

# METALOCUTIONS, STRUCTURAL TYPES AND FUNCTIONAL VARIATION IN ENGLISH AND GERMAN

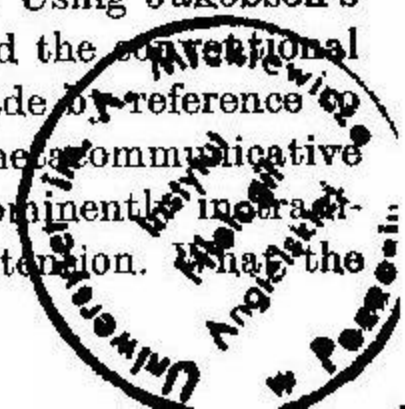
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The main aim of this paper is to focus attention on the ways in which functional variants, styles, registers, etc. of English and German may be marked by prosodic patterning. Such marking is seen as one aspect of the metacommunicative functions of forms of language; this particular function is referred to as "metallocutionary", and is clarified in the paper as a preliminary to the discussion of functional variation. The five sections of the paper are: 1. Metalocutions and the representation of structure; 2. Functional variation; 3. A mixed-channel functional variety: reading aloud; 4. Further functional varieties in English and German; 5. Conclusion. One of the main points made is that in contrastive studies, it is necessary to be explicit about the functional variety of language under consideration in order to be sure that potentially comparable varieties are being contrasted.

## 1. METALOCUTIONS AND THE REPRESENTATION OF STRUCTURE

The functions of language are sometimes referred to a set of "constitutive factors" in communication, the most frequently cited being *speaker, hearer and context* (cf. Bühler 1934); this set was extended by Jakobson (1960) to include the factors *code, channel and message*, and an "orientation" or "set" towards each of these six factors was held to determine a fundamental function of language. These six functions were, in the order of factors given above, *emotive, conative, referential, metalingual, phatic and poetic*. Using Jakobson's classification, a rough distinction into what might be called the conventional pragmatic and semantic functions of language may be made by reference to the first three functions, on the one hand, and the area of metacommunicative functions on the other, an area which has not figured prominently in traditional functionalism but which is receiving increasing attention. In the





three metacommunicative functions have in common is that they involve the "reflexivity", simultaneous *use* and *mention* of language: language is used to refer to itself, either to the system, or to the various aspects of language use (a given message in a given channel).

In the present paper, the place of intonation systems (in particular, pitch contours, their temporal organisation and their relation to other language structures) within this set of functions will be considered. Elsewhere (Gibbon 1975: §4.3.; 1976a) I have dealt with some of the phatic functions of intonation, i.e. the use of intonation as a marker of the effectivity of the channel; here, attention will be focussed particularly on certain aspects of what Jakobson called the metalingual function of language, particularly the use of intonation to refer in various ways to the locution or "text" being uttered. This type of metalingual sub-function will be referred to as "metalocutionary", a somewhat narrower use of the term from that suggested in the earlier work cited above. The term "metalinguistic" will be avoided in view of its specific meaning within logical semantics, Jakobson's "metalingual" and Bateson's (1952) "metacommunicative" being preferred for the more general uses sketched above. A further qualification on the terminological framework is also called for: the framework given by Jakobson is open to criticism on a number of grounds; to provide such criticism is not the task of the present paper, however, and for the simple reason that the framework is quite well-known and has considerable heuristic value it will be used here as a starting point for the analysis. It should be pointed out, nevertheless, that such notions as *message*, *code* and *channel* and their interrelations are in need of considerable further clarification.

Assuming for the moment, however, that the status of the metalingual function among the three metacommunicative functions is intuitively fairly clear, the distinction between the metalingual, specifically: metalocutionary, uses of intonation patterns and metalingual uses of other language forms stands in need of clarification. The range of such uses (which overlap at many points with the phatic and so-called poetic functions) extends from explicit *verba dicendi*, in particular performative verbs, through *nomina* and *adverbia dicendi*, various types of appositive or parenthetical expression, to the various modal and dialogue-structuring particles (cf. Bublitz 1978) and tags (e.g. *well*, *now*, *after all*, *isn't it*, ... *right*, etc. in English and *so*, *nun*, *doch*, *nicht wahr*, ... *oder*, etc. in German) and the various prosodic and paralinguistic patterns (involving pitch patterning and its timing, changes in voice quality, etc.) which are used for related modal and dialogue-structuring purposes. Since the modal uses of particles and pitch patterns are generally referred to non-metacommunicative language functions, they will be ignored here; the relation of pitch patterning in time to the locutions which it accompanies is what will be discussed. It is perhaps important to point out that this is not the only function

of pitch patterning; pitch patterns also function in the absence of any locutionary patterning whatsoever, and such functions are clearly in some sense (e.g. ontogenetically) more basic than the metalocutionary functions, though lower on a scale of explicitness of meaning.

In most functionally oriented intonation descriptions (as opposed to more strictly structuralistic descriptions), the various kinds of pitch patterning have generally been accorded a fairly high degree of autonomy with respect to other, more narrowly grammatical or locutionary systems of language. A succinct formulation of this view was given by Wang:

"... intonation provides the speaker with another channel of communication by means of which he can express a more personal commentary on the sentence he is producing" (1971:274).

The information conveyed by this channel is not reducible to locutionary information, and for this reason, intonation patterning is never fully determined by locutionary information (e.g. syntactic structure, lexical relations). An additional problem is that the means of prosodic structuring are fairly limited in comparison with what lexico-syntactic locutions have to offer, thus complicating the locution-intonation relation; this has become particularly noticeable in the framework of generative phonology, which has attempted the kind of non-autonomous description rejected here; cf. Bierwisch (1968), also Chomsky, Halle and Lakoff:

"There is an upper limit to the number of stress levels which are distinguished. This limit apparently varies with different styles of speech, as well as for different speakers" (1956:75).

