action on a goal) is equated, in English, with enforcing non-directed action: *she's walking the horse* and *he's riding the bicycle* are structurally parallel, as shown by the fact that *he's opening the door* can be said to be like either of them ('he's doing something to the door' or 'he's making the door do

something') and it makes no difference: *he's opening the door* is not an ambiguous sentence. So making someone do something is the same as doing something to someone, and there is a proportionality such that *we're selling cosmetics* is to *cosmetics are selling* as *we're running Jones for chairman* is to *Jones is running for chairman*. Reflexives, too, enter into this pattern: *she washed the baby* is to *she washed herself* as *she sat the baby on the settee* is to *she sat herself on the settee*, with *herself* optional in both cases.

In English, therefore, rather than two kinds of action, corresponding to transitive and intransitive verbs, we have really only one kind of action with which may be associated two different combinations of participants. Either one participant only is involved with the action, in which case his or its role is that of the person or thing 'affected', or two participants are involved, one 'affected' and one 'causer'. To express this in terms of actor and goal: the 'affected' is the goal of a directed action (object of a transitive verb) or the actor in a non-directed action (subject of an intransitive verb); the 'causer' is the actor in a directed action (subject of a transitive verb). But the 'causer' is also the initiator of a non-directed action (subject of an intransitive verb used causatively), so that in an action of this type the 'affected' may be an enforced actor (object of an intransitive verb used causatively).

Every action, therefore, can be said to imply an obligatory 'affected' participant and an optional 'causer'; but it needs to be made clear in what senses the causer is optional. In grammar, as in sociology, a participant is to be thought of not as an individual but as an occupant of a role. In one type of clause, exemplified by *he stood up*, *he washed* (meaning 'he washed himself'), there is only one participant, occupying the role of 'affected'; there may be 'causation' involved, in the sense that the action is intentional, but in that case the two roles of affected and causer are combined in the one occupant (contrast these examples with *he fell down*, where there is no causer and thus *he fell himself down* is impossible). In other clause types the roles are discrete; the causer may then be specified, as in *she stood him up*, *she washed him*, or it may not be, as in *he was stood up*, *he was washed*. Here the distinction is that between active and passive clauses, the desire not to specify a causer being one of the principal reasons for choosing a passive: the great majority of passives in texts in modern English have no agent (Svartvik 1966).

The basic pattern of organization in the English clause seems thus to be more readily describable not primarily in terms of action and goal but rather in terms of cause and effect. The variable is not 'is the action goal-directed or not?' but rather 'is the cause external to the action or

not?' These two patterns may be called respectively the "transitive" and the "ergative". In English, transitive and ergative co-exist: a distinction is found between verbs which tend to have actor and goal, the "transitive" verbs, and those which tend to have only actor, the "intransitive"; but the predominant pattern is the ergative one, since with very many verbs we have both the active-passive construction, with two participants, and the 'middle' construction with only one participant. This pattern cannot be generalized in terms of actor and goal, since the obligatory role, the affected, may be either goal or actor, and the optional one, the causer, may be either actor or initiator. So the roles of participants are defined primarily by causation: *x* is engaged in a process – is it caused by *x* or not? This contrasts with a transitive form of organization where the roles are defined by extension: *x* is engaged in a process – is it directed outside *x* or not? The ergative pattern appears clearly from the proportionality in pairs such as the following:

the clothes were washed	:	*the clothes washed*
the door was opened	:	*the door opened*
her hair's being grown long	:	*her hair's growing long*
the horse shouldn't be jumped	:	*the horse shouldn't jump*

where the distinction represents the speaker's choice whether to suggest external causation or not: those on the left imply that the role of causer is discrete from that of affected.

I have discussed this aspect of English more fully elsewhere (1967/68); here what is of interest is its significance for the understanding of nominality. If I may use "transitivity" as a general name for this aspect of the organization of the clause, whether the basic pattern is transitive or ergative, then the significance of transitivity in this connexion is that it defines some of the roles which nominal elements may occupy. The notion of a role in grammar is not limited to persons; the occupant may be a person, an object, a concept, or – and this should be stressed here – anything else that is nominalized. In specifying these roles, therefore, we are making generalizations about the function of nominals in English. In addition to the two roles just mentioned, the affected and the causer, I shall refer briefly to some others, including certain roles defined not by transitivity but by another dimension of clause patterning known as "theme". First, however, it may be useful to ask how far this cause and effect pattern which I have referred to as the "ergative" form of organization may be thought of as a significant characteristic of English in its own right, in the sense of whether it has

"inflected", "synthetic" or "isolating"" (1941). Whorf perhaps had in mind here notions such as the "stadial" theory advanced by Marr and his followers in the USSR, according to which language developed by stages corresponding to postulated stages of socioeconomic development, with, for example, parts of speech arising in conjunction with the social division of labour. The ergative construction, as it happens, played a prominent part in discussions of stadial theory, being associated, in one account, with a primitive level of technology in which man was powerless in the face of action by external, natural (including supernatural) forces; in which he saw himself as an agency rather than an actor, as an intermediary rather than an initiator of processes and changes.

The term "ergative" was first introduced by Dirr (1928) in reference to certain Caucasian languages, although the feature which it referred to had been recognized much earlier. Its use has been extended to a fairly wide range of phenomena in different languages (Meščaninov, 1949); but according to Matthews (1953): "In nearly all cases the ergative construction demands the presence of three elements: 1) a transitive verb, 2) an expressed object figuring as the grammatical subject, and 3) the logical subject denoted differently from the way it is when paired with an intransitive verb." To paraphrase very roughly, in an ergative construction the subject of an intransitive verb is in some way or other, such as case, resembled by the object and not by the subject of a transitive verb. In many languages the ergative does not occur unrestrictedly but co-exists with a transitive construction and is itself limited to a certain aspect of the verb or to certain verb or noun classes (Allen, 1964).[2] In using "ergative" in the present discussion of English I am referring not to a construction but to a system: a system, however, characterized by the fact that within it the actor in an intransitive clause type resembles in its potentialities the goal rather than the actor of a transitive one, so that there are identificational grounds for suggesting an ergative-type distribution of roles into 'affected' and 'causer' rather than, or (at least) as well as, a transitive-type one into 'actor' and 'goal'.

One might here attempt to replace the Marrist formulation referred to above by one more along Whorfian lines, asking, for example, whether this form of clause organization tends to direct the attention of a speaker towards an explanation of processes rather than towards a classification of them in terms of their extension. If the ergative implies a notion of causation, by contrast with the transitive notion of action, does this supply as it were a magical-scientific component of clause

meaning where the transitive supplies a technological? But whereas the Marrist hypothesis is at least partially verifiable (and can in fact be shown by counterexamples to be untenable), it is difficult to see how one would even set about verifying a hypothesis couched in this more Whorfian form.

Such a hypothesis might be expected to be verifiable in terms of some culturally determined non-linguistic behaviour, on the lines of Firth's view of "situational meaning": as Robins (1963) expresses it,

> the situational level of analysis and situational meaning are distinct from other levels of analysis and meaning in that they involve relations with extra-linguistic features of the world at large and non-linguistic parts of the speakers' and hearers' culture.

But, as Firth himself pointed out, any linguistically significant concept of "situation" can only be sought in the most abstract terms, even when one is considering the context of situation of single utterances or units of discourse; much the more is this so if one is considering the "situational meaning" of the underlying grammatical patterns of a language. We are concerned here with the language system; and the relevant "non-linguistic parts of the speakers' and hearers' culture" will be embodied in systems of cultural knowledge, even if we might hope to find their reflexes in particular patterns and modes of behaviour.

In his concern with language typology, therefore, Whorf was surely right to switch the beam away from social structure on to the structure of knowledge; and if his suggestion of a link between Standard Average European grammatical concepts and the Newtonian model of the universe is not easy to evaluate (would the ergative perhaps supply an Einsteinian component?), it remains an interesting suggestion which, taken in the context of Whorf's work as a whole, is not without some hint of a direction in which evaluation might be sought. It has long been recognized in ethnolinguistic work that, while neither the structure of the universe nor that of society can be deduced from the study of a language, kinship and other terminologies are interpretable as cultural knowledge and are thus behaviourally relevant; there is nothing implausible in the search for a sociolinguistics of knowledge on a more macroscopic scale. Only, we do not yet know enough about the underlying typology of language systems; so that the questions of immediate concern are likely to be questions internal to language. In other words, the line of investigation leads in the direction of Whorf's language-specific "deep" grammars, towards semantically significant

generalizations about the grammars of languages which may serve, more adequately than do present descriptions, as linguistic evidence for any enquiry into language and cultural knowledge.

So it is time to get back to English, in the expectation that it will be the internal corollaries of a grammatical feature, its consequences within the language, that most directly reflect its significance and its validity. It seems in the present context, for example, that the ergative pattern differs from the transitive in more readily admitting other participant roles into a direct relation with the process; where the relation of nouns to the verb is one of involvement rather than one of extension there may be many different ways of being involved. In English we find as it were a clustering, around the verb, of variously related nominals, rather than a quasi-linear arrangement of one 'on either side'. In a sentence like *shall I play Mary some Bach?* it is not very clear how the participant roles would be distributed into an actor and goal pattern; one is tempted to suggest that not only the record player but even the electricity company would have some claim to be represented. In fact, and more seriously, in clauses like this one, or like *this book won't teach you much French*, or even *he left the house*, a number of fairly distinct participant roles are associated with the process, and the appropriate generalizations that can be made about them are by no means immediately obvious; but the occupants are all nominals (they can, for example, all be subjects) and all have, like the affected and the causer, a sort of direct line to the verb which represents their direct involvement with the process.

We have considered only processes of the "action" type; but when the process is what I referred to earlier as "ascription" the general picture is still one of cause and effect: *she kept quiet, he kept her quiet* is very like *she sat down, he sat her down*. In other words, even an attribute is subject to a form of causation; and the attribute can thus enter into a clause of any kind as a by-product of the process: *he knocked him flat, run the water hot*. Interestingly – this is an aspect of the ergative patterning – only the central participant, the affected, can acquire attributes in this way; none of the others. The effect of this extension is that the attribute becomes itself almost another participant role in the process; it can be a nominal, as in *this will set you up a new man*, although at this level of abstraction the adjective in English is itself a kind of noun – the traditional classification into "noun substantive" and "noun adjective" reflects one level of structural organization.[3]

Of the numerous verbs which can assign attributes, there is one verb which can have this as its sole meaning: the verb *be*. At the same time

there is a second verb *to be* which has a different function, that of equating or identifying, as in *John is the leader.* Here *be* identifies one nominal with another, so that the two roles are those of 'identifier' and 'thing to be identified'; and since these roles are reversible in sequence (we can have **John** *is the leader* or *the leader is* **John**, the relation being one of equivalence and not of inclusion as with attributive *be* clauses), the identifying process is syntactically one of action rather than one of ascription; it is as if this *be* was a transitive verb. The identifying structure is one of the favourite clause types in many varieties of modern English. In a sample of two hundred clauses of contemporary scientific writing, taken from the texts analysed in the course of an investigation by Huddleston and others (1968), thirty-two are of this identifying type. An example is:

> The conversion of hydrogen to helium in the interiors of stars is the source of energy for their immense output of light and heat.

This represents perhaps the most nominalized form of communication; and the prevalence of clauses of this type is I think one of the diagnostic features of what is referred to as a "nominal style". The clause is structured into two nominalized segments, containing between them all the lexical items, and the one is then equated with the other. The "process" is thus reduced to one of simple equation. But this clause type is no more than an extreme form of the very general pattern whereby a cluster of assorted nominals is linked each to the other by a verb whose function is little more than that of glue: it holds them together. What we have been calling the "process" is then merely a relation among objects, the elements that designate processes being, along with everything else, nominalized. In Whorf's terminology, such processes are "objectified": that is, patterned on (some aspect of) the outer world rather than on our subjective experience of them as processes. In this case the model is the outer world of concrete objects (including, as I shall suggest below, persons, so that this 'objectifying' includes 'personifying').

