

## *The Function of English Intonation*

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O. An overall look at the plethora of phenomena covered by the term «intonation» would perhaps advise partial discussions instead of a general glimpse at it.

My aim in this paper is to discuss some central issues directly concerned with the function of intonation in English, among which the role it plays in discourse is not the least important. I aim, therefore, at generality from the vantage point of a particular stand that stresses the contribution intonation makes to language communication.

A. For a start, one is bound to make an assumption deeply grounded on linguistic tradition-School of Prague, structuralist persuasion of all kinds -namely that of *meaningful contrast*. When such assumption is invoked, however, one is not in safe waters, as the word «function» is usually associated with two minimally distinct meanings in communication.

Two sentence types can be contrasted with the sole use of two intonational contours:

(1) a. // see that ´CAR //

b. // see that `CAR //

Thus, while a rising contour makes of (1a) a type of clause which bears the mark of interrogative and is usually carrying the semantic force of an elicitation, the falling contour makes of (1b) an imperative clause directly interpreted as a command.

B. But this is but one aspect of the whole issue. The grammatical structure does not always conflate or is co-extensive with just one semantic meaning or, otherwise put, a communicative goal. In practical terms, we often encounter the same form with two different meanings:

(2) a. // `WHY don't you `EAT //

b. // why don't you `EAT //

The difference in meaning between (2a) and (2b) due to the different intonational contours has been studied by pragmatists under the heading «speech acts» where a clause is supposed to possess, as a plus or addition to its propositional meaning, an illocutionary force potential (see discussion of pros and cons in Levinson 1983). Thus, whereas (2a) renders an inquiry, (2b) can be best interpreted as a request/suggestion to act. Further below I shall be discussing several cases of «speech functions» (to use Halliday's more correct term) in discourse where the contextual effects are essential for the right uptake.

C. Furthermore, other still more delicate meanings can be discovered in the clause through intonational contrast. They are usually referred to as «attitudinal» meaning.

What is more, only intonation is alleged to be the conveyor of such shades of meaning. One is reminded of the fifty odd ways of uttering a single clause as reported by Jakobson. Thus any speaker of a language can discern the «mood» of this pair:

(3) a. // that's<sup>v</sup>RIGHT //

b. // that's `RIGHT //

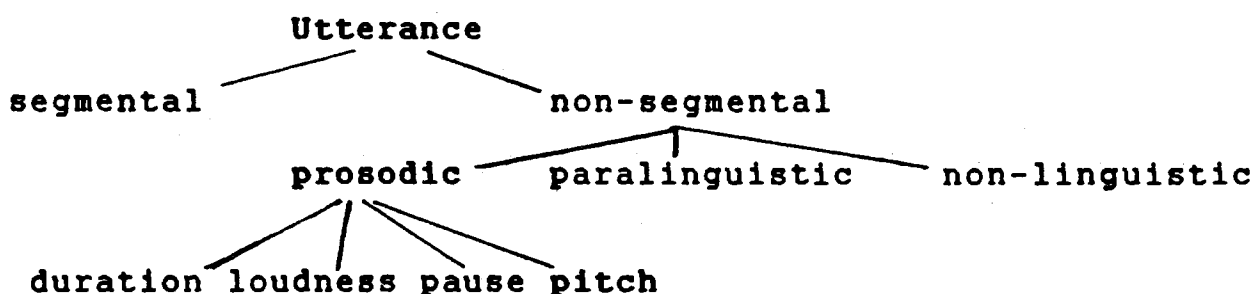
The enthusiasm of (3a) is clearly contrastive with the uncommittal (3b) to any speaker. But this is already going beyond the boundaries of linguistic functions and entering the rather unknown realm of paralinguistic and kinesic phenomena.

1. It seems evident then that the domains of intonation extends from the clear cut and familiar area of grammatical contrasts to the almost unexplored fields of human emotion and affections. To put it in Bolinger's words:

«Intonation is important for who is speaking, for who will be taking the next turn, for how the act is to be understood (explanation, apology, challenge), for how the speaker will be evaluated (as an individual, as a native speaker, as a member of a social class) —to mention only a few of the things that affect our roles as speakers and listeners.» (1985:338)

I have so far postulated that intonative features can contribute to the total information of the message in three ways. On the one hand those features serve as an input to the lexical and syntactic components, on the other they are, for a number of authors, only marks of information added to the semantic output.

