# 6. Prosodic Structure and the Given/New Distinction

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## 6.1 The Given/New Distinction

Over the last 15 years, since Halliday drew the attention of scholars in the West to the Prague School division of information within an information unit into *given* or *new* information, a considerable literature has developed. This literature has now largely obscured the phenomenon to which Halliday [1967 a] sought to draw attention. The aim of this contribution is to reassert Halliday's basic distinction, to outline briefly how it relates to the plethora of other distinctions which have since been made in the literature, and to demonstrate from a limited corpus of data that Halliday's simple dichotomous distinctions must be invoked to account for the range of intonational realisation in that data.

Halliday's preoccupation through a series of articles [1963, 1967 a, b, 1970] was to account for the way in which intonation in British English relates to information structure. His account relates exclusively to information structure in spoken language, and the fundamental categories which signal information structure are phonological (with an auxiliary, but never overriding, syntactic contribution). He identifies the unit of information as the *tone group*, i.e. a unit which is intonationally defined [Halliday, 1967 a, p. 200]. According to his classification the speaker must include in every tone group a chunk of new information, which will be phonologically marked by the tonic pitch movement. The speaker may optionally include one or more chunks of given information, which will not be phonologically marked by pitch prominence. It is important to note that in Halliday's account, the assignment of given/new status to information is determined by the speaker, not by the text. Furthermore, whereas Halliday does find some correlation between clause and tone group in the data on which he bases his analytic framework [1967 a, p. 201], in that there is a tendency for the tone group to be co-extensive with the clause, this is merely a tendency, not a requirement on the speaker. It certainly does not follow that long, often complex, written sentences will contain the type of simple information structure associated with tone groups in spoken language (cf. the problems encountered by Prince [1981] in trying to analyse complex expository prose in terms of an analysis developed for the typically short tone-group structures found in spoken language). In Halliday's terms then, the unit of information, the tone group, is phonologically

identified, and the status of information within the tone group is phonologically marked in the focussed domain as *new* if the tonic is present, and as *given* if it is absent. The hearer should be able to determine, simply by listening, how an utterance is chunked into tone groups, where within each tone group the speaker has decided to locate the new information, whether he has decided to include given information, and if so, where.

There are problems with the analytic framework even at this level. Several analysts have found intonational criteria inadequate for the identification of information units in speech, and prefer to work with pause-defined units [Chafe, 1979; Brown et al., 1980; Butterworth, 1980; Deese, 1980], and others are anxious to soften the requirement that there should be only one tonic, or marker of new information, within a tone group [Bolinger, 1970; Stockwell, 1972; Crystal, 1975; Chafe, 1979; Pellowe and Jones, 1979; Brown et al., 1980; Thompson, 1980].

For my purposes here I shall assume that the speaker has available *syntax* and *pausing* as two independent but frequently co-operative markers of information chunking, and that there may be several peaks of prominence within a pause-defined unit, which may mark change of topic, speaker's emphasis, contrast, or the status "new information". (For a more detailed discussion, see Brown et al., [1980].) I shall assume that intonational prominence of this kind generally functions as an attention marker, or generalised "watch-it" marker, for the hearer, whereas the function of low pitch is to mark material which the speaker expects the hearer to expect at this point in the discourse [Chafe, 1970]. Note that I am assuming, with Halliday, that the speaker will judge what it is reasonable to expect the hearer to expect at a particular point.

In Sect. 6.2, I shall give a brief overview of how Halliday's given/new distinction has been picked up, particularly in the psycholinguistic literature, and made to do far more work than it can usefully do. As a result, "given" is frequently extended to include all that an addressee can ever be expected to know from whatever source. This extension, particularly when applied to written language examples, often causes the status "given" to be attributed to forms which would inevitably attract phonological prominence if read aloud.

In Sect. 6.3, I shall give a brief account of a restricted spoken language corpus in which the parameter of source of knowledge was carefully controlled. I shall show how this corpus, analysed in terms of the taxonomy developed by Prince [1981], offers support for Halliday's analysis of information status as realised by intonation.