What is said here about stress applies also to prosodic and paralinguistic patterning in general. Some of the "styles of speech" referred to will be explicated under the heading of "functional variation" below; first, however, a note on the nature of the metalocutionary relation between intonations and locutions is required.

The first point to be made is that the metalocutionary relation is regarded as a *semantic* relation of reference to segments of locutions by pitch patterns (of various kinds, from accents to intonation patterns in the narrower sense) — note the formulation by Wang: "... commentary on the sentence...". This semantic relation is to be distinguished (a) from the syntactic relations often postulated for intonations when conceived as "morphemes" (here regarded as an untenable view of intonation, following Bolinger, 1965: *passim*) and (b) from the conventional, arbitrary, "non-natural" (Grice 1957) or "symbolic" (in the sense of semiotics) referential relation characteristic of languages, and indeed of metalanguages, in general. Metalocutions enter into a "natural"



(Grice, 1957) relation with the items they designate, which may be conveniently referred to by the semiotic terms "indexical" and "iconic". Indexical signs denote by virtue of the natural relations of causality (e.g. smoke and fire; high pitch and excitement — note that causality is not necessarily a *simple* relation in such cases!) or spatio-temporal contiguity (e.g. a sign-post, a spotlight, or in the present case a pitch accent). The former natural relation, causality, is not metacommunicative, and in particular not metalingual or metalocutionary in the narrower senses used here. The latter, contiguity, is, however, metalocutionary: pitch accents denote foci of syntagmatic relations within locutions. These relations may be at any one of the following levels of analysis:

1. Dialogue strategy, exchange and contribution structuring;
2. Text-referential structuring (theme-rheme patterning, various types of anaphoric relation, including metalingual, e.g. contrastive, relations (cf. Schmerling 1973; Ladd 1978);
3. Collocational (in Chomskyan terms: selectional) patterning, such as greater/less generality in terms of selectional features (cf. Bolinger 1972);
4. Sentence and word constituent structure, possibly with transformational pattern-preservation as suggested by Bresnan 1971; 1972).

In isolated, invented written sentences which have to be read aloud, such as the following,

- (1) I'm not going because I'm tired

the level of analysis with the greatest claim to prosodic indexing of the foci of its syntagmatic relations is level 4, that of sentence and word constituent structure, with 3, collocational structure a close second. Since it is not part of a dialogue, and its status within the present text is that of an *example*, a particular kind of quotation, the first two levels are irrelevant.

This sentence may be used to show the value of as well as the problems associated with the notion of metalocution. Example (1) is, as it stands, ambiguous on grounds which can be given quite independently of punctuation, intonation, etc., depending on whether the scope of negation is *going* or *going because I'm tired*; in the latter case, the verb phrase specification is negated, leaving the less specific verb unnegated, whereas in the former case the reverse is true. In an isolated sentence such as (1) — and not necessarily in contextualised sentences where the syntactic level may be overridden by the structure of textual or dialogue sequences for the purpose of intonational marking — the two scopes may be partly disambiguated by the cues provided by accentual indices, as in (2) and (3).

- (2) I'm not GOing because I'm TIRED  
 (3) I'm not going because I'm TIRED

In these cases, the focus of negation scope is, simplifying slightly, the constituent marked by the nearest accentual index; the accent is in itself a boundary marker in this sense, but may be supplemented by further boundary markers. Anyone who has concerned himself extensively with intonation analysis will realise immediately that a simple capitalisation transcription for "stress" or "accent" is hopelessly inadequate, since the forms which are indexically used in this way are extremely complex functions of rising or falling pitch, of relative pitch height and steepness of pitch contour, and of temporal organisation of other types; for this reason, the transcriptions of (2) and (3) may represent a wide range of phonetically quite different pitch patterns. In addition, pitch accents of different types (e.g. rising and falling) may occur in sequence, resulting in different focus markings due to differences between the indexing structures used; contrast two (out of many possible) accent assignments to a sequence like (2) which only caters for one accent type:

- (4) I'm not 'going because I'm 'tired  
 (5) I'm not `going because I'm `tired

Example (5) is likely to be interpreted with the same reading as example (3), not example (2), but shows at the same time that de-contextualised sentences of this kind are unsuitable for demonstrating more than a highly restricted area of intonation functions: they "demand" completion by addition of a textual or other context, and thus act as a reminder of the presence of other levels of organisation with claims to metalocutionary marking which may override those of syntax.

Iconic natural semantic relations are based on the sharing of some feature by the sign and whatever it denotes, as with pictographic writing or onomatopoeic sounds. In the present case, pitch patterns in time represent very general syntagmatic relations between the locutions they accompany, at some level of analysis selected by users in context. The simplest case is the configurative function ascribed to intonation by members of the Prague school (cf. Daneš 1960; Jakobson and Halle 1956), whereby continuous pitch patterns (amongst other features) are held to mark as a constituent the locutionary stretch with which they are co-extensive. It will be seen that this particular function is simultaneously indexical in the sense described above; the condition of co-extensiveness is distinct, however, from the contiguity condition given for the more sudden pitch changes associated with pitch accent.

Thus, disambiguation cues items such as (1) may be provided by means of overall intonation contours, as well as indices of the foci of the relation: the scope of negation (or other relevant relations) may be taken to be co-extensive with the pitch contour.