In the diagram adapted from Crystal (1969:131) the following auditory aspects of speech can be identified:



For some linguists the term *intonation* covers not only *pitch*, but also stress and pause phenomena on a suprasegmental level. For others, though, *intonation* refers exclusively to the contrasts caused by *pitch* and its various shifting tunes.

Needless to say, there is little consensus of opinion amongst linguists on which aspects of the  $f_0$  line (fundamental frequency or pitch continuum) should be considered most significant.

But important to grammar as intonation may be, it clearly stands apart in several ways. To start with, as Bolinger has reminded us, it is concerned with speakers and hearers as well as their significant utterances, which means already a departure from the rigour and consistency of abstract grammatical structures.

I shall attempt in the next sections to discuss some fundamental functions fulfilled by intonation:

- a) the demarcative function
- b) the grammatical function
- c) the pragmatic function

1.1. There has been a considerable amount of recent research on the relation between phonology and syntax where intonation was included. To mention but a few outstanding scholars, Liberman 1975, Pierrehumbert 1980, Ladd 1980, Selkirk 1984, Kaisse 1985, and Wells 1985. The main issue they dwell upon is the nature of the intonational phase (IP), on which everything else in intonation is grounded.

The IP has received a variety of names in the traditional phonology, like «tone group», «pitch group», «phonemic clause», «breath group» etc. but whatever its more or less felicitous name, this theoretical entity is considered to be:

- a) the largest phonological fragment into which utterances are broken down.
- b) a structure having a characteristic prominence called the tonic stress or nucleus.

These main points are shared with a number of now more traditional approaches whose objective was to set definite criteria to determine the boundaries of the tone group (IP). Here the recourse to phonetic analysis of pitch and pauses is a necessary complement.

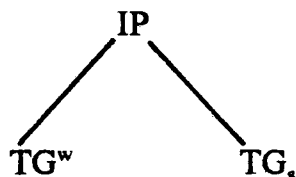
In sum, the chief role of intonation is said to be the breaking down of the utterance into analyzable segments. To what syntactic chunks these segments correspond it is a debated matter.

Various approaches have been devised to represent the IP. D. Crystal (1969:209) voices the received view:

«Every tone unit contains one and only one nucleus, or peak prominence, expounded by one of a finite number of contrasting pitch glides or sustentions on the accentual syllable of the most prominent word.»

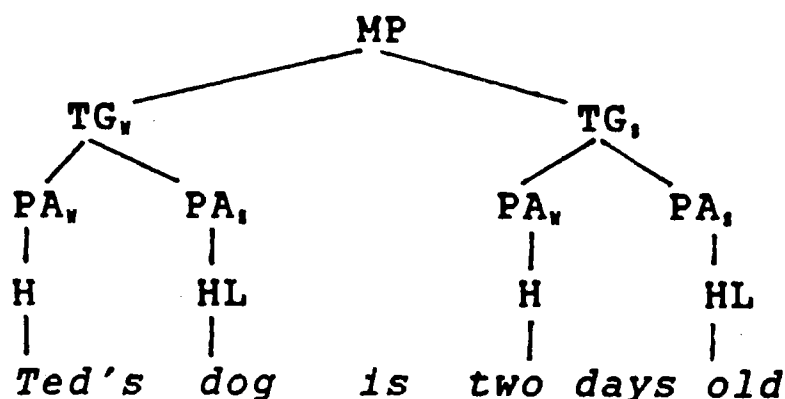
Actually, Crystal's glides and sustentions are identified in the tradition as a contrastive IP's fragmentation into weak/strong. So the tonic is a delimitative signal for the tone unit.