## 6.2 Extensions of the Given/New Distinction

The extension of Halliday's categories seems to have been initiated because of the way he characterised the state of knowledge which the speaker attrib-

utes to the hearer. Thus "given" information is specified as being treated by the speaker as "recoverable either anaphorically or situationally" [Halliday, 1967a, p. 211] and "new" information is said to be focal "not in the sense that it cannot have been previously mentioned, although it is often the case that it has not been, but in the sense that the speaker presents it as not being recoverable from the preceding discourse" [1967a, p. 204]. Whereas this characterisation nicely discriminates between the status of information marked intonationally as "given" or "new" by the speaker, it also embraces a wide range of other phenomena. As Dahl remarks, "The concepts of old and new information are used to explain such phenomena in language as intonation, stress and word order and the use of anaphoric devices" [1976, p. 37].

The psychological notion of givenness has been characterised in a range of descriptions, particularly following a series of influential statements by Clark [Haviland and Clark, 1974; Clark and Clark, 1977; Clark and Haviland, 1977] which makes appeal to salient properties of the discourse or context such as: last-mentioned item in the discourse, mentioned earlier in the discourse, ongoing topic of the discourse, known property of a mentioned item, present in the context, saliently present in the context, general knowledge relating to the topic, background knowledge deriving from shared schemata/scenarios, etc. Perhaps the most expansive version of what is to be taken as given can be found in Sanford and Garrod [1981, p. 114]: "The scenario enables references to individuals to be made in the first instance by a definite noun-phrase, because they are already *given* in the representation. Because they are given, they cause neither comment nor difficulty, and rapid pseudo-anaphoric mapping is possible". This makes it clear that any information deriving from the activated scenario has the status of given, not because the speaker (or writer, since they are dealing with written language) assigns it given status, but because of its status within the scenario which the text activates. It would follow from this view of scenario-determined givenness that a speaker giving a stereotypical account of an incident would do so without marking any new information intonationally (resulting, presumably, in a (near) monotone). It is clear that this view of "givenness" does share features with Halliday's ("treated as recoverable either anaphorically or situationally") but that it has little to do with the way speakers use intonation to mark the status of information in spoken language.

The direction that this development of the extension of the term "given" has taken appears to be as follows. Halliday observes that forms in the speaker's message can be characterised as either being phonologically prominent or not. He examines the distribution and function of these forms and concludes that they are used to mark the status of information as given or new. He characterises given and new in terms of speaker assumptions, and exemplifies the realisation of the categories, necessarily, in terms of orthographically transcribed examples of a type which he hopes will yield the intonation patterns he is concerned with, if they are read aloud. The exam-

ples of the category "given" typically contain anaphoric expressions, since anaphoric expressions are very often realised by the speaker as not phonologically prominent. Scholars who are primarily interested in written language then read Halliday's written examples and interpret his distinction in terms of the syntactic forms which he has used in his exemplification. Generalising over these syntactic forms, they then observe further syntactic forms in written language which appear to have similar features, and argue that any information expressed in terms of this set of forms is being treated as given by the speaker/writer. Since the range of characterising expressions has been extended far beyond phonological prominence/non-prominence, the meaning of given has necessarily undergone a dramatic change. The set of formal expressions included under its wider interpretation have little to do with the deployment by the speaker of intonational prominence, and frequently, as I shall show in Sect. 6.3, expressions which in the extended meaning of the term would be classified as given are treated by speakers as new, in Halliday's terms. It is a Canute-like act to try to constrain the extended meaning of a term, but it must be a matter of lively regret that this particular extension deprives us of a straightforward way of referring to the phenomena which Halliday was concerned to describe.