Such objectification may be achieved simply through the use of process nouns, of which there are many, like *dawn* and *song*. So instead of *they danced* we prefer to say *they did a dance*; instead of *they dined, they had dinner*; instead of *they erred, they made a mistake*; instead of *he contended that they had conspired, his contention was that there had been a conspiracy*. It is no wonder that Basic English is able to operate with only eighteen verbs. Or it may be achieved through nominalizations; and here there is

no limit to the range of concepts that can be brought within the nominal compass, since a whole clause, or any part of it, can be nominalized.

We may here take a very brief glance at what is perhaps the most important concomitant of nominality in English: its relation to the structure of the English clause considered as a message, as a piece of communication. In his study of the language of Dickens (1959), Quirk pointed out the timelessness, the "oppressive simultaneity" as he expressed it, of a narrative in which "entirely verbless sentences ... are placed in a network of sentences whose verbs are participles"; one of the features of nominalized structures is that within them marking for tense and person is, or may be, avoided, and Wells (1960) noted that this is sometimes advanced in defence of a nominal style. But there is also a more positive side to the picture: nominality opens up other realms of choice which are not accessible without it.

We have seen that the effect of nominalizing something is to bring it into structurally immediate relation with the verb; and, to the extent that the verb is itself only a relator, thereby with other nominals. Now the English clause is structured not only in terms of participant roles but also, and independently, along a different dimension in which roles, or functions, are assigned as components of a message. There is a 'theme' – what is being talked about; a 'focus' – what is being presented as the main item of information; and so on. These roles are freely combinable with those of affected, causer and the like, so that any nominal element can take on any one of them; but they are not all freely combinable with the functions of non-nominal elements in the clause. There are thus more different ways of structuring the information in a clause like *the announcement of his resignation put an end to the discussion* than there are in, for example, *because it was announced that he had resigned they stopped discussing*. The distribution into identifier and identified is itself a powerful device for the structuring of information: it is no accident that the slogan *what we want is Watney's* lasted very much longer – no doubt it turned out to be more effective in promoting the sale of beer – than the *we want Watney's* which it superseded.

The English nominal style, whatever one's feelings about it, may thus perhaps be seen in the light of its associations with the grammatical organization of the English clause; with the functions that are open to nominal elements on the two principal dimensions of clause structure: the cause and effect dimension, that of "transitivity", and the communicative dimension which I have elsewhere (1967/68) referred

the child comes to define his own identity at the intersection of a network of social relationships. To understand the socialization process we need not merely to observe the ways in which parents talk to their children, answer their questions and so on, but also to consider how the forms of the language predetermine the framework within which this interaction takes place; to understand the linguistic system as the range of possible choices within which the speakers are operating. In the process of learning, for example, the distinction in English between common nouns and proper nouns, the child also learns that *mummy* is a common noun (*my mummy, hasn't Jane got a mummy?*), while *Johnny* is not, so that there is a grammatical distinction between elder kin and others – peers, including coeval kin, and strangers. Any significance this may have in his conceptual development is irrespective of whether or not all other languages make the same distinction. All the various distinctions that the child learns to associate with nouns, such as common or proper, general or specific, count or mass, concrete or abstract, definite or indefinite, as well as the various roles occupied by nouns in clause structure, provide a part of the conceptual framework for his mental development, and thus for the formation of his ideas about himself and about society.

When Gulliver visited Lagado, on his voyage to Laputa, he found three professors engaged in a project for improving the language of their country. Phase I of the project was "to shorten Discourse by cutting Polysyllables into one, and leaving out Verbs and Participles; because in Reality all things imaginable are but Nouns". (Phase II was "a scheme for entirely abolishing all Words whatsoever".) We are not told whether the professors had their grants renewed – or how they managed to apply for them. But we do, as Swift implied, grow up in a highly nominalized environment; and while recognizing, and striving to avoid, a sort of vulgarized Whorfianism (for which Whorf himself would not be to blame) whereby language is held to imprison the whole of one's thinking, we may nevertheless need to enquire into the relation between language and man's view of society – not forgetting here his view of language, of words and things, since linguistically as well as culturally man is both the creation and the creator of his environment.

Linguistics, as Hymes reminds us, is the least independent of disciplines. The declaration of independence of linguists of a generation ago was a prelude to significant advances; its aims were achieved, and times are different. But it is nonetheless a unified field, with its own

range of tasks and objectives; and we should perhaps be wary of any cleavage between, for example, a linguistics that looks to psychology as its nearest relative and one which looks to sociology and social anthropology. The psychologist, concerned primarily with human constants, or at least not culturally determined variables, may seek to make all languages look alike; the sociologist, concerned with the diversity of human cultures, is predisposed for languages to look different. Neither is wrong; all languages are alike and all languages are different. But this is not a simple dichotomy. We cannot simply say that all languages are alike underneath and different on the surface, and the work of Whorf is a useful reminder here. A grammar is not thereby less perspicuous because it embodies an empirical attitude towards the concrete universals of description. It is possible to conceive of a language in which uncles are verbs.[4]

It is possible, that is, provided one is aware of language; and in our own culture, from force of necessity, this awareness is increasing. The philosopher's concern with the relation between natural and logical languages becomes crucial when one has to talk to a computer; and in fields of knowledge from sociology to theoretical physics problems arise of the limitations and preconceptions inherent in the form of a language. Such problems may be new ones for the scientist and the programmer; but for the poet they have always existed, as so well brought out by McIntosh (1966) in the discussion of Gerard Manley Hopkins and his "continuous struggle to come to terms with a medium which he felt was fundamentally unsuited in certain ways to the expression of some of his deepest perceptions". Once again the noun is in the front of the picture, just as it so often is, not surprisingly perhaps, in discussions at a more everyday level of linguistic awareness.

But it was perhaps misleading of me to start on this occasion from a folk linguistic observation (it will be clear, I hope, that "folk linguistics" is not being used as a derogatory term). The generalizations I have been suggesting about English, in interpretation of the awareness many speakers of English have of the prevalence of nominal patterns, did not in fact result from an attempt to explain this awareness. They arose quite naturally out of the study of English grammar, within a framework based on the underlying notion of choice, in which the question being asked was a linguistic 'why?': 'why?' in its usual sense, in the social sciences, of 'what goes with what?'. What I was trying to explain was a set of internal features, at first sight unrelated to each other, that are found in the semantics of Modern English.

The questions of sociolinguistics, to return to the point from which I began, involve correlations of some kind between language and society. I have suggested that these may need to be approached through a consideration of correlations that are found within language itself. It is important therefore to keep both aims in focus. We cannot hope to relate language and society except on the basis of a sound interpretation of language as a system. But this in turn will be achieved only when we set out to answer questions that have arisen in an attempt to interpret language in the broader context of its place in human society.

Notes

1. The full quotation reads: "All languages require new terms, or new combinations of words, to express new ideas. Perhaps the union of two or three existing symbols in one would be most agreeable to the genius of the Chinese. The same object might, however, be attained by periphrasis." Kidd's first alternative reveals his misunderstanding of the nature of the Chinese script; cf. his (1841) criticisms of Du Ponceau (1838), and discussion in Halliday (1959b: 32 and n. 4). Du Ponceau was, as it happens, right; Kidd was representing the current folk linguistic view (as held by westerners), although the fact that the Chinese never did adopt his first alternative might have been seen as convincing evidence against it.
2. Lyons (1966) argues that "since ... the 'ergative', in certain languages at least, is aspectually restricted ..., it is by no means certain that there is a 'deep' structure difference between transitive and 'ergative' constructions" (p. 228 n. 7). I would agree that it is by no means certain; but the fact that transitive and ergative constructions may co-exist in one language is no evidence against it.
3. There is considerable overlap of structural function between noun and adjective: for example, both enter with, in the main, the same set of functions into nominal compounds and, as modifiers, into nominal groups. Lyons' rejection of the identification of adjective and noun (1966: 226) is valid at one level; but at another level, representable in dependency terms, or in terms of structural functions, the traditional view that the two are sub-classes of the same class embodies important generalizations.
4. I am indebted to Dr J. E. Buse, of the School of Oriental and African Studies, University of London, for the information (personal communication) that this is in fact the case in Rarotongan (Cook Island Maori).

Chapter Three

THE CONTEXT OF LINGUISTICS (1975)

There is a feeling abroad in some quarters that linguists are on the endangered species list. The reasoning seems to be that, when the climate changes, the ones who are most exposed are those who have become so specialized as to live off just one particular kind of tree.

Most subjects have their periods of specialization: moments when the focus is narrowed, the perspective sharpened, and the rest of the world shut out. It is often said that this has to be so, that such specializing is a necessary condition for a great leap forward; and this may well be true, if we are talking about specialization as a posture for research. It is less certain that it need determine the scope of operations of a university department, or of its offerings to its students.

To be highly specialized is in its way a kind of defence, a means of protecting one's identity. We are constantly being reminded of how many others feed on language: philosophers, psychologists, rhetoricians, speech pathologists, communications and media experts, and many more besides. Yet there are significant aspects of language that none of these groups takes account of; so linguists have tended to retreat and to consolidate the terrain that is out of others' reach. How often do we read statements like "Linguists concern themselves only with invariant forms", or "Linguists ignore the cognitive aspects of language", or "Rhetoric is not acknowledged to be a part of linguistics".

It must be said at the outset that there have always been linguists whom this image did not fit. But it is true that during the 1960s the majority, in the United States at least, did adopt a highly specialized work style. Faced with a choice between two ways of being unique, one

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that of seeing language in the round, from all angles (where disciplines for which language is an instrument, not an object, see only one or two angles), the second that of seeing what lies at the core of language (to which the other disciplines do not penetrate), linguists chose the second, in this way marking out their own area of specialization and using the discipline 'linguistics' rather than the object 'language' to characterize their domain. Linguistics became the study of linguistics rather than the study of language.

Associated with this specialization was a determination that linguistics should be useless, that it was a theory without applications. It was widely held, for example, that linguistics had no application in language teaching. Now it is true that harm has been done in the past by exaggerated claims about what can be achieved through linguistics – so much so that in some areas of the world students expecting to be taught a second language (which they needed) found themselves being taught linguistics instead (which they did not need). But the other extreme view, one denying that linguistics has any relevance in language teaching, is merely a reflection of the way the linguist conceives of his subject; it is not a considered appraisal of the language teaching process. The effect of this attitude has been to discourage linguists from working in applied linguistics, and to make it difficult for those who do to gain support.

Other instances could be cited; in my opinion machine translation is one of them. It is not unusual to be told now that all the funds spent on this were wasted; but I do not think so. Once it was established that machine translation was a problem in linguistics as well as in computer science, significant progress was made, only to be cut short when the community of linguists rejected the kinds of investigation on which it was based as being of no theoretical interest. So the work was abandoned, when it was just beginning to look realistic. Now there are many parts of the world in which people are not being educated in their mother tongue; and one of the reasons for this is the cost of translating textbooks and background materials. Some form of machine translation – and machine translation is not an "all-or-nothing" kind of activity – might eventually have made a critical difference.

In matters such as these, theoretical linguists refused to admit the social accountability of their subject, and withdrew their expertise from activities that could have been beneficial to large numbers of people. I am not saying that all linguists held aloof. Nor am I implying, in an excess of linguistic paternalism, that miraculous solutions lay around the corner. A massive accumulation of knowledge and experience was

This situation arises when an equation is set up such that what is inside the skin is identified with the potential, and what is outside the skin is identified with the actual. "Competence" is defined as knowledge, and interaction is then characterized as "performance" – the concept of a "theory of performance" cannot, in these terms, be other than self-contradictory. Reality then becomes psychological; meaning is located entirely within the organism, and the social fact is reduced to a mere manifestation. In other words, to idealize is to psychologize.