An intonational phrase would then take this form:



This spider // lives underground

Such simplified model can still be further developed if we are to give an account of the Tone Group's (TG) pitch components in terms of weak/strong features. Thus we can adopt Ladd's (1986:318) proposal where MP (Major Phrase) is made equivalent to IP here and PA (Pitch Accent) represents the tonic/non-tonic syllable:

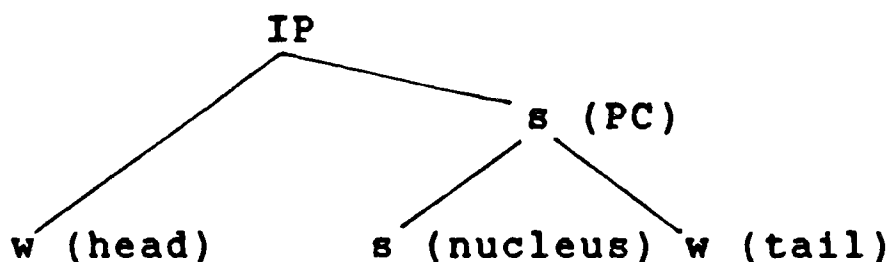


It is apparent in such a hierarchical model that both main components are given the same relevance. But this is contrary to the major traditional assumptions which accounts for an optional element in the contour (Head) and an obligatory one (Nucleus). Both of them in turn can undergo further subdivisions (Prehead and Tail respectively).

So the outcome of this would be:

Tone unit —> (pre-head) (head) *nucleus* (tail)

Therefore it is perhaps more acceptable Liberman's (1975) model if conveniently relabelled, so that we have a Primary Contour (PC) and leave aside other Secondary ones. The tone group (IP) would then be broken down into:



Subsumed into these constituents are the various possibilities of weak/strong pitch accents. But two things need comment here:

a) It must be borne in mind, as Wells (1985) has rightly suggested, based on experimental evidence, that *pitch* is not the only phonetic cue on which prominent nucleus elements are founded, and therefore the delimitative function should also be sought elsewhere (rhythm, pause, tempo, etc).

b) On the other hand, the *head* is far from representing a single choice as the above

figure might suggest. It is, nevertheless, convenient not to present a complex head stressing which is likely to have little phonological relevance.

Little agreement, however, has been achieved in this central point. Any hierarchical structuring of an utterance may encounter a number of problems, like these ambiguous examples:

(4) a. // she `ATe a `Little `CAke //

b. // she `ATe a little `CAke //

The assignment of stress to the different formants decides what syntactic structure we are able to describe. The failure to assign such phonological specification has proved a major flaw in Chomsky & Halle's (1968) transformational cycle.

The stress rules they propose is notably dominated by syntactic bracketing, which results in far too much stressing. Schmerling (1976:16f.) has objections, for instance, to their rule for complex adjective stress, as well as conjoined structures, which defy their proposed cycle assignment. This means that a given prosodic structure and their corresponding syntactic one are not necessarily isomorphic, as Chomsky & Halle claimed. Let us consider just an example that works counter to their Nuclear Stress Rule (NRS):

NRS [[heat-sensitive][product]  
           3      2      1

But the correct stressing, like in many more examples suggested by Schmerling, would be in fact this:

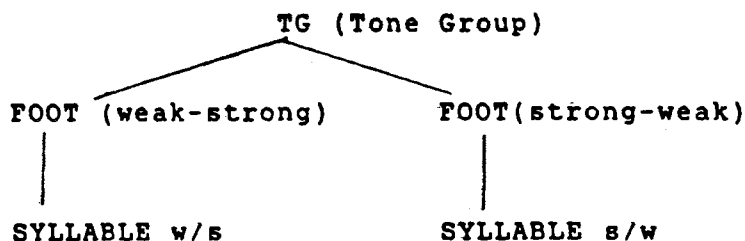
          2      3      1

In (4) we note three stresses in the first utterance while just two in the second. Here, of course, I am not following Halliday's (1967, 1985) foot-oriented rhythmic model either, which determines such constituent structures as:

Number of syllables in foot:	1	2	3	4
Relative duration of feet:	1	1.2	1.4	1.6

This model is just too regular for spontaneous conversation and it strikes me as remarkably abstract. Is it, for instance, justifiable to introduce the «silent beat» at the beginning of a foot to make things fit into a neat category?