A recent survey [Prince, 1981] develops a taxonomy to make it possible to distinguish the various sources of knowledge which lead the speaker to make use of different forms among the formal "state of knowledge" devices which English permits[1]. She distinguishes between *new*, *inferable* and *evoked* entities. *New* entities may be either *brand-new* (not assumed to be known by the hearer) or *unused* (known to the hearer but not assumed to be in the hearer's consciousness). *Inferable* entities are introduced when the speaker assumes that the hearer can infer them by reasoning from discourse entities already evoked (e.g. the *driver* is inferable from *a bus*, plus assumed knowledge about buses, i.e. *Buses have drivers* [Prince, 1981, p. 236]). *Evoked* entities are ones which have either already been mentioned in the discourse or are situationally salient. This is a useful attempt at trying to get some handle on the way different assumptions by the speaker about the hearer's state of knowledge lead to the use of different formal expressions in language. However, although Prince analyses an extended transcription of a spoken text, she totally ignores the phenomenon of intonation. She attempts only to account for a range of verbal expressions. How does intonation relate to this taxonomy?

In the following section I shall examine the ways in which a number of speakers performing in a restricted speech context exploited the resources of intonation in indicating to their hearers the status of the information they

[1] A good deal of Prince's discussion of Halliday in this survey is vitiated by a misunderstanding of Halliday's position. Prince writes (and reiterates) "For Halliday . . . in an information unit with unmarked focus nothing is given" [1981, p. 226]. However, on the very page she cites (p. 208), Halliday states "An item with unmarked focus may thus be represented as being ambiguous, as having the structure *either given-new or simply new*" [1967 a, my italics].

were transferring. I shall show that despite the greater richness of Prince's taxonomy, we still need to appeal to a simple dichotomous given/new distinction in order to account for the intonational realisations, and to a yet richer set of distinctions to account for the range of syntactic realisations.

## 6.3 An Experimental Study of Intonation and Information Structure

### 6.3.1 The Data

The data was produced by 12 pairs of undergraduates talking together[2]. In each pair, A could see a diagram which B could not see, and A was asked to describe the diagram to B in such a way that B could draw it. B was provided with a blank sheet of paper, a black pen and a red pen. This highly restricted data produces some characteristic features which I will comment upon later. From the point of view of the analyst interested in information structure, it offers a satisfying amount of control over the range of sources of knowledge. The analyst knows that this is not a fragment of discourse broken out of some previous experience shared by the two participants. He can record all the speech relevant to the transmission of this information. He can identify the point where each entity is introduced into the discourse for the first time, and he can track through second and subsequent mentions. He can recognise where a *brand-new*[3] entity is introduced into the discourse, as in:

a) draw *a black triangle*
b) draw *a straight line*
c) write *OUT in black*
d) there's *a circle* in the middle

He can identify an *inferable* item introduced into the discourse:

a) it's right through *the middle* (circle)
b) you start at *the edge* (triangle)
c) (triangle) with *the right angle*
d) (triangle) *the corner*

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[2] The data described here derives from SSRC Project HR 6519, "The Information Structure of Spoken Discourse". I am deeply indebted to George Yule, who worked on this project, for some of the analysis and many of the insights which I draw upon here. (For an extended analysis see Yule [1981a].) This discussion is limited to entity-referring expressions.
I am also grateful to Anne Anderson for the statistics showing the significance of the figures in Table 6.1.

[3] There are no instances of Prince's *unused* category in this data.

He can track second and subsequent mentions (Prince's *textually evoked* category)

a) underneath *the triangle*
b) draw a red line ... at the end + the right hand-side + of *this line* write the word ON just above *the line*
c) a line ... about two inches + and above *it* write ON

He can also recognise contextual referring expressions (Prince's *situationally evoked* category)

a) in the middle of *the page*
b) *you*'ve got a triangle

It could of course be argued that it is unrealistic to distinguish between the categories *inferable, textually evoked* and *contextually evoked*, particularly with respect to this sort of data. The discourse-initial relevant entities in the context may be only page, pen and interlocutor, but as soon as the hearer has drawn, say, a triangle, which necessarily provides him with a set of edges, corners, angles, lines, etc., the context has changed. The hearer is not simply working in terms of a mental scenario; he actually has a model physically present on the page. We might expect, then, that the speaker would collapse these categories and distinguish only between expressions introducing brand-new entities and the rest. However, as we see in Table 6.1, speakers appear