Here is Lyons' (1968) statement: "... linguistic theory, at the present time at least, is not, and cannot be, concerned with the production and understanding of utterances in their actual situations of use ..., but with the structure of sentences considered in abstraction from the situations in which actual utterances occur". This recalls Chomsky, in 1966: "It is only under exceptional and quite uninteresting circumstances that one can seriously consider how 'situational context' determines what is said, even in probabilistic terms". The impression is given that "situation" and "actual situation" are synonymous, and this being the case the linguist cannot concern himself with interaction and the environment – because interaction is 'what a particular speaker does' and the environment is 'on a particular occasion'. In this way linguistic theory idealizes out the social context, and with it social phenomena of any kind.

To exclude the social context from the study of language is, by implication, to exclude human interaction and the exchange of meanings from the scope of serious enquiry. But there is an alternative, which is to recognize that the "situation" is an idealized construct, as it was interpreted by Firth (1950) and developed by Hymes (1962). In Goffman's (1964) words, "It can be argued that social situations, at least in our society, constitute a reality *sui generis* ..., and therefore need and warrant analysis in their own right, much like that accorded other basic forms of social organization". (I would leave out "at least in our society".) The situation, interpreted as situation type, or "social context", is a representation of the semiotic environment in which interaction takes place. Such concepts – social context, environment, interaction – are of the same theoretical order as "knowledge" and "mind". Interaction explains knowledge no less than being explained by it.

It has been said that an obsession with what goes on inside oneself is characteristic of the modes of thought of the end of an era, when

intellectuals, not liking the reality that lies outside, the social upheavals and wholesale resymbolization, find a pleasanter or at least more ambiguous reality within. Behind this somewhat facile observation there lurks perhaps an element of truth – that for the linguist at least the reduction of human behaviour to mental operations does avoid the awkward consequence that (to adapt David Hays' formulation) between semantics and reality lies social structure. However that may be, the effect has been to turn attention away from social meaning, and from the social act as a source of explanation.

It is here that speech act theory – the work of Austin, Searle and Grice – has had such significance for linguistics. When the social context has been idealized out of the picture, a theory of speech acts provides a means of putting it back again. It celebrates the linguists' rediscovery that not only do people talk – they talk to each other.

The study of speech acts, which as Searle remarks is important in the philosophy of language, starts from the speaker as an isolate, performing a set of acts. These include, among others, illocutionary acts – questioning, asserting, predicting, promising and the like; and illocutionary acts can be expressed in rules. In Searle's (1965) words,

> The hypothesis . . . is that the semantics of a language can be regarded as a series of systems of constitutive rules [i.e. rules that constitute (and also regulate) an activity the existence of which is logically dependent on the rules] and that illocutionary acts are performed in accordance with these sets of constitutive rules.

The meaning of a linguistic act thus comes within the scope of philosophical enquiry. But a language is not a system of linguistic acts; it is a system of meanings that defines (among other things) the potential for linguistic acts. The choice of a linguistic act – the speaker's adoption, assignment, and acceptance (or rejection) of speech roles – is constrained by the context, and the meaning of the choice is determined by the context. Consider a typical middle-class mother and child exchange: *Are you going to put those away when you've finished with them? – Yes. – Promise? – Yes.* The second of these yesses is at one level of interpretation a promise, a concept which (in Searle's now classic demonstration) can be explained by reference to conditions of three types: preparatory conditions, the sincerity condition and the essential condition. But its significance as an event depends on the social context: on modes of interaction in the family, socially accepted patterns of parental control, and so forth – and hence on the social **system**, Malinowski's "context of culture". To describe the potential

from which this utterance derives its meaning, we should need to specify such things as (sub-culture) professional middle class, (socializing agency) family, (role relationship) mother–child, (situation type) regulatory, (orientation) object-oriented; and to interpret it as, at one level, a move in a child's strategy for coping with a parent's strategy of control. (How this may be done can be seen from the work of Bernstein and Turner, from one viewpoint, and of Sacks and Schegloff from another.) We shall not want to say that the child's utterance is 'insincere'; but nor shall we want to interpret it as 'one speech act conveying another', which introduces an artificial distinction between a speech act and its use, as if to say "As an idealized structure, this is a promise; when it is instantiated, by being located in a social context, it functions as something else".

This is not to be construed as a rejection of speech act theory, which is concerned with the logic of individual classes of acts and not with the ongoing exchange of interpersonal meanings. It does not claim to account for interaction as a dynamic social process. But this does raise an important issue in the study of language as object, when one is trying to understand the nature of the linguistic system. It is one thing to idealize out the social process when one is accounting for the ideational part of semantics, where the relevant 'environment' is a second-order construct of objects and events (Malinowski's "context of reference"). It is quite another thing to do so in accounting for the interpersonal part, since this is, in effect, the semantics of interaction. If speech act theory is taken as a point of departure for describing the interpersonal component of meaning, the social context has to be added in afterwards; and this is somewhat like idealizing the nourishment out of a loaf of bread and then adding vitamins in order to enrich it.

Among the interpersonal meanings expressed in language are the sets of roles that the speaker can select for himself and for the hearer from the social relationships that make up the potential inherent in the speech situation. In the most general terms, the options are (i) either giving (offer, or response) or accepting (ii) either information or goods-and-services; derived from these is a rich network of more specific choices. But the meaning of any specific role-relationship that the speaker can assign depends on the social context. The notion of 'offering information', for example, means one thing in school and another thing in the family; and something else again in the young children's peer group. It is difficult to account for these patterns – or for how a child

comes to learn them – in terms of a semantics in which the speech role has an idealized meaning abstracted from the social situation.

The speech role system is one which has a great deal of 'play', or variation, in it; it is highly sensitive to individual differences, and to differences among social groups, and so plays a significant part in the differentiation of meaning styles. Individuals differ widely in their meaning styles; this is how we recognize people by their meanings. Subcultural meaning styles – what Bernstein calls "sociolinguistic coding orientations" – show the same phenomenon at the subcultural level. Both individuals and social groups vary in the meanings they typically associate with given social contexts; and the selection of roles in the speech situation is a rich source of variation. If any general interpretation is to be given, such variation has to be treated as inherent in the system.

Of course, there will always be idealization; in any systematic account of language, certain phenomena will have to be dismissed as irrelevant. But the nature and extent of this idealization is a function of the purpose in view. In order to achieve a syntax that could be stated by rules, linguistic philosophy first idealized out natural language altogether. Chomsky then showed that natural language could be brought within the scope of rules, given a particular kind and degree of idealization (labelled "competence") which, among other things, excluded all but the ideational component of meaning. If the rules are to be extended to (that part of the syntax which expresses) meanings of an interpersonal kind, it is still necessary to let the indeterminacy in as late as possible, by idealizing out the social context – since it is this that is responsible, so to speak, for the variation within the system. This is not the only possible scheme of priorities; we can conceive of a sociological semantics which excluded all ideational meaning – and which would be equally one-sided. As it is, however, linguistics has been dominated by a perspective which, because of its emphasis on knowledge in contrast to interaction, has favoured a semantics without social structure, rather than one that characterizes the meaning potential inherent in the contexts that are defined by the social system.

Progress has then been achieved by further extending the scope of rules. From having been first used in the representation of isolated sentences having neither verbal context nor situational context, their scope has been extended in these two directions: towards text grammars, and towards the structure of interaction.

Text grammars have been described by van Dijk (1972) as grammars in which

> ... derivations do not terminate as simple or complex sentences, but as ordered *n*-tuples of sentences ($n \geq 1$), that is as *sequences*. The intuitive idea, then, is that the text grammar must formulate derivational constraints such that certain sequences are grammatical and others are not, viz. that the set of well-formed texts of a language is a subset of all possible sequences of sentences.

Here there is verbal but no situational context; hence the concept of a text grammar relates primarily to those registers in which the "situation" is contained within the text as a second-order field of discourse, typically various forms of narrative. Any descriptive ideal that proves to be unattainable with a sentence grammar will be doubly unattainable with a text grammar; for this reason text grammars in this sense are likely to remain purely formal exercises.

The structure of verbal interaction has been described by Sacks and Schegloff in the form of rules of sequencing, turn-taking and the like (Schegloff 1968; Sacks, Schegloff and Jefferson 1973). Such rules do not specify relations between the social context and the text, but they do take account of features of the non-verbal environment in specifying the sequence of verbal events. The question at this point is how far rules can take us in representing interactive sequences, and how much this in turn tells us about the exchange of meanings as a social process. Mohan (1974) suggests that a more appropriate model for interpreting utterance sequences may be found in social action theory:

> I shall view certain patterns of dialogue as the result of rational goal-oriented linguistic action by the participants. ... [The] rational order does not determine the specific sequences of utterances, but rather places constraints on the sequencing of utterances.

In Mohan's view the "means-ends" concept of the purposive, rational actor may be more relevant to human action and interaction than a system of rules.

If utterances are directed by rational action, what is the status of the system that has evolved to produce them? Without going into problems of the nature of functional explanations of human symbolic systems, or their relation to rational action as an explanation of the behaviour of the individual, I shall assume that it makes sense to say that language has evolved in conditions which relate it to the creation and maintenance of the social system. Given some form of "means-ends" interpretation of

> The essence of the second life consists in a secular stratification which can be reduced to the division of the inmates into 'people' and 'suckers'. The 'people' are equal; they differ [only] in the degree of acceptance of the patterns of behaviour which are the second life rituals. ... The body of those rituals are called 'grypserka' (from 'grypa' – a slang word designating a letter smuggled secretly to or from a prison); Malkowski defined it as "the inmates' language and its grammar". In this language, certain ... words are insulting and noxious either to the speaker or to one to whom they are addressed.

It may be said that these are pathological phenomena, of no general interest. But only the most determined idealist would claim to distinguish clearly between the pathological and the normal; it is pointless to ignore the pathological aspects of the social system. The second life comes into existence in response to conditions created by the system; it also stands as a metaphor for the system, representing it as though projected into a closed shell. The anti-society is the society as it becomes when cut off from nature and openendedness and forced to close in on itself. A linguistic study of phenomena of this kind may shed new light on more familiar patterns of interaction and their relation to social structure.

In our concern with the rules of forms and the forms of rules, the social structure tends to be forgotten, and language is set apart from the linguistic community. But the linguistic community is an important component of a linguist's reality. In its traditional sense, as a linguistically homogeneous population linked together in a network of communication, it is an idealized construct to which probably no human group ever fully corresponds, and from which our modern urban social structure is very far removed. But whether we think in terms of the United States, or New York City, or the Lower East Side, we are still referring to what are in a real sense semiotic domains, entities throughout which meanings are exchanged in regular, socially defined contexts. A modern city is an elaborate cosmos of symbolic interaction in which language functions as a powerful and yet sensitive instrument for the fashioning of social life. The patterns of interaction recall in many ways the dialectic of society and anti-society, though without the sharp boundary which separates the two; between language and anti-language there is, rather, an uneasy continuum, in which the street gangs and criminal subcultures define one pole (Halliday 1976). In this sort of environment, the language of a social group that is under pressure, for example what Labov (1972) calls "BEV" (Black English

Vernacular), becomes a major factor in the definition and defence of that group's identity.