More complex kinds of relation than this, such as those of co-ordination or exocentric and endocentric subordination, may be represented by other kinds



of pitch patterning, in particular by the selection of the contour directions of pitch accents; examples (4) and (5) above are suitable illustrations of this. In (4), a rise and a fall *in that order* have equal status, other things being equal; the item indexed by the rise, being nearest to the negation operator, is thereby taken to mark the end of the scope of that operator. In (5), a fall and a rise *in that order* are taken to mark the head and satellite respectively of a subordinating relation, leading to the interpretation of this sequence as one constituent; additionally (and this is usually taken to be the main point in traditional discussions of this kind of construction), the final rise indicates contextual incompleteness, which may be satisfied at the dialogue level, a level which is, however, foreign to the method of "intoning isolated quotative written sentences" exemplified here.

It is not the aim of this paper to do more than sketch the main features of the metalocutionary hypothesis; the following sections deal rather with the way metalocutionary patterning varies with different functions of language in use (i.e. with "style", "register", "functional variation", terms which will be clarified in the following section). Naturally, any further conclusions about the use of intonation patterning on such a grand scale are dependent on the validity of this hypothesis; suffice it to say for present purposes, however, that the metalocutionary hypothesis is essentially part of an attempt to clarify and extend some older notions of how intonation is used, such as the culminative and delimitative functions postulated by the Prague school (here cf. Trubetzkoy (1939:29); cf. also Daneš 1960, Jakobson and Halle 1956), and that it is part of an attempt to place these notions in a more explicit functional framework which rejects such vague and ill-understood quasi-predicates as "speaker attitude", "illocutionary force indicating device", or even simple syntactic categories, as possible descriptive terms in a theory of intonation function (cf. Gibbon 1975; 1976a, for further discussion).

## 2. FUNCTIONAL VARIATION

Terms for varieties of language, such as "style", "style of speech" (cf. the quotation from Chomsky, Halle and Lukoff above), "register", or "dialect", "sociolect", etc., may be defined, like the functions discussed in the preceding section, on the basis of their relation to the "constitutive factors" of communication; for this purpose, the Jakobsonian set of six factors will be reduced to a set of four, which proves quite adequate for the purpose: *participant*, *channel*, *semantic context* and *language*. The relation between this set and Jakobson's will be assumed to be evident. Dialects and sociolects may be defined with respect to relations holding within the class of available participants; styles may

also be partly definable on this basis. Other varieties are definable with respect to variations in the semantic context (cf. "register" in the sense of Halliday 1975) or by reference to the channel (or set of channels) available. The last category of language variation has often figured in descriptions of "styles", in particular in distinguishing written from spoken language (cf. Joos 1961, whose "frozen" style is distinguished by being "intonationless", associated with writing; Crystal and Davy 1969); in the intonation literature, too, discussions are to be found, from Pike's references to "formalized" intonations and calls (1945) through Chao's "specialized and stylized forms of speaking" (1956), to work on the relations between the tonal systems of remote speech and such stylized patterns (reviewed and extended in Gibbon, 1975: § 4.3; cf. also recent work by Liberman 1978, and Ladd 1978). Variation ascribable to channel structure has not, however, received systematic attention; there is no generally accepted term for this kind of variation, though it falls under some definitions of "register" (cf. Gibbon, to appear).

Although the term "functional variation" may with some justification be used in a broader sense, it will be restricted here to cover channel-oriented variation, which in turn is associated with the particular area of language function which Jakobson designated "phatic" (which thus has a somewhat different meaning here from the meaning given to the term by Malinowski (1923)).

A channel may be defined in terms of an input device, an output device and a medium of propagation. Without going into technical detail, the constraints imposed by the channel in use, which count among the *natural* factors determining functional variation, encompass production and perception constraints, bandwidth, speed of communication, channel capacity, etc., and their relation to speech. One important area of influence of channel constraints on the use of metalocutionary devices is in the context of the monitoring of channel effectivity and in the marking of strategies for increasing channel effectivity. These range from simple phonological and phonetic strategies such as deliberately clear enunciation, through prosodic and paralinguistic strategies such as shouting, use of chromatic ("stylised" — cf. § 4 below) contours and contrastive accent assignment, to locutionary metalingual strategies such as spelling out, the use of spelling alphabets, repetition, or uptake-securing dialogue loops involving tags, echo-questions, contrastive constructions, and various kinds of "back-channel" communication (Yngve 1970) by means of which the hearer signals reception of communication. These strategies have in common a status as supplementary to or superimposed on or interrupting the smooth flow of "normal" homogeneously structured dialogue, and the function of accommodating dialogue, via recognition of real or imagined difficulties in communication, to the exigencies of the channel which is in use. It is not necessary to point out the roles of intonation in detail at this point; certain indications have been



given, and other functions (for instance, rising terminals to initiate certain types of dialogue sequence) will occur to the reader.

A more indirect effect of channel structure on metalocutionary structuring may be seen by considering different types of medium of propagation, in particular with respect to the property of *storage* of the signal in contrast to channels in which the signal decays rapidly. A simple summary of some of these channel types is given in Figure 1. There are, of course, other *non-natural*