**Table 6.1.** Distribution of formal realisations in entity-referring expressions from an experimental study of intonation and information structure (in %)

| | New Brand-new | New Inferred | Evoked Context | Evoked Current | Evoked Displaced |
|---|---|---|---|---|---|
| (a) *Syntactic form* a + properties | 77 | | | | |
| a − properties | 21 | | | | |
| the + properties | | 29 | | 3 | 44 |
| the − properties | 2 | 71 | 58 | 21 | 56 |
| pronoun | | | 9 | 65 | |
| ellipsis | | | 33 | 11 | |
| (b) *Phonological prominence*[a] + | 87 | 79 | 2 | | 4 |
| − | 13 | 21 | 98 | 100 | 96 |

[a] Scores are percentages of realisations which receive a physical form.

to distinguish between these categories. For instance, *all* expressions introducing inferable entities consist of full noun phrases, in most cases accompanied by phonological prominence which is not characteristic of forms referring to the evoked context. It seems reasonable to suggest that whereas the relevant features of the interlocutor and the page are thoroughly determined by the nature of the task, the relevant features of the drawing the hearer produces are not so determined.

### 6.3.2 Formal Realisations in the Data

Table 6.1 shows the distribution of formal realisations in entity-referring expressions in this data. The types of formal realisation include different syntactic forms as well as variation in phonological prominence. The syntactic forms consist of expressions preceded by the indefinite or definite article with or without some specification of the properties of the entity (e.g. "a line" versus "a small red line") and pronominal realisations (in most cases "it", but also "this" and "you"). The ellipsis line in the table represents omissions, as in the expressions

in the middle ϕ draw a black triangle

you've got a red 5 + on the left-hand side ϕ

Phonological prominence is indicated by high pitch in the Edinburgh Scottish English spoken in most of this corpus. The high pitch occurs as excursions from a rather flat baseline of unstressed syllables. In general, words which are phonologically prominent will be recognised by judges as containing "tonic" or "nuclear" syllables. Phonologically prominent syllables occur more frequently in this data than Halliday's tone-group-based definition would predict. Some of the speakers, however, had Glasgow-type accents, and produced pitch excursions below the baseline of unstressed syllables, excursions which curved up to the baseline. Lack of phonological prominence yields a syllable close to the baseline with little, if any pitch movement. Such non-prominent syllables may still be perceived as stressed. (For a description of Edinburgh Scottish English, including a detailed account of the phenomena mentioned here, see Brown et al. [1980].)[4]

[4] The observed differences in phonological prominence when tested statistically were found to be highly reliable in all cases. Binomial tests show phonological prominence to occur more frequently than non-prominence in mentions of brand-new entities and mentions of new inferred entities ($Z = -11$, $p < 0.001$ and $z = -4.98$, $p < 0.01$ respectively). Phonological non-prominence was found to occur more frequently than prominence in cases where the entities were evoked context, evoked current and evoked displaced ($Z = -10$, $p < 0.01$ for evoked displaced).