Halliday's phonological theory certainly does not lack appeal, provided we take for granted unaccounted for categories that defy the auditory evidence. Translated into a tree diagram his scalar model would resemble something like:



The regularity he claims for his formants is based on the character of the English language where there is a strong tendency to lay a stress in the first syllable, i.e. a descending foot-beat. Thus we may consider:

(5) a. // Ted / hit / cats //

b. // My younger son / climbed down / the new armchair//

Theoretically, these two sentences must be uttered in roughly the same amount of time, to be faithful to the classical theory of the «foot unit» first put forward by Abercrombie (1964). As a continuer of his model Halliday emphasizes:

«Nevertheless there is a strong tendency in English for the salient syllables to occur at regular intervals; speakers of English like their feet to be all roughly the same length» (1985:272).

Consider the correlations of foot and syllable given above. To be cogent, his theory has to postulate in (5a) a repeated silent «ictus» transcribed as (^). Thus we have:

(5) a. // ^ Ted / ^ hit / ^ cats //

The claim for the unit FOOT actually amounts to the same as stressed/unstressed syllable. Such overlap becomes redundant, thus no playing a relevant grammatical or semantic role different to the widespread category of «tonic syllable». So, the sentences (5a-b) have similar structures, even if having different foot distribution, but the pair we presented above (4a-b) have different breakings into constituents:

(4) a. // `SHE / `ATe a / `LITtle / `CAke //

b. // `SHE / `ATe a little / `CAke //

Furthermore, we may still argue whether it is or it is not the syntactic formant—coinciding usually but not necessarily with the word—the unit to which the tonic accent is assigned. But I will not pursue this argument here, which will, however, reappear below in the discussion of the pragmatic function of intonation, the so called «information function».

1.2. The tone is then the smallest intonational unit and may occur in all tone—group segments. As we have seen, structurally, the tone comprises the elements *Initiator* (head and nucleus) and *Tail* in that order. Only the element Initiator is obligatory, however, consisting of a prominent (stressed) syllable. The Tail, by contrast, consists of one or more reduced (unstressed) syllables.

A tone can obviously be pronounced on a single stressed syllable or else it can be spread over several syllables, thus resulting in monosyllabic or polysyllabic tones.

With respect to their position in the tone group tones may be classified as *nuclear*, *prenuclear* or *postnuclear*.

Thus we can distinguish the following types:

(5) a. // `NO // (nuclear tone only)

- b. // `THANK you / `BRIan // (nuclear + postnuclear)
- c. // What `DAY is it // (prenuclear + nuclear)
- d. //good`MORning /Mr. `MAXwell// (pre-+ nuclear+ post-)

With respect to pitch movement a basic distinction can be made between *Static* and *Kinetic* tones, as put forward by R. Kingdon (1958). The former gives prominence in non-nuclear position while the latter occurs in syllables having pitch movement: falling (˘) rising (ˆ) falling-rising (˘ˆ) and rising-falling (ˆ˘).

Otherwise explained, the static tone is pronounced on the same pitch during the whole of its duration, while the pitch can be perceived to change during the time it is pronounced in kinetic tone.

Thus let us consider:

- (6) a. // -we don't `NEED to be together // (fall)
- b. // -well `DIDn't you // (rise)

The location of the nuclear tone is not always in the same element (rule of the last lexical word). In other words, there can be different pitch «accents» in the utterance, as D. Bolinger (1958:129) put it. (Thus he assumes a rise from 100 Hz to 120 Hz in pitch in the accented syllables, as perceived by the hearers)

As we will see further down, a difference in meaning is achieved when placing the nuclear tone in different syllables, a choice available for the speaker in a given context.

Thus notice the difference:

- (7) a. // you `NEEDn't visit her //
- b. // you needn't `VIsit her //
- c. // you `NEEDn't visit `her //

The falling tone expounds the most important word treating the elements after the nuclear tone as «given» information. If a rise is added to the Tail, as the case (7c), we do add something extra to the overall meaning, although the fall general meaning is maintained. We can then be able to recognize compound or subordinate tones (Halliday 1970 envisaged two main ones: fall-rise and rise-fall plus the prenuclear elements attached to them).