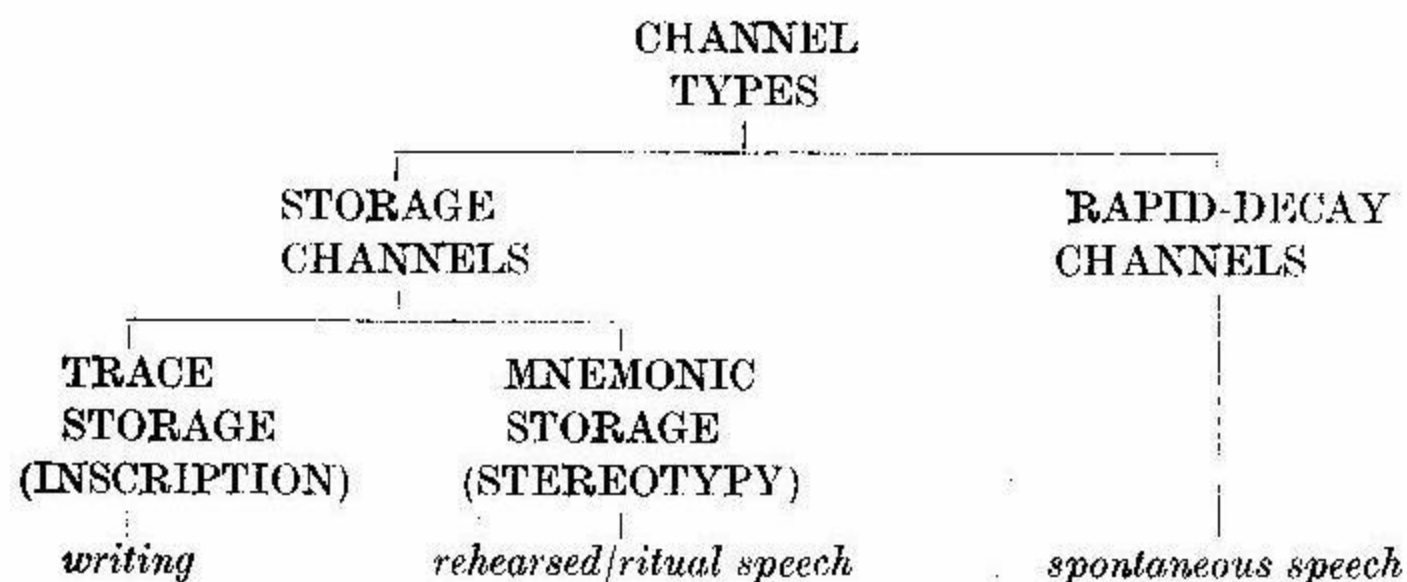


Figure 1: Some channel types with associated functional varieties

(e.g. social) constraints associated with the varieties concerned in addition to the natural constraints; in particular stereotypy, both of locations and of metalocutions, is a complicating aspect (cf. the idiomatic use of prosodic patterning, Hockett 1956; Halliday 1966; 1970). These aspects are not central to the present discussion, however, through they will be referred to again below.

The distinction between the two functional varieties of speech and writing, insofar as they influence the use of metalocutionary signalling, may be summarised as follows.

Spontaneous speech is relatively fast, imposes stringent requirements on simultaneous real-time processing in production and perception (being a rapid-decay channel), and contains the whole range of locutionary structural levels, from the dialogue down to the word, as possible sources of semantic referents for metalocutionary patterning; in addition, a wide range of non-metalocutionary uses of pitch patterning is potentially present. This variety also offers a range of parameters for use as metalocutions, in particular pitch-patterning in time, but also temporal variation with respect to other phonetic features, and changes in voice quality, distortions of the phonological system and other inhomogeneities. It may often be supplemented by visual gestural channels. As far as the effect of the channel on the language used is concerned, there is a tendency, in the longer contributions to dialogue, for co-ordinating

structures to predominate, even to the extent that such conjunctions as *because*, *so* tend to take on a generalised function, as in example (6) (from Crystal and Davy (1975), Extract 4, 11. 16ff.), in non-binary series:

- (6) ... and all this so this pig was absolutely dead so they put it on they have a sort of smouldering heap that smoulders all the time so they went to burn the pig ...

Another example, from a phone-in programme on Capital Radio, London, has *but* used in a non-binary series:

- (7) yeah but you know people keep on saying to you it's best to go for a non-league club but they hold on to you don't they if you're good enough

The co-ordinating structure tends to have fairly short constituent conjuncts, and linear sequencing, rather than subordinating hierarchic embedding in complex sentences, also dominates at the sentential level. These short, co-ordinating units are reflected — except at points where stereotypes such as names, sayings, etc. are inserted — in a kind of intonational patterning which involves more or less prolonged sequences of similar pitch accents in short contours, rather than complex tunes of the types often described in the literature. Perhaps the most common kind of sequence is the step-up-and-sudden-fall accent (Bolinger's accent A) in sequence (cf. Crystal's statistics on dissequences, (1969). This basic short-term accentual organisation pattern is conceivably relatable to the rapid-decay type of channel involved. Noticeable differences between spontaneous speech and other types of speech which are more influenced by rehearsal and storage media occur (examples being rehearsed lecturing, reading, academic discussion), which will be taken up in the next section.

Writing, on the other hand, imposes no requirements on simultaneous processing by the addressee (self-monitoring is a different matter), but the fact that writing is a storage facility means that conditions on production, propagation of the signal, and perception, differ from those of speaking; being supported by a storage facility, written communication takes place on a time scale which may be indefinitely extended in the production, transmission and reception phases, and that independently in each case. In particular, this makes extensive editing, both covert and overt (Hockett 1968), possible, without traces of the editing being available to the addressee, in contrast to spontaneous speech. Writing is slow, and frequently not even conceived as a turn-switching dialogue, thus excluding higher-level dialogue strategies, in particular those involving uptake-securing loops (see above) or rapid turn-taking strategies; it also has considerably lower channel capacity (unless variations in handwriting, blots, smudges and tear-stains are taken into account). Writing has a very restricted inventory of metalocutionary devices analogous



to the pitch-using systems (a few devices of punctuation and spatial arrangement); it is, obviously, intonationless (cf. Joos 1961).