The linguistic "order" (to borrow the sense of "social order") in a complex society is closely bound up with variability in the linguistic system, our understanding of which is due first and foremost to the pioneering work of Labov. Wherever human behaviour is perceived as variable, social value tends to attach to the variants; and language is no exception. In many instances, the value assigned to a variant is simply the value assigned to the social group with which it is thought to be identified; this is the source of the "prestige form". From the point of view of language as system, the assignment is arbitrary: there is no intrinsic reason why +/r/ should be favoured over −/r/, or the other way round as the case may be. At other times, the value attaches to meanings, and here the effect is non-arbitrary. Semantic options, especially perhaps (though not only) those of an interpersonal kind, forms of address, politenesses and insults, modalities, and the like, mark not only individuals but also social groups: these too have their "meaning styles", as I expressed it earlier. Elements at other levels, syntactic, lexical, morphological and phonological, may become "foregrounded" through association with these semantic features, giving a sense of mutual reinforcement – what in the context of a literary work is called its "artistic unity", where in layman's terms 'the style (or the sound) suits the meaning'. An example is the social status of vocabulary derived from different sources: in English, Graeco-Romance words are associated with learning, and hence by a natural extension with pomposity and pretence (a "latinate" style). Either way, value-charged elements become available as coinage in verbal exchanges of all kinds; the speaker may "follow the rules", or he may play with them, bend them, and break them, as Sherzer has described. Gumperz' work brings this out strikingly in a number of different contexts (1971). Variation in language is a rich source of symbolism for the elaboration of the social structure.

Since in the main stream of linguistics language had been isolated from its social environment, work in this area came to be known by the somewhat self-conscious label of "sociolinguistics", the prefix suggesting that here, by contrast, language is studied in its natural environment. "Sociolinguistics" thus corresponds to what at other times and places has been called simply linguistics. It has led to some striking new linguistic insights, particularly in the interrelation of descriptive and historical theory. On the other hand, it has had little to

say about society; "nor", as Bickerton (1972) remarked, "has there been any stampede of sociologists into the linguistic corral, looking to see what there is for them there, as there has of educationists or philosophers".

It will not do, in the present context at any rate, to read too much into the "socio-". Most sociolinguistic studies still accept as given the linguist's own rather simple model of the social structure. They still concentrate on phonological and morphological indices; and they still assume a situational determinism based on a concept of style as something somehow separate from meaning. The next step is to see where language might suggest some new interpretations of the social structure; to work towards a social semantics which could explain patterns of social value in terms of more than the "prestige" of arbitrarily selected formal features; and to investigate the question of how the social system, as a whole, works through the linguistic system as a whole – which Hymes has referred to as the central problem for sociolinguistics in the immediate future.

Until this step is taken, the frame of reference for the discourse will continue to be the traditional subject-matter of linguistics. This is the basis of the definition of sociolinguistics as "the study of language in a social context", as distinct from "the study of language-and-society", perhaps again reflecting the prevailing "intra-organism" mode of thought in its reluctance to postulate a deeper social reality. Contrast in this respect the different and largely complementary conception of sociolinguistics to be found in the work of Bernstein (1971, 1973), directed towards a theory of society, but one in which language has a critical function as the effective channel of transmission of the social structure.

Bernstein's studies of socialization suggest how the semiotic patterns of culture and subculture perpetuate themselves in language, and how a child is drawn into the systems of social values in the course of, and as a concomitant of, learning his mother tongue. Among these value systems are those relating to language itself, and these carry with them a whole baggage of largely negative attitudes to which the child is exposed – it is over-simple to suggest that a child has no conception of linguistic inferiority other than that which he learns through school. These attitudes are prevalent in family and peer group. But they are sanctioned from beyond; and the authority that comes from the adult world is felt most strongly in the context of the third of the primary socializing agencies, the school.

Through the accumulation of debate and experiment in the education of non-standard speakers, it seems to emerge that it is no great burden on a child, or even an adult, to live with two (or more) dialects provided the conditions are not unfavourable. This is not surprising once one accepts that, in language, variation is the norm. Unfortunately, however, an environment of linguistic prejudice constitutes a very unfavourable condition; as Riegel expresses it (1973),

> Children raised under poor economic conditions ... are commonly also raised under the least favorable linguistic contingencies, those leading to confounded bilingualism. They are prevented from transferring knowledge in one language to the other because the two languages are not sufficiently separated. ... The first step to aid them has to consist in accepting the two languages, e.g. standard and non-standard English, as separated and equal.

Riegel's concept of separateness raises interesting questions of a different kind, that we cannot go into here; but on the equality issue there can be no hedging.

I think it is fair to claim as a positive achievement for linguistics its part in modifying the prevailing social attitudes to dialectal varieties. This is not to claim that the battle has been won. But those who have worked in an educational context over a period of time can testify to the increasing objectivity towards, and tolerance for, non-standard forms of speech; it seems to go hand in hand with a greater interest in and concern for the spoken language. There has been opposition, of course, both from within and from outside the academic community; there are those for whom the recognition of social value in non-standard speech is nothing but sentimental egalitarianism, as well as others who have seized on the idealizations of formal linguistics as a justification for worn-out perscriptivism – a move made easier for them by the prevailing but quite erroneous notion that casual speech is fragmentary and formless. It is fairly generally known, by now, that linguists have always insisted that the standard/non-standard distinction has to do not with language as a system but with language as an institution – it is a function solely of the relation between a language and its speakers – and that all forms of language are equally deserving of respect and attention. No other group than the linguists has consistently espoused and explained this position.

No one would wish to imply, therefore, that linguists everywhere have contracted out of the social system. But the participation of a

group is not measured by the number of individuals in it who get their feet wet. We cannot divorce the social context of linguistics from its intellectual context; and it cannot be disputed that the profession as a whole has tended to dissociate itself from many questions of language that are of serious and understandable concern to laymen. We have disclaimed interest in questions of rhetoric; in socially weighted languages, such as those of politics and the law; in writing, journalism and the media; in technical languages and technical terminology; in translation and interpreting; and in the whole problem of evaluating and monitoring human communication. An example of what linguists are doing in these areas can be found in Ferguson's (1973) studies in the language of religion; but such studies are still rare. It is as if, far from struggling for social recognition, we have struggled to reject the recognition that society wants to thrust on to us, and the responsibility that goes with it. At an academic level we have wooed those disciplines which allowed us to maintain our own purity of thought; while the intellectual exchanges with other neighbouring disciplines, such as English, education, and rhetoric, have been minimal.

In short: linguistics has not yet faced up to the question of its social accountability. Social accountability is a complex notion which cannot be taken in from one angle alone. It is not defined as satisfying some abstract or symbolic entity such as a board of trustees, the business community or the taxpayer. Nor is it the same thing as satisfying our own individual consciences, which is a purely private luxury. There is an ideological component to it, which consists at least in part in eliminating some of the artificial disciplinary boundaries that we have inherited and continued to strengthen. At this level, many of the arguments lead back to this same point: that there are strong boundaries between academic disciplines, which hamper intellectual development, and induce both overspecialization and underapplication. Perhaps we need some "semi-revolutions" of the sort envisaged by Bennison Gray (1974), with his plea for unifying linguistics and rhetoric in a "semantic grammar". At any rate, in the human sciences, private conversations within one discipline seem to have outlived their usefulness; as Mary Douglas has said (1973),

> The specialists have had half a century to confer with their inner circle of initiates and to evolve rules of discourse appropriate to the fields they have hedged off. The time has come for a renewal of the original community and of the free-ranging conversation about the social basis of knowledge that it once enjoyed.

Chapter Four

IDEAS ABOUT LANGUAGE
(1977)

Linguistics may still be a fairly new name; but it is by no means a new phenomenon. The objective and systematic study of language (if we call this "scientific" linguistics, it will serve to distinguish it from the "folk" variety) was already under way in classical times – in Europe, in China, and above all in ancient India. One of the greatest of our predecessors is the Indian scholar Pāṇini, who lived, probably, in the fifth century B.C. Of Pāṇini's Sanskrit grammar, Robins remarked that it "manifestly came at the end and as the culmination of a long line of previous work of which we have no direct knowledge". And while the linguistic insights of ancient Greece do not perhaps attain the same high level of sophistication as those of India, there too there must lie behind them a long period of speculation about the nature and evolution of language.

In this perspective, of more than 2,000 years of linguistic enquiry (and there have been remarkably few gaps in the tradition), it is hardly surprising that all of us have rather explicit ideas about language. The folk linguistics of western man now contains various technical terms such as noun and verb; and even elaborated concepts like participle and preposition, active and passive, imperative and subjunctive find their way into everyday conversation. It must be admitted that they are not always elegantly used. A friend of mine in the public service once drafted a letter for his head of department to sign, only to have it returned for correction. In it, he had written "As soon as the contract is ready we will send you a copy of it"; this had been amended to "we will send you a copy of same". Incensed by this barbarism, my friend complained; to which the senior official replied, in tones of shocked reproof, "But you can't end a sentence with a proposition!"

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Much of our adult folk linguistics is no more than misremembered classroom grammar (or was, in the days when there still was classroom grammar); it may be wrong, but it is anything but naïve. If therefore we want to find out what it is that people know about language simply by virtue of the fact that they speak, we have to go back a little farther; and since we cannot go back in the history of the culture, at least not back to ultimate beginnings, we will go back for a brief excursion in the history of the individual. What does a child know about language before his insights are contaminated by theories of the parts of speech?

The earliest linguistic terms an English-speaking child learns to use are not terms like *noun* and *verb*, or even *word* and *sentence*; in fact they are not nouns at all – they are verbs, typically *say* and *mean*, and shortly afterwards *tell*. So for example Nigel, at 1 year 8 months, told the story of what happened on a visit to the children's zoo. He had been stroking a goat, while in his other hand clutching a plastic lid he had picked up somewhere; the goat worked its way round so that it could nibble at the lid, but the keeper took it away. Here is Nigel's account:

> goat try eat lìd ... man said nò ... goat shòuldn't eat lid ... (shaking head) gòodfor it.

'The goat tried to eat the lid. The man said "No. The goat shouldn't eat the lid – not good for it."' A child must understand a great deal about the nature of language to be able to report speech in this way. He must have internalised the concept of an act of meaning – of speech as symbolic action, distinct from but interdependent with acts of a non-symbolic kind. And when we look more closely, we find that he can already report acts of meaning before he has an explicit verb *say* with which to do so. Here is Nigel at 1 year 7 months. A kite had fallen and its string lay stretched along the ground; his father had warned him not to trip over it. Nigel recalled the incident later, saying

> qài ... "qài ... māiṇ^{n} tɪŋ"

Translated into adult, Nigel's sentence meant, '(there was a) kite, (and Daddy said "there's a) kite, mind (the) string".' Already for Nigel at a year and a half, saying is a part of experience; like other actions and events, it can be observed, recalled and narrated.

By 1 year 9 months Nigel has distinguished 'saying' from 'meaning'. He is told to keep away from a friendly dog, and reports:

> lady said "don't touch Pènny; not feeling wèll"

This contrasts with:

"lailai ... lailai" ... Ì don' know lailai méan
"trȳget èvl" ... what that méan?

He also has a clear concept of 'naming', which is the converse of meaning. Once again, the concept is developed long before it gets a name, and Nigel progresses towards it through various stages: at 10 months, d̀ò 'let's look at this together' (togetherness through shared experience); at 13 months, æ̀ ::: dæ̀ 'let's look at this – you say its name!'; at 16 months, adʸ̆dà 'tell me its name!'; at 20 months, *whát thàt*, and at 24 months, *what's that cálled*?

By the time he is two years old, a child has a considerable awareness of the nature and functions of language. When he starts to talk, he is not only using language; he is also beginning to talk **about** it. He is constructing a folk linguistics, in which (i) saying, and (ii) naming-meaning, denote different aspects of the same symbolic act. And language functions for him both in reflection and in action: as a way of thinking about the world (including about himself), structuring his experience and expressing his own personality, and as a way of acting on the world, organizing the behaviour of others and getting them to provide the goods-and-services he wants. The one thing he does not do with language at this stage is to impart information. In fact – and despite the predominance of this motif in adult **thinking about** language – the imparting of information never does become the unique primary **function** of language even among adults (except perhaps those who do it for a living).