Continued on page 74

It is immediately obvious from Table 6.1 that *brand-new* entities are typically introduced by expressions with the indefinite article, usually with one or more specified properties, followed by a noun:

draw *a triangle*
draw *a straight line*
there's *a red letter X*
*a small black 5*

There are a few occasions where an entity is introduced by a definite referring expression, as in:

write *OUT* in black
write *the word ON*

In 87% of cases there is phonological prominence associated with expressions introducing a brand-new entity (this is quite frequently associated with the specified property rather than with the entity-referring noun, as Yule [1981a] points out). What is surprising here is the number of expressions which are not associated with phonological prominence. Most of these apparently arise from the same source; although the entity introduced is brand-new, the expression used to introduce it is of a form which has already been used to introduce a previous entity. Consider this extract from a speaker whose stable baseline is around 200 Hz and whose prominent range normally lies above 230 Hz:[5]

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| the | corner | is | on | the | right | of | the | big | black | triangle + |
| | 240–210 | | | 210–200 | | | 200 | 200 | | 200 |
| a | right-angled | triangle | like | the | black | one + | | | | |
| | 210 | 210 | | 200 | | | 200 | 200 | | |

[5] Continued from page 73.

The frequencies of occurrence of the various syntactic forms used by speakers were also tested, and significant differences were found in mentions of brand-new entities, where more {a} + properties than {a} – properties descriptions were used ($Z = -8.46$, $p < 0.001$), in mentions of new inferred entities, where more {the} – properties than {the} + properties descriptions were used ($Z = -4.1$, $p < 0.001$), and in mentions of evoked context entities, where more {the} – properties descriptions than ϕ were used ($Z = -2.16$, $p < 0.05$). In mentions of evoked current entities more pronoun and ϕ expressions than {the} – properties realisations were used ($Z = -3.97$, $p < 0.001$). There was no significant difference in the syntactic forms used for mentions of displaced entities.

[6] A very regular feature of the end of long turns such as the ones described here is a diminution of pitch range and amplitude, yielding an overall "fade-away" effect. Over the last two or three intonation units of a turn we can indeed discern the near-monotone effect which Sanford and Garrod's model would predict for information which is in their terms "given" (cf. also discussion in Brown et al. [1980] of the end of long conversational turns). It is possible that length (duration) takes over from pitch/amplitude as the primary cue here.

It is as though once *triangle* is introduced into the discourse (in this type of discourse, at least, which demands a restricted vocabulary), the speaker resists marking the expression as requiring attention, even though the entity it introduces is new.

The second column in Table 6.1 shows the typical form of expression used to introduce inferable entities. These are very regularly introduced as definite noun phrases. These inferable entities (*middle, corner, side* of *page, apex, angle, side* of *triangle, radius, bottom, diameter* of *circle*, etc.) are presumably those which would be held to be introduced via the appropriate scenario [Sanford and Garrod, 1981, p. 112ff.] It is relevant to note that these expressions are typically associated with phonological prominence, i.e. in Halliday's terms, marked as new by the speaker rather than treated as given.

The third column, *evoked context* expressions, contains relatively few expressions (51 in all), most of which refer to *the page* the hearer is drawing on. Four refer to the pens provided, and the rest relate to the interlocutor *you*. All but one of the verbalised expressions are realised on low pitch without prominence. The one exception is from a speaker who begins by uttering the instruction "black pen", where both "black" and "pen" have associated pitch prominence.

I have divided Prince's last relevant category, *textually evoked*, into two subdivisions in order to show a quite marked difference in syntactic realisation between the subcategories. An item which has just been introduced into the discourse and which is currently the entity to which new information is being related, is here called a *currently evoked* entity. Items which have been introduced into the discourse at a point previous to the currently evoked item are here called *displaced*[6]. It is clear that the majority of forms relating to currently evoked entities are lexically "attenuated", to use Chafe's term (65% pronouns, 11% ϕ), whereas none of the forms referring to displaced evoked entities is lexically attenuated in this manner; indeed, a substantial proportion of expressions include not only nouns but adjectives identifying properties as well. It seems reasonable to suggest that, in general, a currently evoked entity might be regarded as readily accessible to a hearer, whereas a displaced entity may require specification in order to distinguish it from other, potentially competing, displaced entities. However, the level of lexical identification of displaced evoked entities in this data may result at least partly from the nature of the task – the need for specificity and the fact that as the task progresses there may be two entities of the same type which have already been introduced into the discourse and need to be distinguished. We might expect more pronominalising in expressions referring to displaced evoked entities in a narrative task, where different-gender participants are

[6] Yule [1981 b] develops a formal notation for tracking reference to entities through a discourse. I adapt his *current/displaced* distinction here without a properly developed discussion of the formal basis of his analysis.

involved, than in this task, where all the entities are same-gender. (A very similar incidence of lexicalised displaced entity expressions occurs in another genre where same-gender entities are mentioned, namely the description of routes from home to school/work [Brown et al., 1979].)