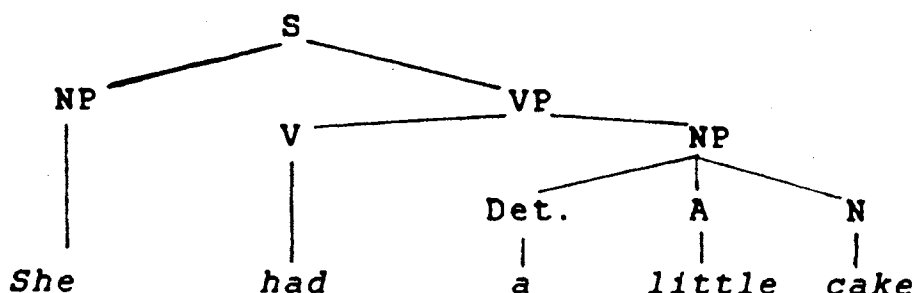
It follows from this that not only the head or nucleus, but also the peripheric elements can contribute to the meaning of the intonation pattern. They can be made to adopt various forms, which means that they can be considered two autonomous segments acting together and complementing each other.

Let us illustrate this last point:

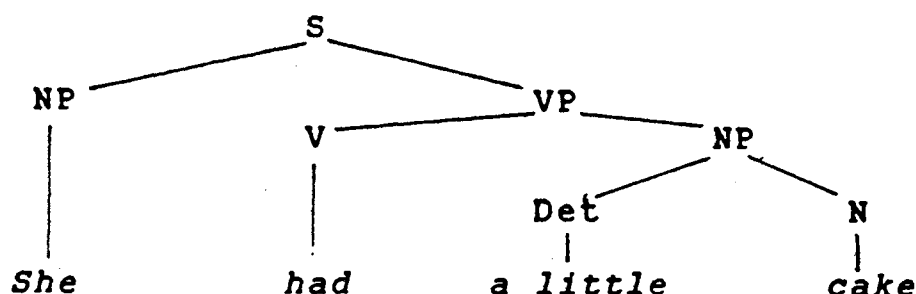
- (8) a.// so -what was the ^REASON for that //
- b.// `SO / what was the `REASON for that //
- c.// so `WHAT was the / `REASON for that //

Once the types of head have been set up there still remain a few patterns which suggests that we need to allow for stressed syllables also in the prehead, as can be gathered from (8a-c). It is clear that «what» in (8a) and in (8b) are differently highlighted by the speaker through pitch height. This kind of prominence has also to be taken into account in any faithful description of English intonation.

2. Let us consider a conventional (TG inspired) representation of the two different structures of (4) in the shape of tree phrase-markers. (4a) would be:



Whereas (4b) would have the following description:



Huddleston (1984:233f.) discusses this ambiguous structure where the stress decides the word class: determiner or head of the noun phrase. It is the case of some words like: *a lot*, *a number*, *plenty*, *the rest*.

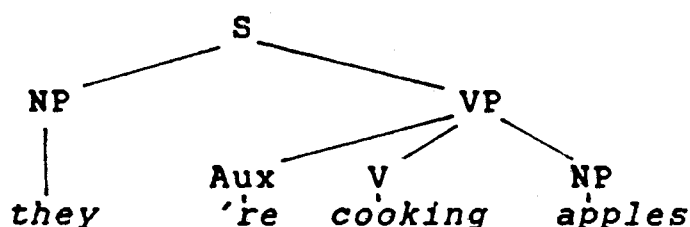
A further example where a typically English structure has two interpretations according to the placement of stress is that which has a V-ing form. Either a Present Participle or a Gerund class can be assigned to such non-finite form:

(9) a. // they're `COOKing / `APples //

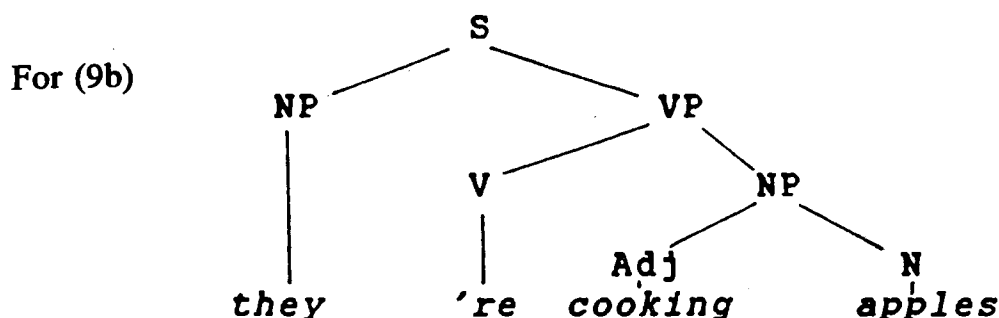
b. // they're `COOKing apples //

The formal structures obtained would be:

For (9a)







A slightly different case, this time with the same structure but changed meaning disambiguated by stress, is that of modal verbs with both epistemic or deontic contexts (Palmer 1979).