Soon, however, the child will go to school; and once he is there, his ideas about language will be superseded by the folk linguistics of the classroom, with its categories and classes, its rules and regulations, its do's and, above all, its don'ts. Here a fundamental ideological change takes place in the child's image of language – and, through this, in his image of reality. Up till now, language has been seen as a resource, a potential for thinking and doing; he has talked about it in verbs, verbs like *call* and *mean, say* and *tell*, and *rhyme*. From now on, language will be not a set of resources but a set of rules. And the rules are categorical – they operate on things; so he must talk about language in nouns, like *word* and *sentence*, and *noun* and *verb*, and *letter*.

It would be wrong to suggest, however, that the image of language as resource is totally submerged and lost. Unlike the linguistics of the classroom, which is codified (organized as a cultural institution), and so conscious and explicit, the linguistics of the family and neighbourhood,

though it is ***coded*** (organized semantically), is not codified; it is partly implicit ("covert", in Whorf's terminology), and so below the level of conscious awareness. For this reason it has considerable staying power; and the adult, however much he may traffic in categories and rules, and sentences ending in propositions, and all the niceties of verbal etiquette which show how well he was brought up, retains some insights of the earlier kind, and even adds to them in the course of his everyday informal discourse, a great deal of which is talk about talk. So when we say "I know what he means. But he could have worded it differently." we are showing an awareness of language as a multiple coding system, in which meanings are coded or expressed in wordings; we also know that the wordings are in turn expressed, or recoded, in speech (and, in some languages, in writing); and this is exactly what the linguist means when he says in more ponderous terms that language is a tristratal system consisting of a semantics, a lexicogrammar, and a phonology. The committee man who says about some resolution that we should "keep the meaning, but change the wording" is expressing the folk linguistic insight that the coding is not one-to-one; it is always possible to change how you say what you mean – though, in fact, as he would probably admit, the meaning that results is never **exactly** the same as it was before.

So we have enshrined in our folk linguistics these two views, one of language as resource, the other of language as rule. The two co-exist; but since one is a product of our primary socialization, and belongs to the reality that is learnt at our mother's knee, while the other is part of a secondary reality and belongs to the realm of organized knowledge, they impinge on each other scarcely at all. But in our prevailing ideology, the dominant model is that of language as rule (our schools teach the formal grammar of logic, not the functional grammar of rhetoric); and it is only when we come across the writings of those with a different vision of language, like Malinowski, Hjelmslev and Whorf, or alternatively when we make a deliberate effort to change the prevailing image, as some teachers and educators are trying to do, that the notion of language as resource surfaces from our unconscious and we begin to build on the insights that we possess by virtue of this simple fact, observed from the moment of birth (if not before), but so easily forgotten by the philosophers of language, that people talk to each other.

It is in this light that we should look for a moment at the earliest traditions of linguistics in the West. We do not know, of course, what went on before the development of writing; many non-literate cultures

have extensive folk taxonomies for different types of speech event and the social values which accrue to them (see Bauman and Sherzer (1975), for descriptions of Tzeltal, Mayan, Maori, Iroquois, etc.) and it is not unlikely that language was a topic of systematic explorations in early pre-classical times, with what Peter Minkus calls "campfire grammars" as a forum of linguistic ideas. The amount of attention given to language by Plato (Plato often uses language as a source of his analogies; there are also systematic observations on it in the *Sophist* and elsewhere, and the *Cratylus* is wholly devoted to language – it is an elaborate etymological fantasy, which Socrates is made to offer with some embarrassment) suggests that a great deal of intellectual discussion of language went on in fifth-century Athens. We can only guess what forms it took. Far too little is known of the work of Protagoras and the sophists, and what is known comes largely from their detractors; but from these slender indications, it seems likely that it is they who were the originators of systematic linguistics in the West. According to Diogenes Laertius, Protagoras identified the basic speech functions of statement, question, command and wish; these were what formed the basis for the first steps in grammatical analysis.

The sophists were concerned with rhetoric; with the nature of argumentation, and hence with the structure of discourse. We know that they were familiar with elementary grammatical categories like number and gender. We do not know how far they took the analysis of sentence structure. But it seems likely that the insight recorded by Plato in the *Sophist*, that a piece of discourse consists of two parts, ὄνομα and ῥῆμα, was their achievement. This was an analysis of a unit of discourse considered as something that is **arguable**, something that can be maintained, denied, disputed, contradicted, doubted and urged. It was **not** an analysis in terms of logical structure, and it said nothing whatever about truth value. What then would be the meaning of ὄνομα and ῥῆμα in such a context? Here is how Plato introduces these terms, in the *Sophist*. Stranger: "There are two modes of the expression of existing things in sound ... That which is an expression for actions we call ῥῆμα. The vocal sign for those who do the things, is the ὄνομα." And later, "If we combine ῥήματα with ὀνόματα, we are not only naming; we are doing something (οὐκ ὀνομάζει μόνον, ἀλλά τι περάινει)." And finally "Discourse (λόγος) must be about something; it cannot be not about anything (λόγον ἀναγκαῖον ... τινός εἶναι λόγον, μηδέ τινος ἀδύνατον) – otherwise it is not discourse (οὐκ ἔστι λόγος)". The Stranger gives an example: "I will say a piece of discourse

So in the earliest flourish of western linguistics we can trace the source of our original metaphor. In the way a child growing up in our culture develops his ideas about language, in the folk linguistics of home and school, we can recognize these two distinct cognitive styles. The child's shift of perspective, from an unconscious awareness of language as doings, as a way of achieving by acting on others, to a conscious scrutiny of language as norms, or rulings, has its counterpart in the shift of perspective from language as rhetoric to language as logic in the ideology of the ancient Greeks.

The changed conception of grammatical structure, from a configuration of functions defined **within** language to a bracketing of constituents representing functions defined **outside** language (in logic), symbolizes the beginnings of a split between ethnographic and philosophical linguistics which has persisted to the present day.

We can follow these two strands throughout the subsequent history of ideas about language in the west. The one stems from Aristotle; it is "analogist" in character, based on the concept of language as rule, and it embeds the study of language in philosophy and logic. The other has, for us today, less clearly defined origins, but it can probably be traced to Protagoras and the sophists, via Plato; it is "anomalist" in character, and has a marked element of Stoic thought in it. It is not philosophical (the Stoics were the earliest scholars explicitly to separate linguistics from philosophy, and grammar from logic) but rather descriptive or, to use another term, ethnographic; and the organizing concept is not that of **rule** but of **resource**.

Let me try to summarize these two traditions, as they have persisted through the ages. In doing so, I shall inevitably be grossly oversimplifying; in particular I would disclaim any suggestion that every school, every scholar and every work must belong squarely to one tradition or the other. Most of them combine ideas, in various measure, from both. But this may perhaps give some impression of a pattern that is to be found recurring throughout the history of ideas about language in western thought.

We can identify, broadly, two images of language: a philosophical-logical view, and a descriptive-ethnographic view. In the former, linguistics is part of philosophy, and grammar is part of logic; in the latter, linguistics is part of anthropology, and grammar is part of culture. The former stresses analogy; is prescriptive, or normative, in orientation; and concerned with meaning in relation to truth. The latter stresses anomaly; is descriptive in orientation; and concerned with

meaning in relation to rhetorical function. The former sees language as thought, the latter sees language as action. The former represents language as rules; it stresses the formal analysis of sentences, and uses for purposes of idealization (for deciding what falls within or outside its scope) the criterion of grammaticality (what is, or is not, according to the rule). The latter represents language as choices, or as a resource; it stresses the semantic interpretation of discourse, and uses for idealization purposes the criterion of acceptability or usage (what occurs or could be envisaged to occur).

The degree and kind of idealization involved is a key point of difference between the two perspectives. In philosophical linguistics the level is set very high; language has to be reduced as nearly as possible to an artificial logical language – hence the improbable examples used by philosophical grammarians, such as the famous *Socrates albus currit bene* 'white Socrates runs well' of medieval modistic grammar. Ethnographic linguistics, by contrast, keeps as close as possible to real language, spoken or written; when the linguist has to construct examples, he takes care to make them convincing.

It does not seem very difficult to discern that the two views are in no way contradictory. Yet they are often made to appear so. Throughout the history of western linguistics they have drifted now closer, now further apart; the last two decades has seen a very sharp polarization between them, but now the gap is closing once again. For most of the time the dominant strand has been the philosophical one. It appears in medieval linguistics in the theories of the Modistae, who laid the foundations of formal syntax; in their successors the French "rationalist" school of Port-Royal, with its Aristotelian conception of scientific knowledge; and in the Chomskyan structuralist-transformationalist theory of today. Philosophers of language tend to have a very explicit view of the nature of a theory, and of what constitute valid modes of reasoning; they tend to dismiss the ethnographers as non-theoretical, because their theories are not of the right kind. Chomsky's dismissal of Hockett for being right for the wrong reason is strikingly reminiscent of Aristotle's dismissal of the sophists for knowing things in an 'accidental' way. Both formulations mean simply that the two ideologies differ as regards what they consider to be an explanation.

Ideologically, philosophical linguists tend to be absolutists, while ethnographic linguists tend to relativists. The relativists of the ancient world were of course the sophists, who held that truth was relative to the time, the place and the individual subject; but this was a general

philosophical outlook. Relativism as a specifically **linguistic** viewpoint appears only in the modern post-Renaissance period, when linguists first began to describe more than one language. Describing different languages is a relatively recent preoccupation; and with it the difference of ideology appears in a new guise, as an issue between language universals and language variables. When languages come to be seriously compared with one another, the question arises: are all languages alike, or are they different?

Presumably everyone agrees that there are certain respects in which all languages are alike. All languages consist of meanings, wordings and sounds; they all have names for things; they all have melody, rhythm and syllabic articulation. Equally, everyone agrees that there are certain respects in which languages differ: not only do they obviously have different names for things, they also construct these names differently, have different kinds of melody and rhythm, and different ways of wording and of sounding. The issue is, simply, which is to be the more emphasized, the uniformity or the variety. This is really the old "analogy-anomaly" controversy metaphorized into a modern form; but it is a critical issue. Philosophers of language stress the universals; they make all languages look alike. Ethnographers stress the variables; they make all languages look different. When new languages came to be described by European linguists, from the early seventeenth century onwards, first the modern European languages and then languages from further afield, both these two opposing tendencies became apparent. Either every language is treated as a version of Latin, or each language is described in its own terms.

The consequences of this are still with us today. Transformational linguistics made extreme claims about universals. Since these claims were couched in terms of a formal theory, they could not be empirically invalidated: if, for example, it is claimed that in all languages the subject precedes the predicate (the prior assumption being of course that all languages have subject and predicate), then if a language turns up in which the subject follows the predicate all one need do is to set up an abstract representation in which the subject precedes the predicate and derive the other one from it. This is a harmless enough exercise. What is not harmless, however, is the nature of the chosen universals. The features to which this universal status is assigned are largely features of English, which has replaced Latin as the huntingfield of philosophical linguists; or at best features of what Whorf called "Standard Average European". They are not any longer the crude and easily penetrated

absurdities of a century ago, when the pluperfect subjunctive was likely to be foisted on to a language such as Indonesian or Chinese; they are much more subtly disguised – but they are European all the same. Modern philosophical linguistics is distressingly ethnocentric. It presents all languages as peculiar versions of English. In this situation it is not enough for the ethnographers simply to go on with their own work, of describing each language in its own terms. This cuts no ice at all. What they need to do perhaps is to turn the tables – to describe English in terms of categories derived from other languages, to interpret it as a peculiar version of Chinese, or Hopi, or Pitjantjatjara. With an effort of this kind universal linguistics might come to be freed from ethnocentricity and begin to make a serious contribution to the understanding of human cultures.

It is not easy to penetrate under the skin of another language, especially one from a culture that is very remote from one's own. On the surface, of course, there should be no problem, since whatever meanings are expressed in the other language can also be expressed in one's own, allowing for the invention of new names where necessary. But what matters most in a language is not what **can be** expressed but what **is**; and even more, what is coded – what meanings are systematized, and how these meanings are organised in their contrasts and combinations. Structural descriptions of sentences do no more than scratch the surface of language, and even here the very strength of the philosophers' insights into logical structures has distracted attention from the real nature of structural relations in language.