A striking feature of all the evoked entity-referring expressions in this data is that except for half-a-dozen examples of contrast under the evoked displaced column, all members of this general category are realised without pitch prominence. The pitch feature alone suffices to distinguish them from the typical realisations of the *brand-new* and *inferable* categories.

It is important to utter a caveat before making any general claims on the basis of this data. The texts produced by the speakers were mostly quite short – 150–200 words – and the topics they were concerned with were extremely limited. It is hardly surprising that the relatively few entities which are established in such brief texts should be expected by the speaker to remain highly accessible to the hearer, especially as the hearer has a visual record of those entities in the shape of the diagram he is in the process of drawing. It would clearly not be correct to generalise from this data and to claim that any entity referred to in any text will later be referred to by an expression which is uttered on low pitch. We have, for instance, conversational data which includes a text where A tells B about an elderly woman whom she met on the bus on her way to visit B. The talk drifts on to other topics. Some three minutes later, A reintroduces the elderly woman into the conversation with the expression "this lady" uttered with pitch prominence. It seems reasonable to suggest that the speaker judged that the "elderly woman" was no longer, in Chafe's terms, "present in the listener's consciousness" at the point when she wanted to refer to her again.

It is important, too, to note that the mere fact of repeating a referring expression does not constrain the speaker to uttering it on low pitch. Yule [1980] has provided a number of illustrations of a speaker who, having introduced a referent and repeated it low in pitch, may then immediately reinstate it high in his pitch range as he turns to further considerations of it:

| even the dancing thing + | dancing's no really a pastime |
|---|---|
| 100 Hz | 200–190 Hz |

It is not the text sequence which determines how the speaker behaves, but the speaker's moment-to-moment assessment of the relationship between what he wants to say and his hearer's informational requirements. When he judges that the hearer is not expecting what he is about to say, he signals that the hearer needs to pay attention by using pitch prominence. When he judges that what he wants to say is well in line with the hearer's expectations, he drops the pitch down.

## 6.4 Conclusion

In the limited data described in the last section, the speaker's intonational behaviour accords well with Halliday's descriptions. When the speaker introduces brand-new information, he typically marks it with high pitch. When he introduces inferable information, he again typically introduces it with high pitch. The fact that inferable information is potentially available to his hearer through his activated schemata/scenarios, does not, most of the time, persuade the speaker to treat it as though the hearer expected it. It may be potentially "known" to his hearer, but the speaker treats it as new, in Halliday's terms. It is only the information which derives saliently from the context, or specifically from previous mention in the discourse, that the speaker treats as given, in Halliday's terms – on low pitch.

If we want to account for the speaker's use of intonation to mark the status of information for his hearer, Halliday's dichotomous categories "given" and "new" yield a satisfactory description of the intonational data. If, on the other hand, we wish to account for the range of syntactic forms associated with types of knowledge deriving from multifarious sources, clearly the categories of description require more than a simple dichotomy, and the terms "given" and "new" are stretched far beyond any possible utility. At least the range of distinctions drawn by Prince appears to be necessary, together with the current/displaced distinction which I have drawn upon here[7].

*Acknowledgement.* I am grateful to the participants at the Prosody Workshop and particularly to Henry Thompson for comments on this contribution.

[7] A recent paper by Marslen-Wilson et al. [1982] produces conclusions quite similar to mine within a *different* frame of reference; *unfortunately it did* not come to my attention until after the present contribution was completed.