(10) a. // the `BOYS / `CAN / `SING //

b. // the `BOYS / can `SING //

Halliday (1967, 1970) makes a plea for the grammatical role of intonation and suggests various contrastive pairs of structures that are subject to meaningful speaker's choices:

«The systems expounded by intonation are just as much grammatical as are those, such as tense, number and mood, expounded by other means» (1967:10)

2.1 The tone group boundaries pose a major problem when attempting to determine the clause-tone unit interface. More specifically, the clause complex proves to have ambivalent values depending on the auditory pauses and the assignment of tone groups, as several linguists have argued:

a) A most widely known case is that pointed out by Schubiger (1958:103), who discusses the quite distinct structures obtained through the placement of a pause and referred to by grammars as restrictive vs. non-restrictive (postmodifying) relative clause.

An illustration would be:

(11) a.// that's from my `SISter // who lives in `EXeter //

b.// that's from my `SISter / who lives in Exeter //

b) Another outstanding case is that mentioned by Couper-Kuhlen (1986:146), which distinguishes a pair of grammatical functions in the clause complex expounded by the tonic placement, i.e. that of covert passive vs. postmodifying infinite clause:

(12) a.// Ted has `PLANS // to `WRItE //

b.// Ted has `PLANS to write //

Now (12a) could be paraphrased as «Ted intends to write something» while (12b) is equivalent to «Ted must write plans» Structurally they should be analyzed as:

(12a) S (NP (N<sup>Ted</sup>) VP((V<sup>has</sup>)NP(N<sup>plans</sup>)(VP<sup>to write</sup>)))

(12b) S (NP (N<sup>Ted</sup>) VP((V<sup>has</sup>)VP(V<sup>to write</sup>)(NP<sup>plans</sup>)))

In other words, in the first case the verb phase *write* is complement of the noun phrase *plans* while in the second the noun is dependent (direct object) on the verb.

3. One fundamental characteristic of the tone group is that it forms a semantically homogeneous group, i.e. closely connected, coherent elements that form a sense group or information unit.

For Halliday (1985:274f.) such unit forms an independent, self-explained constituent that he studies under the heading of *textual function* of language. It is defined there as a «process of interaction between what is already known or predictable and what is new or unpredictable».

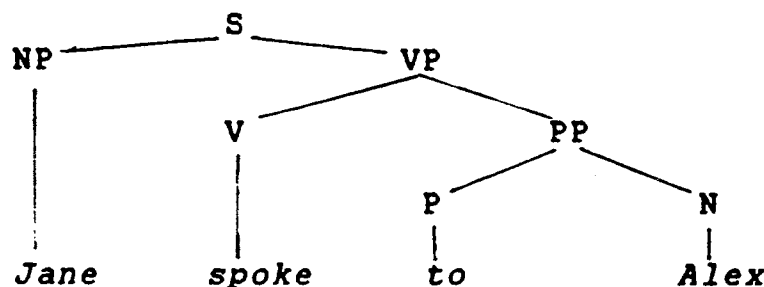
The carrier of that function is the tonic syllable which gives prominence known as *information focus* signalling what is New in the utterance, as decided by the speaker in the light of the context.

Smith and Wilson (1979) point to a pragmatic distinction between the pair of sentences:

(13) a. Jane spoke to Alex

b. Jane spoke to Alex

Here both sentences share the same entailments (they entail the same semantic propositions) but they play a different role when uttered in context. Indeed their syntactic structure is just one, as anybody can guess:



Yet clearly in (13a) the PP is taken as Given or recoverable information whereas the NP is a focused New or non recoverable information. As the authors just mentioned explain:

«It (stress) picks out a small number of syntactic constituents as possible focuses of the sentence; it simultaneously picks out a small subset of entailments and promotes them to highest position in the ordering, thus assigning them a crucial role in the pragmatic interpretation of the sentence.» (1979:165)

Perhaps this «pragmatic role» also dealt with by Chomsky (1970:200f.) would be more rightly viewed in terms of the information shared by speaker and hearer in a communicational context, as Bolinger, Halliday and other function-oriented linguists prefer to do. For them Focus exists to direct the hearers' attention to create a world of mutual understanding with the speaker. It is born out of the context they both share.