It may be seen that the one variety, speech, lacks storage facilities of the kind available in writing and thus tends to have lower locutionary complexity in comparison with the highly edited variety of writing; on the other hand, it has more structuring at higher levels of dialogue than writing, though these levels tend to be organised in a strictly linear manner with very little hierarchic structure (exceptions being the uptake-securing loops embedded in dialogue, or formal debating-type dialogues). This kind of structuring (or processing, if referred to the actual performance of communicative acts) is signalled by sequences of similar accentual indices, and relatively short-range iconic pitch structuring, which are in general adequate for marking the fairly localised syntagmatic relations at various levels. The other variety, writing, tends to have much higher complexity at the locutionary levels, thanks to the aid which the storage facility provides in editing; despite the lack of metalocutionary signalling of the structures involved, even very complex structures can be reconstructed by the reader because of the uncoupling of the reading and writing processes in terms of time.

In the following section, one particular functional variety which combines both writing and speech will be discussed with respect to the description of English and German intonation; although there are innumerable functional varieties, all of which have their own peculiarities, the variety of reading aloud, though apparently marginal, has a particular importance in the context of applied contrastive linguistics as well as in more theoretical branches of linguistics.

### 3. A MIXED CHANNEL FUNCTIONAL VARIETY: READING ALOUD

A functional variety which is something of a mongrel with regard to the categories introduced above is that of reading aloud. It may at first glance seem to be a somewhat obscure variety of speech; a glance at some of the standard intonation handbooks will serve to correct this impression, however, at least in respect of the teaching of English and German intonation. Armstrong & Ward stated that

“attention has been concentrated on the simplest forms of intonation used in conversation and in the reading of narrative prose” (1926:1).

and v. Essen (1956: Vorwort, n.p.) makes the following claim:

“Sie (die vorgelegte Schrift — DG) will eine Klärung der Intonationsfragen, des Hochdeutschen erstreben und besonders dem Studierenden, der Deutsch als Fremdsprache erlernt, eine Hilfe zur Erlernung der auf Bühne und Kanzel, in Vortrag und Rede landesüblichen Sprechmelodie bieten”.

Later, and more detailed, descriptions do not explicitly undertake to describe this functional variety; it often turns out, however, that either they do describe such varieties, or else the correlations between the patterns described and the specifications of varieties involved becomes very tenuous. Even Pheby, whose discussion of the variety of German involved in his description is very detailed, relies on participant-related categories coupled with metalinguistic judgments of participants (1975:30) —

Sie waren sich ferner in den meisten Fällen darüber einig, daß sie “Hochdeutsch” sprechen —

of a kind which Labov (1966) has shown to be potentially misleading unless treated within a suitably explicit framework, and comes up with a rather sweeping overall characterisation: “Umgangssprache allgemein norddeutscher Prägung”. In practice, his description is restricted by his own terms of reference (“Intonation und Grammatik”) to areas of language where the sentence-level structuring of locutions is in the foreground, rather than the levels more relevant to the spontaneous speech corpus from which his examples are taken.

The point of discussing the intonation of reading aloud here is not, therefore, for any reason of theoretical priority of whatever sort: it has the pragmatic justification of being one of the most widely described varieties.

The actual intonation patterns used in any given instance of reading aloud are determined by a wide variety of factors and combinations of factors, the channel being only one of these, though an important one. Radio newsreaders and storytellers, for instance, will often simulate hearer-presence (though such cases appear to be rarer on the BBC than on commercial stations) by using relatively short-term accentual structuring, and using dialogue-like intonational metaphors; one instance occurred in a news bulletin on Capital Radio, London, in which such metaphors occurred:

(8) Police are trying to find out who planted the bomb that shattered government offices in in Balham High Road South London early this morning.

The complement clause *who planted the bomb* was not intoned with the “expected” relatively highly structured tune which would match the complexity of the syntax; instead, the item was given a separate overall falling contour with slight lengthening of *bomb* which, when edited out of the overall sequence, was interpretable as a rather aggressive *wh*-question. A further instance was the occurrence of the word *now* with similar “isolate” intonation at the end of a sentence about the expected time of arrival of a politician in London —

(9) ..., round about now —

where, in isolation, the edited item *now* was interpretable as an urgent cue to the precise moment for some action to be performed by the addressee. Similar



modifying effects are to be found in story-telling directed to children, in which the basic, relatively highly-organised tune patterns are modified in the direction of accent sequencing as found in spontaneous speech by the simple device of increasing the pitch-range, with accented syllables fairly high (low) and unaccented syllables fairly low (high), the preferred pattern being the one indicated in brackets (i.e. low accents, high flanking syllables) except for particular text-structuring purposes when the pattern is reversed. More could be said about such modifications in reading aloud, but that would take us too far. One final comment on the relation of channel influences to other influences may be of interest: particularly at the end of long texts read by a single speaker, the influence of the channel, as opposed to simulated hearer-influence, tends to increase; this is shown by the dominance of the relatively predictable locution-oriented tunes towards the end of such performances, and the relative lack of dialogue-oriented intonation metaphors of the types illustrated in (8) and (9) above. This is hardly surprising, of course, since hearer-simulation presumably means additional effort, and with sustained, and fatiguing, concentration the course of least resistance would appear to be to drop this extra functional dimension.

Figure 2 summarises some of the components required in a model of reading aloud; the modifications due to real or simulated audiences which were discussed above are omitted, and, since this is not intended to be a realistic psycholinguistic model, details pertinent to actual processing in production and perception are not considered. The main question which arises in this connexion pertains to the nature of the inter-channel translation process; this is not a simple interface between codes of two norms, but involves reconstruction of sufficient information from the locutionary intonationless text to provide the basis for metalocutionary structure-spotlighting in the spoken output.