Our linguistics today is still very close to a folk science. We have progressed very little, in these two-and-a-half thousand years, from common sense everyday knowledge. Even our interpretations of the best described languages of our own culture are very limited in scope, and still more limited in imaginative power. In this context it is interesting to see what happened in the sixteenth century when western linguists first found themselves faced with exotic languages, and what was the impact of this on their own ideas about language. What happened, for example, when they were faced with the writing system of Chinese?

Perhaps the greatest single instance of the folk linguistic genius is the evolution of writing. In order for a language to be written down (to be "reduced" to writing, in the very appropriate folk linguistic metaphor), it must at the same time have been analysed to a rather sophisticated level. In modern times this is often a conscious process, as happens

when missionaries or other language planners design alphabets for unwritten languages; but in the past it was usually unconscious, the cumulative effect of a number of small steps taken over a long period of time. In the course of this process (unlike the conscious efforts, which are often subject to the fads and fashions of linguistics of the time), a language usually gets the sort of writing system it deserves. So in the ancient world languages with rather tight syllabic structure tended to develop syllabaries; those with looser syllabic structure ended up with alphabets; and those with consonantal roots, the Semitic ones, evolved something in between the two. Of course the process is often affected by historical accidents; once a writing system evolves it takes on a life of its own and can be borrowed by others. Such 'accidents' range from trivial distortions like the demise of Old English "thorn" (the *th* sign), which the Norman scribes could not write, to massive effects such as the adoption of the Chinese writing system for Japanese, a language to which it was quite inappropriate. Interestingly, Japanese ended up with a script which, though extremely complicated, represented rather well the complex pattern of language that resulted from large-scale borrowing – a symbiosis of two very different sub-systems, one indigenous and the other imported from Chinese.

Chinese is unusual in having a phonological structure that is not well suited either to syllabic or to alphabetic writing; the only natural analytic unit is the hemisyllable, and this did form the basis of Chinese phonological theory, in which the primary elements were 'initial' and 'rhyme'. But Chinese is very well suited to another kind of writing system altogether, one in which the written symbol represents, not any unit of sound but a unit of wording, the morpheme. The morpheme (it has no non-technical name in English, though it has of course in Chinese) is the elementary particle of lexicogrammar, the thing out of which words are built (the English word *kindness* consists of two morphemes, *kind* and *ness*). Chinese writing is morphemic. For a language like English, a morphemic script would be a monstrosity; but for Chinese it works very well. Now in classical Chinese, unlike the modern language, most **words** consisted of only one morpheme; so, taking the script as the representation of the classical language, which was the language of most written texts up to this century, it is not too far out to interpret it in terms of western categories as a word-symbolizing, or "logographic" script ("lexigraphic" would be more accurate). One thing that it is **not** is ideographic; indeed the notion of an ideographic script is self-contradictory, since a visual communication

art of memory and its associated cosmological theories. The medieval art of memory goes back to Simonides and the rhetoricians, who evolved it as a mnemonic device, the use of images as a way of remembering complicated lists of facts, as was necessary for example in the conduct of a lawsuit; but it had become interpenetrated with the hermetic tradition, with cabbalist and other mystical systems, and so tended to be regarded with some suspicion by the spiritual authorities. These systems introduced not only elements of sorcery, in which verbal magic played an important part, but also cosmologies which challenged the established view. Giordano Bruno, whose *Shadows of Ideas* and *Art of Memory* were imaginative developments of the thirteenth century *Grand Art* of Raymond Lully, with its Homeric "golden chain" linking all things to each other and heaven to earth, was burnt as a heretic in Rome in 1600 (Yates 1964). Other well-known examples at the time were the "memory theatre" of Giulio Camillo, and the "method" of Peter Ramus (Pierre de la Ramée) (Ong 1958). Ramus rejected the classical use of images as the basis of memory, regarding it as accidental and unsystematic, and took the art of memory out of rhetoric into logic, where "every subject was arranged in 'dialectical order'" – that is, taxonomically (Yates 1966: 232). Frances Yates writes of him (*ibid*: 234):

> Though many surviving influences of the old art of memory may be detected in the Ramist "method" of memorizing through dialectical order, yet he deliberately gets rid of its most characteristic feature, the use of the imagination. No more will places in churches or other buildings be vividly impressed on the imagination. And, above all, gone in the Ramist system are the images, the emotionally striking and stimulating images the use of which had come down through the centuries from the art of the classical rhetor. The "natural" stimulus for memory is now not the emotionally exciting memory image; it is the abstract order of dialectical analysis, which is yet, for Ramus, "natural", since dialectical order is natural to the mind.

Not surprisingly, Giordano Bruno thought Ramus another arch-pedant, like Aristotle, and he attacked them both vigorously.

So the new scientific mode of thought was expected to pursue the same goal that had fired the medieval imagination, that of providing the golden chain, the key to the organization of knowledge. And such a venture needed a systematic notation. This was where the significance of the Chinese script came in. The seventeenth-century philosophical grammarians, men like Cave Beck, Francis Lodowick, Samuel Hartlib,

Seth Ward and above all George Dalgarno and John Wilkins in England (many of them founder members of the Royal Society), as well as Mersenne in Paris, Bisterfeld at Weissenberg and, subsequently, Leibniz, who faced the problem of organizing, codifying and transmitting scientific knowledge, saw this clearly as a linguistic problem: knowledge was organized and stored in symbols. But they also inherited an immense suspicion of ordinary language, which in prevailing humanist ideology was regarded as at best arbitrary and at worst downright deceitful. Bacon had been one of the fiercest critics of language, deploring "the false appearances that are imposed upon us by words". Vivian Salmon comments: "It is difficult to say when this distrust of words first appeared" (1966: 386); but it is a recurrent theme of humanist scholarship. In part, no doubt, it was a reaction against what were regarded as the excesses of late medieval grammar, which like other aspects of medieval scholarship tended to become rather rarefied: the University of Paris had attempted to proscribe the teaching of grammar in 1515 (the year Ramus was born). But it was also a deeply felt attitude to language itself.

Words were dangerous; not only because they were ambiguous, and led to strife, though this is a familiar complaint, but also because they were seductive. They presented a false appearance of reality, and had to be cleared out of the way so as to expose the true reality which lay beyond. Scientific endeavour could be advanced only by attending to **things**, and to the logic of the relations between things: by observation, not by talk. Ideally it should have been possible to do away with words altogether, and put things in their place; and this must have been a contemporary impression of what it was that was being propounded, because the attitude is caricatured by Swift. In the *Voyage to Lagado* Gulliver visits the School of Languages, where he finds

> ... a Scheme for abolishing all Words whatsoever ... since Words are only Names for *Things*, it would be more convenient for all Men to carry about them, such *Things* as were necessary to express the particular Business they are to discourse on.
>
> *Gulliver's Travels*, Collins edn (1953: 203–4)

The passage continues:

> And this Invention would certainly have taken place, to the great Ease as well as Health of the Subject, if the Women in Conjunction with the Vulgar and Illiterate had not threatened to raise a Rebellion, unless they might be allowed the Liberty to speak with their Tongues, after the

> Manner of their Forefathers: Such constant and irreconcileable Enemies to Science are the common People.

Since, however, we have to put up with words, the best we can do is to reduce their arbitrariness. Words should match things, in some way or other representing their true nature. For this purpose, a "universal character" (that is, a writing system) was not enough; there had to be constructed a new "philosophical language" in which words would represent things in some natural, non-arbitrary manner. This is a recurrent aspiration of those who reflect on language – the hope of finding some natural connection between meanings and sounds; it is one of the two opposing views on linguistic evolution that are put forward by Plato in the *Cratylus*. It is often ridiculed by linguists, who insist (rightly) on the essential arbitrariness to be found at this point in the system. Yet it is less absurd than it might seem – there can be varying degrees of non-arbitrariness built in to the linguistic coding process. One of those who thought it possible to create such a connection was Mersenne, who searched for precedents in existing languages in the form of what today would be called "phonaesthetic" patterns, where a particular sound is regularly associated with a particular area of meaning, like the *-ump* in *hump, bump, lump, rump, plump, stump* and *clump*. Phonaesthetic series display a kind of non-arbitrariness, and they happen to be a particular characteristic of English. Nevertheless it is difficult to create a whole vocabulary along these lines; and what those who were inventing new languages in fact set out to do was to construct words so that they reflected the relations between things (the "dialectic order" of Ramus). This is a notable feature of the two most successful philosophical languages that were actually constructed, those by George Dalgarno (*Ars Signorum*, 1661) and Bishop John Wilkins (*An Essay towards a Real Character and a Philosophical Language*, 1668). It did not seem to occur to the proponents of such schemes, however, that there was any conflict between this activity of inventing new languages, which if successful would have required considerable time to be spent in learning them, and the desire to avoid wasting time on language, expressed for example by Bishop Wilkins himself in what he had written a quarter of a century earlier: "that great part of our time which is now required to the learning of words might then be employed in the study of things" (*Mercury, or the Swift and Secret Messenger*, 1641).

Most of the "real character" projects stopped short of constructing words – that is, of giving phonetic values to the symbols, and rules for

their combination; but they did represent conscious attempts at a universal symbolism, with (in the words of Seth Ward) "symbols ... for every *thing* and *notion*". And this idea is in a direct line of descent from the classical and medieval memory systems. Frances Yates comments (1966: 378):

> ... a whole group of writers ... laboured to found universal languages on "real characters" ... The universal languages are thought of as aids to memory and in many cases their authors are obviously drawing on the memory treatises. And it may be added that the search for "real character" comes out of the memory tradition on its occult side. The seventeenth-century universal language enthusiasts are translating into rational terms efforts such as those of Giordano Bruno to found universal memory systems on magic images which he thought of as directly in contact with reality.

And when Leibniz formed his project for the "Characteristica", a universal language with a calculus associated with it, he explicitly referred to the Cabbalist and Lullist systems, as well as to Chinese writing, which he described as pictographic and "in the nature of memory images". (Despite the interest in pictographic symbols, and in the "natural" relation between words and things, it is noteworthy that the characteries that were actually devised – including the earliest, that of Timothy Bright – showed little tendency to employ iconic symbols, pictorial or otherwise. The symbols themselves were entirely abstract and conventional. What was 'natural' was their taxonomic arrangement into primary signs, for genera, and secondary signs and diacritics for the descending subcategories.)

As a systematization of all knowledge, Wilkins' monumental universal language must be counted a failure. It was not a description of knowledge at all. But it was a description of meaning. It was in fact a brilliant essay in lexical semantics, revealing the principles on which languages organize names for things. As such it had a considerable impact on our ideas about language – not least because it was the basis on which Peter Mark Roget constructed his *Thesaurus* 150 years later. It is in a way ironical that the fundamental insights of an intellectual movement that explicitly sought to minimize the role of language in scientific thought should turn out to be, first and foremost, insights into language itself, into the taxonomic principles of naming which form an essential element of semantic structure. And both these aspects of the movement's ideology have gone into our present-day ideas about language: the understanding of the organization of word meanings on

the one hand, and on the other hand the curious image of language as distortion of reality, as a barrier to the clear-sighted apprehension of **true** relationships which are relationships among things. One only has to consider modern attitudes on the subject of language in education to realize how deeply this second, negative view has penetrated into our thinking about language.