Let us see a dialogue for illustration:

(14) A: //...and 'THEN / she `SMACKED him back //

B: // `SHE did //

A: // `YES / `JAnE did //

B: // `GOOD for her //

It is quite clear that it is the Actor of the utterance that is the goal of the question after the first narrative report of A. So the first B's utterance is eliciting information about the Actor in a syntactic form similar to a statement, but the context tells the hearer that it has the force of a question. A's answer cogently focuses on the Actor's name just elicited, having captured the meaning of that «non-standard» question.

3.1. For Halliday (1985:278f.) there is a close semantic relationship between information structure and thematic structure, and in making that point he closely follows his functionalists inspirators from the Prague School, notably J. Firbas (1972), F. Danes (1966) and J. Vachek (1966). For them all the sentence is organised functionally, that is, it is not a static unit without communicative consequences. The notion of CD (communicative dynamism) attached to the linguistic elements accounts for the degree of force that «pushes the communication forward». The thematic elements carry the lowest degree of CD while the rhematic elements carry the highest.

The sentence stress is for them an important mark that culminates the highest degree of dynamism. If a theme, in defiance of this by default principle, is stressed thus carrying the whole force of CD it is analyzed as a deviant focus to which the syntactic form also co-operates.

The analysis springing from this view is:

(15) a. // the poor girl died of `AIDS //

b. // the poor `GIRL died of aids //

The sentence (15a) represents a standard theme-rheme pattern where the CD falls on the rightmost lexical element. By contrast, (15b) carries a «new» information in the accented element.

Bolinger (1972) is near to assuming this view, but he radically emphasizes that information focus is negotiable in any case. It is up to the speaker to freely treat this or that element of the utterance as new or not. The next example would account for this freedom of choice:

(16) A: // Brian likes this de `LIcious jam //

B: // He `Llkes sweet things of all sorts //

But what these examples and many more that provide evidence for a free focus come to prove is that it is in discourse where the speaker and the hearer meet and exchange their utterances. And it is in that dynamic framework where intonation should be properly studied.

A well known approach in that line is the one presented by D. Brazil (1975, 1981) where he attributes a major role to pitch sequence choices, which he refers to as KEY.

Let us give an illustration where the three keys are represented: *high*, *mid* and *low*:

(17)// (h)I much (m)reGRET // that she's(m)LAte(l)aGAIN //

Brazil, however, uses the more iconic convention of a three level stave as in music writing.

Brazil's main assumption is that tone units follow one after the other in a predictable way in discourse through a number of possibilities of pitch sequences and terminations.

The *tonic* segment is also chosen in conjunction with the key and the termination where more than one speaker contribute to the unfolding of discourse.

Brazil attaches a meaning to the key choice:

HIGH key is contrastive: «A not precisely Y»

MID key is additive: «A not Y»

LOW key is equative: «A, which equals Y»

To this highly delicate notion of key he adds a rather more controversial meaning of pitch contours, which he sums up in two: the *proclaiming* (p) opposed to the *referring* (r)

TONE I : falling contour ( ^ ) and ( \ )

TONE II : rising contour ( \ / ) and ( / )

Let us see how this frame works and how its predicting power can be put to trial in just four examples:

(18i) A: // p (h) it's QUIte annoying //

B: // p (h) inDEED //

(18ii) A: // p (m) will you STAY //

B: // p (m) why NOT //

(18iii) A: // r (h) LAte again, Ted //

B: / /p (h) TOO much traffic, Sir //

(18iv) A: // r (m) BILL her again //

B: // r (m) THAT's all right //p YES //

All sorts of combinations are predicted provided we attach a different context to all possible choices and therefore a different meaning, even if a subtle one, to any one choice likely to be selected.

In sum, the three functions of intonation in English, as I have suggested here, are complementary and also increasingly subtle and complex as we move from segmental to formal and meaningful aspects of those functions.

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