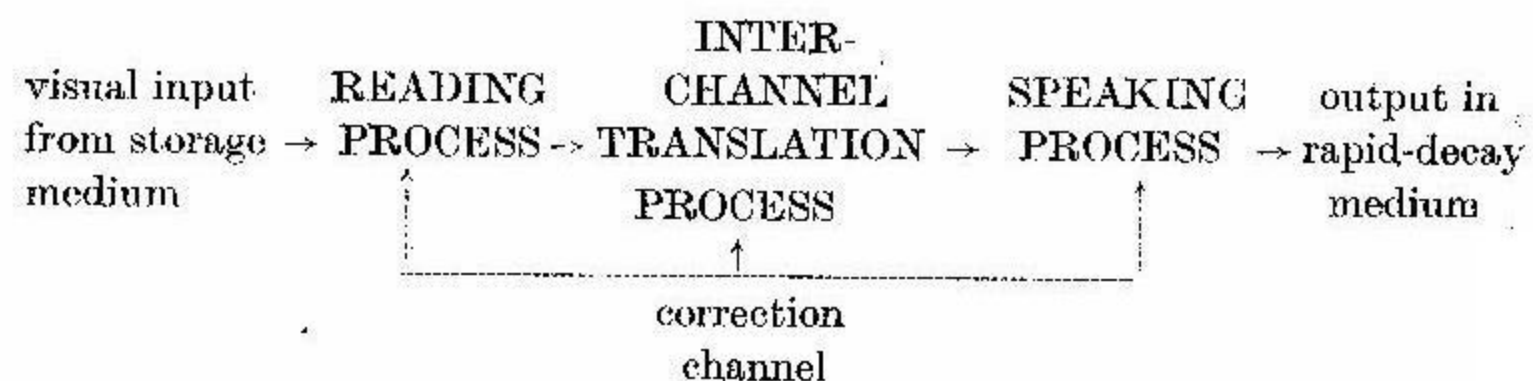


Figure 2: Aspects of the channel structure of reading aloud

The kind of information involved may, as already noted in discussing the channel properties of writing, be very intricately structured; this structuring

may — at least in a relatively coarse manner — be picked out by intonational means, resulting in a hierarchy of intonational contours and yielding a fair amount of variation of the type represented by some of the more complex tonetic intonation descriptions. The various levels in the hierarchy often appear to follow a principle of contour congruence: the longer stretches (so-called “paragraph intonation”, etc.) tend to replicate clausal contours but with greater overall bandwidth or range, thus giving room for lower-level contour-variation. One common pattern starts rather high, and finishes low, thus replicating the standard falling tune types; another pattern is initially rising and then falling over a fairly long stretch, with lower-level rising falling sequences of narrower bandwidth; to go into this in detail would take us too far, however. Various modes of higher-level organisation have been pointed out in the literature (cf. the hints in Pike (1945:76ff.); Kingdon (1958); also recent discussions such as the notion of *key* in Brazil’s work on discourse intonation, 1975, or the “fault intonation” of Ozga (1978); Jassem (1952), also suggested similar variation at a lower hierarchical level, within a long low tail following a falling nucleus; finally, the congruence of the pitch patterns of parentheses with the pattern of the dominating construction has frequently been noted, both for English and German).

It is not difficult to find examples of such hierarchies; BBC newsreaders are a copious source. They are also conspicuous in the reading of stereotyped information such as football results or personalia (name, date of birth, &c.), as well as in non-read, but rehearsed and stereotyped speech varieties such as sports reporting (notably horse-racing), in which a form of storage facility (cf. Figure 1) is also present.

In a sense, it may be said that there even exists a precise theory of reading aloud — though it was not intended to be such, nor can it be considered an empirically adequate theory of this functional variety: the generative theory of stress assignment. If this theory is an empirical theory of anything, then it comes closest to modelling the variety which has just been sketched. This reconstruction of a possible empirical universe of discourse for generative stress-assignment theory should not be confused with naive assumptions that underlying representations in generative phonology are “really” orthography; to maintain such an equivalence would be evidence of fundamental misunderstanding of the nature of the empirical and functional bases of phonological, and here specifically prosodic, descriptions. This cautionary note is perhaps necessary to guard against possible misunderstandings of the present reconstruction.

The reconstruction postulates no more than a functional isomorphism of certain general logical features of (i) the channel structure sketched in Figure 2; (ii) the general structure of the calculus of generative stress assignment; (iii) the general structure of the heuristic strategies on which the interpreta-



tion of this calculus is based. As far as the last point is concerned, it is essential to stress that, contrary to the assumption often made, the heuristics used in description, however informal, have a decisive effect on the interpretability of a theory in terms of some universe of discourse. This would be a platitude in the so-called "hard" sciences, but it is often denied, implicitly or explicitly, in linguistics, particularly within the context of formal, explication-oriented descriptions such as those of generative grammar. For this reason, the structure of (iii) above cannot be ignored in trying to provide a match between the output of a theory and the output of an exercise in practical transcription, as in required in trying to sift more abstract properties of intuitively given notions like "stress" from those properties associated with more peripheral perceptual processing.

First, the channel structure of Figure 2 has an input of strings from a storage channel which are processed by means of some translation function into spoken, in particular intoned, sequences.

Second, the structure of the generative calculus is, in general terms, as follows:

- (a) the syntactic calculus generates a string of lexical items with *structural* descriptions containing information about certain grammatical categories and relations;
- (b) on the basis of this input information, the string is mapped by an interpretive cyclical function on to a string of integers (these being additionally interpreted as specifications of some feature "stress").

These integer strings were, in the earliest stages of generative phonology (Chomsky, Halle and Lakoff (1956: esp. fn 1), intended to have the same kind of direct phonetic reality as was claimed for the Trager and Smith (1951) stress notation which the model was intended to explicate, though with some reservations, for instance about the category of juncture (Chomsky, Halle and Lakoff (1956: Condition II)). Twelve years later (Chomsky and Halle 1968), the continuing lack of such empirical evidence was turned into a virtue: the integer strings were taken to be constructs with some kind of psychological, not directly perceptual reality. This approach no doubt has some justification in view of the fact that the integer strings are, formally speaking, a re-coding of phrase structure in linear form and with reduced information. However, whatever contact with the aspects of stress or accentuation patterns which are perceptually identifiable — regardless of particular constituent structures — in actual dialogue may have originally been hoped for, appears to have been drastically undermined by the vague psychological reality interpretation. A clue to the nature of the universe of discourse of such theories must be sought elsewhere; one source of information, as indicated above, is in the heuristics used.