French rationalist grammar, which was a continuation of the scholastic tradition, and English universal semantics, with its origins in a rather different strand in medieval thought, represent two of the main trends in linguistics in seventeenth-century Europe. In the eighteenth century, the picture was beginning to change. The ethnographic approach was now coming to the fore, as linguists turned their attention to the vernacular languages of Europe and to the languages of Asia, Africa, the Pacific and the New World; and by the nineteenth century this had become the dominant perspective on language. It was primarily the ethnographic interpretation that was elaborated in the major European schools of the first half of the present century – the Prague school, the London school, and also the highly theoretical "glossematic" school of Copenhagen – as well as in the anthropological linguistics of Boas and Sapir in America. The development of American structuralist linguistics – a movement that was notably different from what was called "structuralism" in Europe – began to reassert the philosophical approach; and when Chomsky, bringing to bear the methods of logical syntax, showed that it was possible to formalize the American structuralist model of language, in what was the first successful attempt at representing natural language as a formal system, this became once again the dominant perspective. Linguistics became philosophy of language, as it has done from time to time throughout its history; and grammar became logic.

If Chomsky had admitted that he was building on the work of his predecessors, the ensuing dialogue between philosophers and ethnographers of language could have been very fruitful and rewarding. Instead he presented his theories in the form of a violent polemic aimed directly at those whose model of language he was taking over; in the course of this he so misrepresented the work of his other contemporaries and forerunners that for the following decade and more it was impossible for the two groups to engage in any dialogue at all. Probably never before in the history of ideas about language have the two views, of language as resource and language as rule, been made to seem so incompatible. The difference between the two was presented as an

semiotics. In the early years of this century the Swiss linguist Ferdinand de Saussure took the **sign** as the organizing concept for linguistic structure, using it to express the conventional nature of language in the phrase "l'arbitraire du signe". This has the effect of highlighting what is, in fact, the **one point** of arbitrariness in the system, namely the phonological shape of words, and hence allows the **non**-arbitrariness of the rest to emerge with greater clarity. An example of something that is distinctly non-arbitrary is the way different **kinds** of meaning in language are expressed by different **kinds** of grammatical structure, as appears when linguistic structure is interpreted in functional terms.

A distinctive feature of the present decade has been the development of semiotics as a mode of thinking, not just about language but about all aspects of culture. From the semiotic standpoint culture is, as Keith Basso expressed it, "a body of knowledge which members use to interpret experience and to structure behaviour". A culture is a meaning potential of many modes; it comprises many semiotic systems, ranging from kinship systems and modes of commodity exchange through dance and music, modes of adornment and display, architecture and art forms, imaginative literature, mythology and folklore. These are the symbolic resources with which people discover, create, and exchange meanings.

Semiotics is not a discipline, defined by subject-matter. It is a way of interpreting things. In Pyatygorsky's words "When I analyse anything from the point of view of what it means, this is a 'semiotic situation' "; and such an analysis becomes more significant the more we are able to find similarities among different semiotic systems. Umberto Eco wrote, in his book *Absent Structure*,

> the hypothesis from which [semiotics] starts is that all cultural phenomena are really systems of signs ... it should perhaps be considered as an interdisciplinary domain within which all cultural phenomena are analysed against the background of an "obsession" with communication.

(I should rather say, with meaning.)

Semiotics evolves out of the investigation of language as object. It began to evolve in the west when the Stoics replaced the earlier view of language as **instrument** (an instrument for the study of something else, either rhetoric, with the sophists, or logic, with Aristotle) by one of language as **object** – as an object of study and interpretation in its own right. This opens the way to an understanding of meaning, and of systems of meaning with varying modes of realization. Once the semiotic perspective develops as an intellectual stance, it can be so to

speak turned back on language, so that language is thought of as one among the many semiotic systems that constitute the culture. Its real uniqueness then begins to emerge. Language is a special kind of semiotic system in that it typically functions in the realization of other semiotic systems; it is a "connotative semiotic", in Hjelmslev's terms.

This is certainly the context in which language evolved. At the same time, however, once having come into existence in this way, language takes on an independent reality and creates new meanings of its own. In particular, it creates a new type of phenomenon, a new order of reality, called information, which then becomes a commodity to be exchanged. We live in an age in which the exchange of information is fast replacing the exchange of goods-&-services as the primary mode of social behaviour.

So much could be made to follow from this point that it should perhaps have been the beginning of this exploration rather than the end. Instead of beginning again, however, I shall make three final observations. The first is, that the semiotic perspective enables us to see language in the context of the social construction of reality. Language is the principal means through which we create the world in which we live. This is of course a world of multiple realities, in Alfred Schutz' terms, each with its own "finite province of meaning". And this, in turn, is the significance of seeing language as a variable system. Variety in language is functional, not only directly but also symbolically; it serves both as vehicle and as metaphor for the manysidedness of the cultural reality (Douglas 1973).

Secondly, related to this is the goal of understanding the diversity of human languages; not seeing them all as deviations from some one idealized logic, that of western culture, but as each embodying its own logic, and also its own rhetoric, and its own esthetic. At the end of 1974 UNESCO held a Symposium, in Nairobi, on interactions between linguistics and mathematical education. Linguists and teachers of mathematics, mainly from countries of Africa, came together to discuss questions of learning mathematics in languages with very different natural logics and semantic styles – different from those of European languages; and it became obvious how ineffective it could be simply to translate textbooks from English into Yoruba or Swahili or Bemba, textbooks which were unconsciously based on the folk mathematical concepts that exist in English, instead of designing new approaches based on the rather different mathematical concepts which are embodied in these languages.

Finally, discussion of ideas about language should not be thought to suggest that these ideas are isolated from ideas about everything else. Our picture of language is part of our picture of the world. In particular it is part of our picture of the world of meanings; and the value of the semiotic interpretation is that it shows us how the world of meanings is structured and what its constants are. We started with the child, so we will end with the child. Long before he can **talk about** meaning, a child is a engaging in **acts of** meaning; even before he has a mother tongue, he is using language to organize his view of the world (and himself), and to interact with the people around him. By the age of eight or ten months he has a very rich idea of what he will be able to achieve through learning to mean. It is to be hoped that our adult ideas about language will be rich enough in turn, so that they help rather than hinder him in his efforts towards that goal. For what, as the Red Queen said, is the use of a child without any meaning?

Chapter Five

LANGUAGE AND THE ORDER OF NATURE (1987)

1 Order out of language

Out of the buzz and the hum in which mankind has been evolving – itself a kind of conversation, to our present way of thinking – has emerged what Rulon Wells once called the "distinctively human semiotic": a special form of dialogue powered by a system we call language. With this we talk to each other; and in the process we construct the microcosmos in which each one of us lives, our little universes of doing and happening, and the people and the things that are involved therein.

And in the course of this semiotic activity, without really becoming aware of it, we have also been construing the two macrocosmic orders of which we ourselves are a part: the social order, and the natural order. For most of human history, these deeper forms of dialogue have depended on substantially the same resource: ordinary, everyday, spontaneous, natural spoken language – with just some "coefficient of weirdness" such as Malinowksi found in the more esoteric contexts of its use (1935; see the section entitled 'An ethnographic theory of the magical word').

All this dialogic construction is, by definition, interactive. At the micro level, we get to know our fellow-creatures by talking to them and listening to them; and they respond to us in the same natural language. At the macro level, the "dialogue with nature", brilliantly scripted by Prigogine and Stengers in their book *Order out of Chaos* (1985: esp. 41–4), is also interactive; but in another guise. When we want to exchange meanings with physical or biological nature we have

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to process information that is coded in very different ways, and that may need to go through two or three stages of translation before we can apprehend it.

We have always assumed that it can be translated: that the information coming in can in the last resort be represented and transmitted through the forms of our own natural languages. In fact, up until the last few millennia, no conceivable alternative could ever present itself; because language was beyond the range of our conscious reflection. It was simply part of ourselves – the label "natural" language is entirely apt. Herbert Simon, in his *Sciences of the Artificial*, classified language among the artificial phenomena (1969: 5); but he was wrong. Language is as much a product of evolution as we are ourselves; we did not manufacture it. It is an evolved system, not a designed system: not something separate from humanity, but an essential part of the condition of being human. These natural languages, then, sufficed to enable us to interpret both facets of our wider environment, the social order and the natural order; these were, after all, construed by generalizing and abstracting from the microenvironments in which language had evolved all along.

It is just within the last hundred generations or so that some element of design has come into natural language; and just in certain cultural historical contexts, those in which language has come to be written down. Writing has been an inherent part of the process. In these contexts the dialogue with nature has begun to take on new forms; we have learnt to measure, and to experiment; and to accompany these new semiotic modes, our languages have spawned various metalanguages – the languages of mathematics and of science. These are extensions of natural languages, not totally new creations; and they remain in touch. Even mathematics, the most 'meta-' of all the variants of natural language, is kept tied to it by an interpretative interface – a level one metalanguage which enables mathematical expressions to be rendered in English, or Chinese, or other forms of distinctively human semiotic.

2 Does language cope?

Now and again some part of the dialogue breaks down, and then it becomes news – like London Bridge: as long as it stays up it is not news, but when it falls down it will be. Yet what is really newsworthy about language is how rarely it does fall down. The demands that we make on the system are quite colossal; how is it that it so seldom gets overloaded?

language; it is a condition of its existence as a system – and without language as system there could be no dialogue at all.

The earliest linguists of India, Greece and China all recognized that languages change in their expression – in their phonetics and morphology. These effects have now been shown to be statistical (Sankoff and Laberge 1978; Horvath 1985, esp. ch. 5, 'Analytical methodology'): variation sets in, from a variety of sources, internal and external; and this variation can either become stablilized, so that the system becomes inherently variable at that point, or a "variable rule becomes categorical" and we say that sound change has taken place. The terminology ("variable rule", and so on) is unfortunate, since it leads people – or perhaps confirms their inclination – to look for hidden variables, so that all variable rules can be reduced to categorical status. But the data resist such interpretations; it is simply not the case that if we knew everything there was to know then we could predict every instance. In other words, variability in language is not a limitation of the observer; it is a feature of the system, and hence the statistically defined behaviour of the micro particles of language – for example the realization of a particular vowel as a fronted or a backed variant – can induce the system to change.

Such expression variables are alternative realizations of some higher level constant (e.g. 'the phoneme /*a*/'), which therefore constitutes the entry condition to that particular little system. To understand changes in the meaning potential of language we need to consider analogous statistical effects on the content plane (Nesbitt and Plum 1988). Consider a grammatical system such as past/present/future primary tense in English, interpretable semantically as deictic reference to a linear scale of time (the traditional description was "time relative to the moment of speaking"). In any instance of the context which serves as entry condition to that system – in grammatical terms, any instance of a finite clause – each term has an inherent probability of occurring. A speaker of English 'knows' these probabilities; having heard, by the age of five, say, about half a million instances he has a statistical profile of the lexicogrammar of the language. It is by the same token (more specifically, by the same set of tokens) that he knows the lexical probabilities: that *go* is more frequent than *grow* and *grow* is more frequent than *glow*. Now, grammar and lexis are simply the same phenomenon looked at from two different ends; but one difference between them is that the patterns we treat as grammatical are those which are buried much deeper below the level of people's conscious-

ness, and so these patterns, and the probabilities associated with them, are much harder for people to become aware of – many people reject grammatical probabilities when they are told about them: they feel insulted, and take them as affronts to the freedom of the individual. Lexical patterns are nearer the surface of consciousness: hence lexical probabilities are quite readily recoverable, as a sense of 'this word is more frequent than that', and are therefore found easier to accept. (Logically, of course, there is no reason why being told that one is going to use *go* more frequently than *glow* should be any less threatening than being told one is going to use past more frequently than future; but these observations tend to provoke very different responses.)

Now, just as, when I listen to the weather report every morning, and I hear something like 'last night's minimum was six degrees, that's three degrees below average', I know that that instance has itself become part of, and so altered, the probability of the minimum temperature for that particular night in the year – so every instance of a primary tense in English discourse alters the relative probabilities of the terms that make up the primary tense system. Of course, to make these probabilities meaningful as a descriptive measure we have to sharpen the focus, by setting conditions: we are not usually interested in the average temperature at all times anywhere on the surface of the globe (though this is a relevant concept for certain purposes), but rather in the probable daily minimum on Sydney Harbour at the time of the winter solstice. There are various dimensions conditioning grammatical probabilities: we might specify the context of situation – for example, the discourse of weather forecasting, which will considerably increase the weighting for future tense;[1] or we might specify a number of other concurrent grammatical features, such as whether the clause is declarative or interrogative. (There are also the transitional probabilities of the text as a stochastic process.) The more local the context, of course, the greater the moderating effect of a single instance.