Third, then, the heuristic strategies used, which became particularly plain in the dispute between Bresnan (1971; 1972), Berman Szamosi (1972), Lakoff (1972) and Bolinger (1972) are, in outline, as follows:

- (a) a sentence is invented (on the basis of partly systematic minimal pair strategies) and written down or retained in memory;
- (b) informants are requested to read the string aloud; or asked whether they would accept certain readings; or a string retained in memory is assigned a "stress" contour and pronounced.

The judgments reached on the basis of these heuristic strategies are compared with the predictions made by the formal model and taken to be evidence for or against these hypotheses. It is interesting to note that Bierwisch's description of German intonation (1966), for which additional integer strings for pitch patterning are assigned, and which in many respects represents an intermediate stage of development between Chomsky, Halle and Lakoff (1956) and Chomsky and Halle (1968), is quite explicitly concerned with providing an formalization of the v. Essen description of German (Bierwisch (1966:186, fn. 1)), which has already been seen to be concerned with the reading aloud varieties.

The formal parallelism between these three areas is striking, and, with due caution (in view of the possible misunderstanding of the present position in the naive terms referred to above), it may be suggested that *if* this theory of stress assignment has empirical correlates in any variety of English or German (and the descriptions are highly similar for both languages), *then* the variety concerned is that of the reading aloud of contextually isolated written sentences. For it is surely going too far to claim that such a theory describes stress patterning *per se*, and it would appear to be necessary to relativise the universalistic claims made on the part of such theories to more modest, but empirically more meaningful claims about specific functional varieties. But *whether* these theories, on inspection in this regard, have identifiable empirical correlates is an entirely different matter, or *whether* any correlates are functional rather than empirical (making the stress cycle primarily a semantic, rather than a phonetic interpretation, with the integers representing something like the syntactic contribution to Praguean "communicative dynamism" — cf. Gibbon 1975 (1976: 96f.), esp. the related conclusion of Lieberman referred to there) is a different matter again, which will not be pursued here.

The main point to be made here, for practical analysis, is that it is not sufficient to consider particular, highly restricted functional varieties of language such as the reading of isolated sentences in a description, and then to draw wide-ranging conclusions about prosodic structuring when, essentially, the only evidence considered is derived from highly inexplicit intuitive inter-



pretations of locutionary structures. Particularly when a practical analysis is intended to bear fruit, as in the context of contrasting linguistics as applied, for instance, to the task of providing materials for language teaching, the functional variety of language used should be stated in the maximum amount of detail, if only to avoid the elementary mistake of contrasting, say, the intonations of spontaneous speech in one language (e.g. one's own, the language one knows best) with the intonations of reading aloud (e.g. in one's second language, which may have been learned primarily via such a functional variety). But it is also necessary to point out that, to coin a phrase, a variety of varieties must be described, taught and learned if a foreign learner is to be able to make the transition from "formal", "stilted" — even if accurate — speech to patterns more appropriate to conversation.

#### 4. FURTHER FUNCTIONAL VARIETIES IN ENGLISH AND GERMAN

An indication of some other factors influencing functional variation both in English and German have already been indicated. On a previous occasion (Gibbon 1978) I suggested a number of theses concerning the description of functional variation in German, which may be summarised in the following terms:

- (i) the different, and at first glance mutually incompatible descriptions made hitherto are not so much accurate or inaccurate as fragmentary;
- (ii) these descriptions are to a considerable degree complementary to each other in that they make different selections of functional varieties, from reading aloud via rehearsed rhetoric to spontaneous speech;
- (iii) the functional varieties selected in each case have specific types of structural organisation which may be prosodically marked in the ways described.

These theses, taken together, amount to a suggestion that some earlier descriptions of German intonation may be used as a source for at least a primitive typology of functional variation in German as it affects intonation. This suggestion may be applied, *mutatis mutandis*, to English intonation, too.

Four such descriptions, with brief references to the functional varieties involved, are listed below and summarised in more detail in Figure 3. They are arranged along a scale of functional or stylistic variation which may be associated with differences in formality or spontaneity; the use of the term "functional" in this context is somewhat broader than in previous sections of the paper. It will be obvious from the discussion (sections 1 and 2 above) of the role of the constitutive factors of communication in defining functions and functional variation that this scale can only be considered

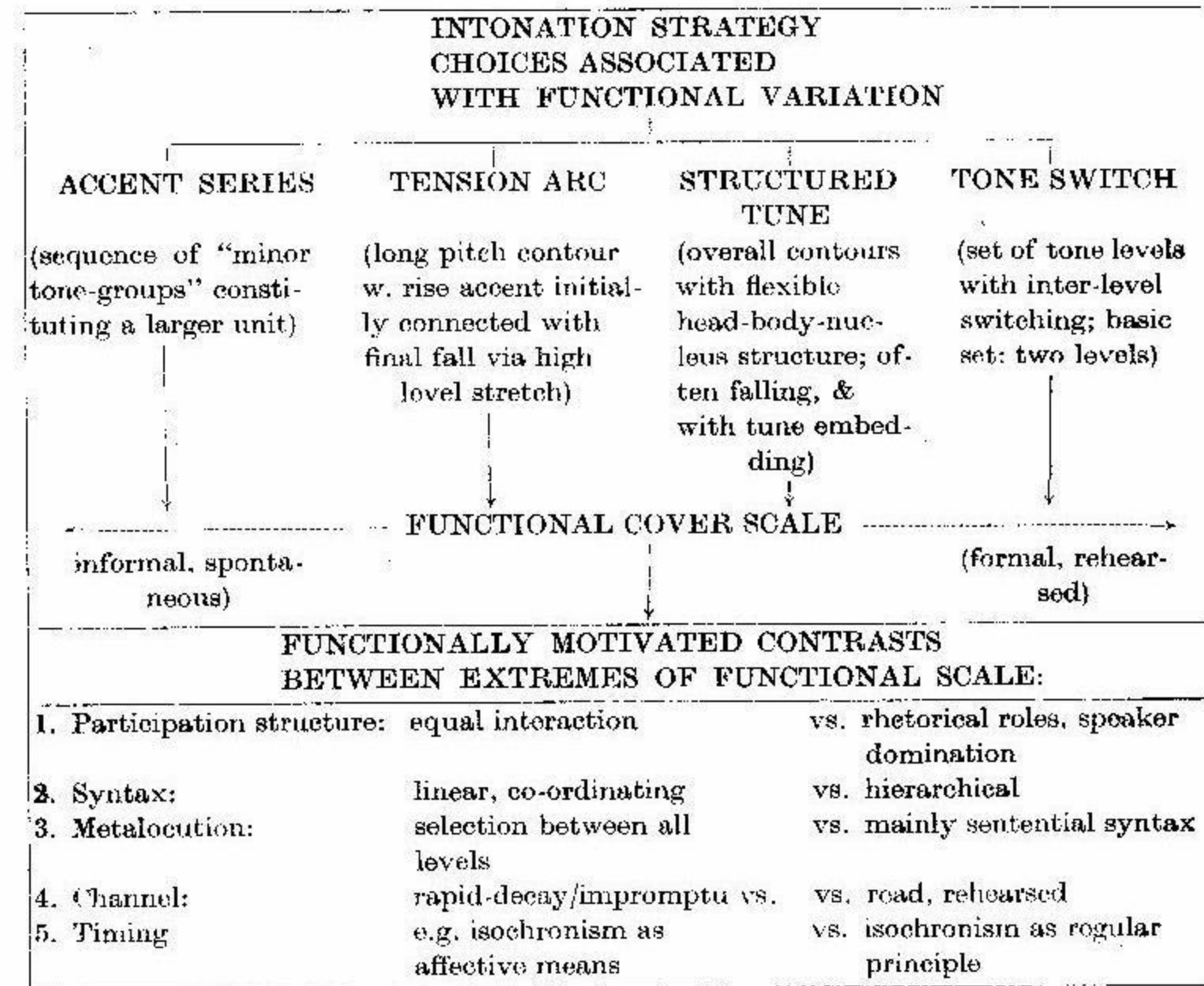


Figure 3: Some functional varieties of German intonation

an informal "cover" scale, with primarily heuristic value as a working hypothesis rather than a finished model; the categories involved are provisional and overlapping. The four descriptions concerned are:

- (i) Trim (1959, 1964), which appears particularly appropriate to certain types of spontaneous speech.
  - (ii) Trojan (1961), whose *Spannungsbogen* (tension arc) model fits coherent narrative strategies and may frequently be heard in political speeches; it may convey appraisive overtones.
  - (iii) The structured tune model of v. Essen (1956), which is derived in large measure from the work of Armstrong & Ward, Kingdon and Palmer on English intonation, and which may be heard in the reading of relatively highly structured texts and other storage-related functional varieties.
- The varieties described by these models are not identical, but they overlap to some extent; it may be possible to regard (ii) as a special version of (iii), for instance, and (i) as containing sequences of substructures of (iii). The fourth variety is slightly different:







- (i) Which functional varieties are intonationally distinguished in the languages concerned; by what criteria are such distinctions identified?
- (ii) What are the phonetic and formal characteristics of the intonational subsystems so established?
- (iii) What are the principles linking these subsystems to each other and to the constitutive factors of communication?

The preceding discussion is intended to provide partial answers. In conclusion, I should like to suggest as a heuristic tool a generalisation of the notion of functional variation, referring to the constitutive factors introduced in § 2 above, and distinguishing the following kinds of variation:

- (i) Channel oriented variation: with/without storage (cf. Fig. 1), with/without technical extension (telephone, radio, script), uptake-restricted (noisy, non-informative) vs. clear.
- (ii) Language and context oriented variation: collocational restriction (stereotypic syntax), holistic semantic mapping (idiom in the narrow sense), ritual use (pragmatic stereotypy), each factor separately or interdependently contrasting with unrestricted forms and linking up with the other categories;
- (iii) Participant oriented variation: constraints from production, perception and memory and their effect on rehearsed vs. spontaneous speech, writing vs. speech, etc., social conventions on language variety.

As noted in section 1 above, no individual factor can serve alone in constituting a particular function or variety, and consequently any list like this one can only involve an informal weighting towards particular factors, the other factors being simultaneously involved in each case; hence the obvious points of overlap in the list. If these suggestions draw attention towards highly structured areas of communication outside the pale of simple competence/performance or language/speech distinctions with their restricted domains of discourse, and point towards the utility of contrastive analyses based on an explicit empirical and functional frame of reference, they will have achieved their purpose.

#### Postscript

Some of these views were first presented in a lecture given at the University of Leeds on February 15th 1978; I am especially grateful to Tony Fox and Jack Windsor Lewis for discussion and criticism on that occasion. I am also grateful to the discussants at Boszkowo for not sparing with their criticism and thus motivating certain revisions in presentation for this version of the paper, particularly Janina Ozga, Hans-Heinrich Lieb, Mike Sharwood Smith and Henning Wode.

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