Lemke (1984d) has pointed out that many human systems, including all social-semiotic systems, are of a particular kind known as "dynamic open systems". Dynamic open systems have the property that they are metastable: that is, they persist only through constant change; and this change takes place through interactive exchanges with their environment. In the course of such interaction, the system exports disorder; and in the process of exporting disorder, and so increasing the entropy of its environment, the system renews itself, gains information, imports

or rather creates order and in this way continues to function. The system exists only because it is open. But it is now no longer itself; for such a system, the state of being is one of constant becoming. Language – natural language – is certainly a system of this general type.

Language (like other social semiotic systems) is a dynamic open system that achieves metastability through these statistical processes. Instances affect probabilities: from time to time probabilities thus rise to one or fall to zero, so that quantitative effects become qualitative and the system maintains itself by evolving, through a process of constant change.

In an ideal system, one having two states that are equiprobable, there is no redundancy. Once we depart from equiprobability, redundancy sets in. In all open systems the probabilities are skewed, so that the system carries redundancy. Lemke shows that a semiotic system is one that is characterized by redundancy **between (pairs of) its sub-systems**: what he refers to as "metaredundancy". To illustrate from the classic Hjelmslevian example of the traffic lights: the system has certain states, red, yellow and green. Since these are not equiprobable there is redundancy among them, at that level; but this simple redundancy is relevant only to the engineer who designs and installs them. There is then a ***metaredundancy*** between this system and the system of messages 'stop/go': this is the first order metaredundancy that defines the signifier and the signified. There is then a second order metaredundancy: this in turn 'metaredounds' with the system of behaviour of drivers approaching the signal: they stop, or else they drive on. And so on.

In other words: what the system 'says' (the wording: red/green), redounds with what it 'means' (the meaning: stop/go), which in turn redounds with what it does. But 'it' is a human system: it is people who drive the cars, people who construe the semantic opposition of stop/go, and people who switch on the lights, or at least programme the machine to do it for them. Traffic lights are in fact part of the social semiotic, even though I am using them here simply as an analogy for discourse that is 'worded' in the more usual sense – that is, in the form of lexicogrammar.

4 The emergence of metalanguages

Thus viewed as a social semiotic, language is a dynamic open system, probabilistic, and characterized by metaredundancy. These *n*-order metaredundancies define the levels, or strata, of the system: the

relationship of metaredundancy is the general relationship whose manifestation in language we are accustomed to referring to as "realization". Such a system is good for thinking with and good for doing with, these being the two complementary facets of all human semiosis.

When either of these facets comes under pressure, the system responds by creating special varieties of itself to meet the new demands. So in a period of rapid growth of science and technology new metalanguages appear. These new forms of language are both created by and also create the new forms of knowledge – since what we call knowledge is simply a higher level of meaning, still linked to the grammar by the chain of metaredundancies. But it is at this point that the functioning of language starts to become problematic.

Let me refer again to David Bohm's *Wholeness and the Implicate Order.* Bohm is dissatisfied with the way language (as he sees it) fails to meet the demands of the new dialogue with nature, and he proposes the "rheomode" – a form of language that would represent the flux of things, and construe experience as dynamic rather than static. His suggestions are simplistic and confined to a few variations in derivational morphology: for example, to get away from a "language structure in which nouns are taken as basic, e.g. 'this notion is relevant' " we reinstate the verb *to levate*, meaning 'the spontaneous and unrestricted act of lifting into attention any context whatsoever'; we then introduce the verb *to re-levate*, 'to lift a certain context into attention again', whence irrelevation, levation and so on (p. 34). But the motive is clear: a new language is needed to encode a new view of reality.

There have been frequent assertions, throughout the history of quantum mechanics and the physics that derived from it, that it is impossible to talk about quantum ideas in language as it was received. The language of physics is under stress; and some of the more far-fetched notions such as the 'many worlds' interpretation proposed by Everett and Wheeler – that there are as many alternative realities as there are quantum events – might be used to illustrate the incapacity of our natural language-based metalanguages to cope with these new semiotic demands. The metalanguages are too determinate, too rigid, too unable to accommodate complementarities. They cannot tell us "that *all* is an unbroken and undivided whole movement, and that each 'thing' is abstracted only as a relatively invariant side or aspect of this movement" (p. 47).

Before examining these charges further, let us note an interesting paradox. When logicians and philosophers complain about language, their usual complaint is that it is too vague. When scientists find language letting them down, it is generally because it is too precise, too determinate. In part, no doubt, this reflects their two different ideologies. For the logician, if two things conflict they cannot both be true – so languages should force them to reject the one or the other; and if language does not do this, then it is too loose, too vague. For the scientist, on the other hand, if two things are both true they cannot conflict – so the language should help them to accommodate both, and if it doesn't, it is too rigid, too determinate. (What I am labelling "the logician", and "the scientist" are of course two different ideologies – not the individual members of these two respected professions.)

But they are also probably talking about different languages. The logicians are thinking of non-technical natural language, from which their artificial languages, including mathematics, were first derived. The scientists are thinking of their own technical metalanguages that have been constructed on the basis of natural language: the various registers of physics, for example. And these scientific metalanguages are among the more designed varieties of human language – hence, like all designed systems, they do tend to be rigid and determinate. These are the very features which make such metalanguages unsuitable for just that purpose for which they were in fact designed: the dialogue with nature, for which it is essential to be able to mean in terms that are dynamic, non-compartmental and fluid – and above all, that do not foreclose.

The irony is, that that is exactly what natural language is like: dynamic, non-compartmental and fluid. But it has got smothered under the weight of the metalanguages that were built upon it.

5 Levels of consciousness in language

Let me begin this section with a quotation from Prigogine and Stengers' book *Order out of Chaos* that I referred to at the outset:

> [In quantum mechanics] there is an irreducible multiplicity of representation for a system, each connected with a determined [i.e. decided upon by the investigator] set of operators.
>
> This implies a departure from the classical notion of objectivity, since in the classical view the only "objective" description is the complete description of *the system as it is*, independent of the choice of how it is observed ...

where the spiral (cryptotypes as hidden motifs) in turn represents the dialectic of metaredundancy. Or, to put this in more familiar semiotic terms: the signified constructs the signifier (by "realization" – grammar in its automatized function), and the signifier constructs the signified (grammar, especially the cryptogrammar, in its de-automatized function). The problem of turning the cryptogrammar of a natural language into a metalanguage for reasoning with is that it has to become automatized – that is, the grammar has to be made to describe, instead of constructing reality by not describing, which is what it does best.

6 Everyday language as a theory of the natural order

I will try to enumerate some features of natural language, as embodied in our everyday informal discourse from earliest childhood, that constitute for us a theory of reality. They are features common to all languages, but in respect of which each language presents its own particular mix; I make one or two references to English, but in the main they are set out in general terms that could be applied to all.

- Clausal structures: the organization of meanings in lexicogrammatical form (as ***wordings***). The gateway through which meanings are brought together and realized in ordinary grammar is the clause; and the clause nucleus is a happening (Process + Medium, in systemic terms). So natural languages represent reality as what happens, not as what exists; things are defined as contingencies of the flow.
- Projection: the general relation underlying what grammarians call "direct and indirect speech". The system of projection construes the whole of experience into two different kinds of event: semiotic events, and other events; the latter can then be transformed into semiotic events by processes of consciousness.
- Expansion: logical-semantic relationships between events. Two events provided they are of the same kind (as defined by projection) may be related to one another by one of a set of logical-semantic relations, such that the second one defines, extends, or in some way (such as time or cause) correlates with the first.
- Transitivity: the theory of processes (i). Natural languages construe experience out of different types of process; this plurality is universal, though the details of the system vary. English sets up 'outer' processes, those of the world perceived as external; 'inner' processes, those of (human-like) consciousness; and processes of attribution and representation. All are distinguished in the cryptogrammar.

- Transitivity: the theory of processes (ii). With regard to (at least) the 'outer' processes, natural languages incorporate two models: the transitive, which interprets 'mechanically', in terms of transmission, and the ergative, which interprets 'scientifically', in terms of causation. These two are complementary; the generalizations they make contradict each other, but every clause has to be interpreted as both.
- Tense and aspect: the theory of time. Similarly, natural languages embody two models of time: a theory of linear, irreversible time, out of past via present into future (tense), and a theory of simultaneity, with the opposition between being and becoming, or manifested and manifesting (aspect). Languages have very different mixtures (English strongly foregrounds linear time): but probably every language enacts both, and again the two are complementary in the defined sense.

In these and other features of their 'hidden' grammars, ordinary languages in their everyday, common-sense contexts embody highly sophisticated interpretations of the natural order, rich in complementarities and thoroughly rheomodal in ways much deeper than Bohm was able to conceive of. To be more accurate, we would say that it is these features **in a system of this dynamic open kind** that construe reality for us in this way. The system itself must be a metastable, multi-level ("metaredundant") system – that is, a human semiotic – with the further property that it is ***metafunctional***: it is committed to meaning more than one thing at once, so that every instance is at once both reflection and action – both interpreting the world and also changing it.

We have been reminded of "the impossibility of recovering a fixed and stable meaning from discourse". Of course this is impossible; it would be a very impoverished theory of discourse that expected it. But it is entirely possible – as we all do – to recover from discourse a meaning of another kind, meaning that is complex and indeterminate. The reason it is hard to make this process explicit is that we can do so only by talking about grammar; and to do this we have to construct a theory of grammar: a "grammatics", let us call it. But this ***grammatics*** is itself a designed system, another scientific metalanguage, with terms like ***subject*** and ***agent*** and ***conditional*** – terms which become reified in their turn, so that we then come to think of the grammar itself (the real grammar) as feeble and crude because it doesn't match up to the categories we've invented for describing it. But of course it is the grammatics – the metalanguage – that is feeble and crude, not the grammar. To borrow Whorf's famous simile, the grammatics

(grammar as metalanguage) is to the grammar (the language) as a bludgeon is to a rapier – except that a better analogy might be with the hand that wields the rapier. If the human mind can achieve this remarkable combination of incisive penetration and positive indeterminacy, then we can hardly deny these same properties to human language, since language is the very system by which they are developed, stored and powered.

7 The need for plurality of language

To quote Prigogine and Stengers again: "Whatever we call reality, it is revealed to us only through active construction in which we participate" (p. 293). But, as they have already told us, "the wealth of reality ... overflows any single language, any single logical structure. Each language can express only part of reality."

I have suggested that our natural languages do possess the qualities needed for interpreting the world very much as our modern physicists see it. But from the time when our dialogue with nature became a conscious exercise in understanding, we have come to need more than one grammar – more than one version of language as a theory of experience. Rather, we have needed a continuum of grammars, from the rheomodal pole at one end to something more fixed and constructible at the other. For our active construction of reality we had to be able to adopt either a dynamic, 'in flux' perspective or a synoptic, 'in place' perspective – or some mixture of the two, with a complementarity between them.

So our language began to stretch, beginning – as far as the West is concerned – with the explosion of process nouns in scientific Greek from 550 BC onwards (e.g. *kinesis* 'movement', from *kineo* '(I) move'), and culminating (so far!) in the kind of semantic variation found in pairs such as:

experimental emphasis becomes concentrated in testing the generalizations and consequences derived from these theories	we now start experimenting mainly in order to test whether things happen regularly as we would expect if we were explaining in the right way
1-attic	1-doric

Let me label these two styles the attic and the doric. The attic mode is not of course confined to abstract scientific discourse; 2-attic is from a television magazine: