

# DISCOURSE INTONATION IN SWEDISH

## An Exploratory Study in Communication Games

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When recently asked if intonation was being included in a current project involving natural speech, a Swedish linguist replied, "Well, no. It is important, but it's too difficult." A phonetician, on the other hand, lamented that traditional phonetics have no established methodology for dealing with pragmatic meaning. So the linguist, who deals daily with meaning in communication, needs also systematic access to intonation. And the phonetician, who deals daily with the intricacies of intonation, needs also systematic access to the meaning it carries. The question is, how to go about it?

Intonation plays a significant pragmatic role in at least three major ways. Firstly in the transmission of information and the negotiation of meaning. Secondly in the creation and maintenance of social and psychological relationships, and thirdly for signalling discourse structure. The question has been to find a new approach and develop a new model for Swedish which encompasses and incorporates these discourse functions.

As it happens, such a model has in fact been developed in England which appears extremely promising in this regard for Swedish as well. The present study is based on the model for Discourse Intonation developed by David Brazil at Birmingham, and its applications to the Swedish language. For details and a comprehensive exposition of the model, the reader is referred in particular to Brazil 1985, "The Communicative Value of Intonation in English".

At the beginning of these pilot studies the question was raised, "Is this model relevant to languages other than English, (Swedish in particular) and if so, in what ways?". Approximately one year's study and research has shown that the basic system can indeed be applied to Swedish, and also that it will provide an illuminating tool for discourse analysts and phoneticians alike. A descriptive overview of the model will be given in the first section of this paper, with particular attention being paid to its Swedish applications.

The second section will demonstrate ways in which the system can be applied to a particular type of discourse. The present material consists of a series of 18 recordings (3-15 min. each) of dialog activities which have been dubbed "Communication Games", or "K-Lekar" in Swedish. These games represent spontaneous natural conversations between two people working cooperatively towards a mutually recognized goal. Occasionally

material from other languages have also been taken into consideration when required for elucidation of specific points. The relatively large volume of material is a key aspect of the methodology of this investigation, which aims to find the common discourse denominators of Swedish intonational phenomena, and discover how meaning emerges through them. The model is of a nature such that this type of approach is rendered both manageable and rewarding.

Section 1.

#### The Discourse Model of Intonation: Some Introductory Notes

The conceptual categories represented in the Birmingham Model of Discourse Intonation are of an abstract extra-linguistic nature, inherent in human communication. Regardless of language, human beings continually assess the state of convergence between themselves and their interlocutors. Based on that ongoing assessment of common and separate worlds, they make decisions as to how to classify those worlds while speaking, on informational as well as social and psychological levels. They distinguish between 'more important' and 'less important' bits of information. They create and occupy various roles in their personal relationships as well as in society. Accordingly, they also exercise various degrees of control over the ongoing discourse, simultaneously giving it structure and cohesion. They classify things as being in line with or contrary to expectations. They also set up expectations about the type of response they consider to be agreeable or appropriate at any given moment. (Whether they receive that response or not is an entirely different matter, up to someone else to decide.) They may project truth as falsehood, and falsehood as truth. In short, they classify and manipulate the world around them in a dynamic and nuanced way. According to Brazil, intonation plays a pivotal role in the realization of such functions, in a framework of meaning increments which are conceptually separable from the type of meaning conveyed through grammar and lexis.

We are dealing here with a moment-by moment, real time model where speakers classify existence along lines which are accessible to themselves and their hearers in the unique here and now setting of the discourse. The number of composite elements is small, and the formula is simple, but the model effectively represents far-reaching and complex phenomena. Abstract formal oppositions acquire concrete local significance in given contexts.

The Discourse Model postulates a finite set of meaningful linguistic oppositions which can be singled out on a perceptual auditory level from the more or less constantly varying stream of speech. The

meaning components here described represent the result of a speaker having made an either/or choice. The independent variables are functional in nature. For example, "if there is a 'falling pitch', it is not the fall itself which is of interest but rather the function of the language item that carries it." (Brazil 1985) A formal functional choice may result in a wide range of phonetic realizations.

The basic factors which contribute to the realization of the functional oppositions within each tone unit are: PROMINENCE, TONE, KEY, and TERMINATION. Further within the domain of these systems are ORIENTATION ('direct/oblique'), and DOMINANCE or DISCOURSE CONTROL. Study of the work of Brazil is recommended for the reader who would like to gain a deeper understanding of the model. In the meantime, the following will serve as a general guideline:

PROMINENCE refers to 'a selection from sets available at successive places along the time dimension.' 'An incidence of prominence fixes the domain of the other variables of tone, key, and termination.' (Brazil 1985) A syllable or stretch of speech may be assigned prominence for the purpose of sense or intonation selection. For example, if one Swede asks another 'Vilket kort spelade du?' (Which card did you play?), and the other replies 'HJÄRTerDAM!' (the queen of hearts), it represents a selection from an existential set of 52 - the deck of cards. If the question had been: 'Vilken DAM spelade du?' - (Which queen did you play?) with the answer, 'HJÄRTerdam', then there are only 4 choices in the existential set of hjärter, spader, ruter, and klöver. On the other hand, if the question had still been 'Vilken dam spelade du?', but the answer had been, for example, 'HJÄRTerDAM' there would seem to be no motivation for 'DAM' to be prominent. But let's say, for example, that the speaker wished to concentrate on the card game instead of answering questions, he might convey this with low termination on the word 'DAM', in order to be left alone! So prominence may be assigned for the purpose of making a choice within any of the other intonational systems of tone, key or termination. Actually, in Central Swedish the question here is complicated by the instance of accent 2 or grave accent, on the syllable 'HJÄRT', which can affect or modify the distribution of meaningful discourse elements to a considerable degree. The discourse implications of the tone accents in Swedish will be more closely explored and mapped out in a later publication.

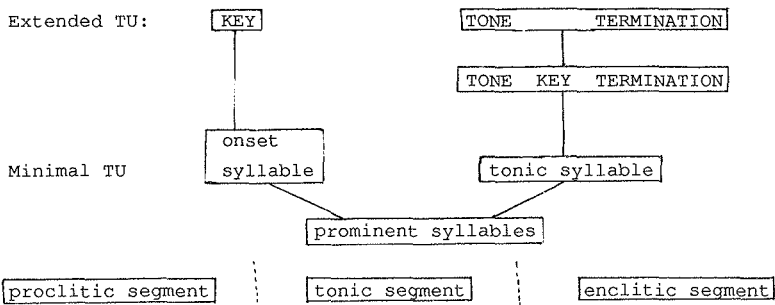
TONE refers to basic pitch movement types, each of which carries a distinct abstract meaning increment. The PROCLAIMING TONE, of which there are two versions, the SIMPLE proclaiming and the DOMINANT proclaiming ( $p \searrow p+ \nearrow$ ) stands for the elements in the discourse which represent a change in the status quo of speaker-hearer understanding. The REFERRING TONE, on the other hand, also with a SIMPLE and a DOMINANT version ( $r \searrow r+ \nearrow$ ) effectively represents the areas of convergence, or

reification of the status quo between speaker and hearer, either on informational or social levels, or both. The dominant version reinforces the basic meaning of a tone and/or affects control of the discourse.

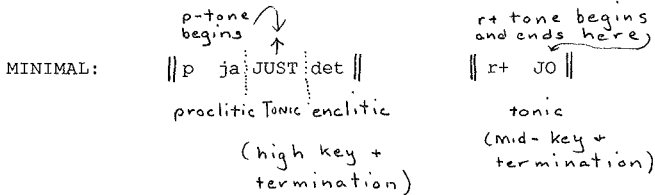
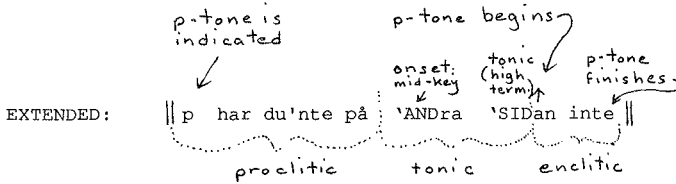
The FIFTH TONE is LEVEL (o →), and remains outside of the interactive proclaiming/referring dichotomy. ORIENTATION refers to the mode of concentration of the speaker. DIRECT orientation refers to the discourse situation in which speaker/hearer interaction is in focus (P/R), whereas OBLIQUE orientation (O/P) functions where the language itself or linguistic organization is in focus.

KEY and TERMINATION deal with the communicative value of relative pitch levels, HIGH, MID or LOW. Within their domain are relationships of CONTRASTIVENESS, ADDITIVENESS, and EQUIVALENCE, as well as the interactive areas of projected and actual responses, ADJUDICATING (high termination and key) and CONCURRING (mid termination and key) or no projected expectations (low termination and key). DISCOURSE STRUCTURING and SEQUENCING are also achieved through key and termination.

The place of operation for these four sets of speaker options is the TONE UNIT, which can be said to be the building block of verbal communication. According to Brazil, the speaker 'plans' the tone unit, and the hearer 'decodes' it as a whole. A tone unit (TU) in direct orientation consists of ONE (minimal TU) or TWO (extended TU) prominent syllables, one of which is TONIC (= carries a major movement in pitch, or constitutes the beginning of a pitch movement which extends over the syllables that follow.) The diagram below will show the disposition of tone, key, and termination in the TU. Key and termination are determined by the level of pitch in relation to preceding and succeeding prominent syllables. The tonic syllable is the only obligatory portion of a TU. A pause always defines a TU boundary, but a TU is not always defined by a pause. The model differs substantially from other models in this crucial point. It is the instance of a set of meaningful functional choices, and their internal organization, rather than external boundaries which determine the tone unit. But here for the moment are the technical criteria for tone unit organization:

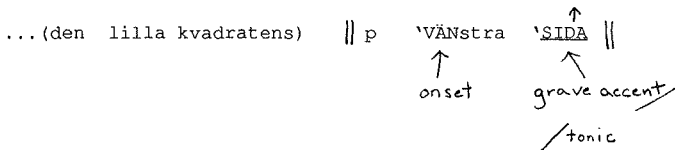


EXAMPLE TONE UNITS



As noted before, grave accent can affect the distribution of prominence and the discourse tones. If an A2 word is 'two-topped', and the second 'top' carries tonic prominence, but there is a word or syllable in the onset position of the tone unit other than the grave accent syllable, then the tone unit will have 3 prominent syllables in the transcription, as opposed to the usual maximum of two in a direct orientation tone unit in English.

For example:



The significance of these systems and subsystems will be made clearer by exemplification in other sections of this article. Only selected elements which are pertinent to subsequent discussions have been mentioned here. A schematic overview of the Discourse Model will be found in the appendix, and will be useful as a point of reference during subsequent reading. In order for the reader to understand the notation system which will be used henceforth, an overview of the transcription conventions is provided here, with special attention paid to the modifications required for Swedish. Please keep in mind that the categories are perceptual and functional in nature and that the representations are stylized and schematic.






### Transcription Conventions for Swedish

1. Tone unit boundaries:
2. Prominent syllables in capital letters with the tonic underlined: Övre kaTET
3. Key and termination (relative pitch factors involved at every TU. Key is associated with the onset syllable, and termination with the tonic in an extended in an extended TU. Together on the tonic in a minimal TU.
  - a. MID-KEY/TERMINATION are not specially marked.

b. HIGH or LOW key-termination:

In the case of accent 2 (A2) words in Swedish, where the pitch switch from mid to high key or termination takes place on the syllable following grave accent (A2), this is indicated by an arrow placed above that second non-prominent syllable.

4. Grave accent or accent 2 (A2): ( ` )
5. P = either /p/ or /p+/ proclaiming. R = either /r/ or /r+/ referring.

Referring tone Convergence We-ness World-reifying  r 	Referring tone Dominant version Doubly world-reifying  r+ 	Proclaiming tone Divergence I-ness World-changing  p 	Proclaiming tone Dominant version Doubly world-changing  p+ 	Oblique tone Temporary step out of direct hearer oriented communication  o 
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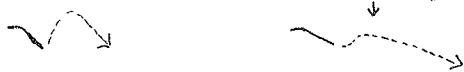
Here are some examples of tone contour configurations found in the C-Game data. (Please keep in mind that these lines represent only very general, perceptually significant directions of pitch which have a bearing on the discourse context of meaning. In no way do they intend to represent all the myriad variations found in instrumental representations of Fo phenomena.)

Proclaiming Tone:

(C-Game no. 5): || p 'SPETS<sup>↑</sup>iga spetsarna på triangeln ||

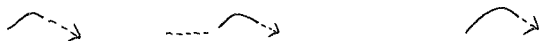


(no.5): || p 'VÄNTA<sup>↑</sup> nu || || p 'SOCKERLÄDOR<sup>↓</sup> ||



p+ Tone:

(C-Game no.7 || p+ Å (!) || p+ avANCERat (!) || / || p+ TITTa (!) ||  
and no. 11):

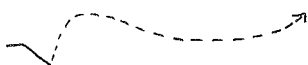


Referring Tone:

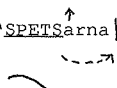
(C-Game no.17): || r BORT från dig || (no.12): || r att komma PÅ nånting ||



(no.5): || r den 'LÅNGA<sup>↑</sup> sidan från triangeln ||



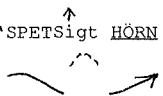
(no.17): || r med dem spetsiga 'SPETS<sup>↑</sup>arna ||



r+ Tone (C-Game no.7): || o en LITEN- || r+ KINaman ||



(no.17): || r+ det är ju ett 'SPETSigt HÖRN ||



o Tone

(C-Game no.7): || o för ATT - || (no.2): || o 'STORA - ||

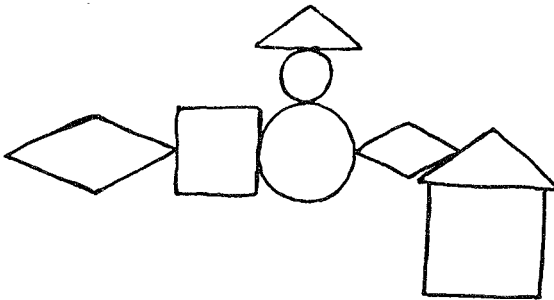


## Section 2

### The Discourse Model in Action: Communication Games

The Communication Games were chosen from a larger collection of recorded and transcribed material because they afforded the opportunity to make very specific comparisons of highly spontaneous, while at the same time relatively content-controlled material, in a context where the investigator was able to keep track of speaker intent, and also be present during recording sessions.

Pairs of volunteers were each given a set of paper shapes; a large and a small version of a circle, a triangle, a square, and a diamond. As they sat separated by a screen, one of them would lay a pattern on the table which might look like this: (C-Game no.2)



He or she ('A' or the 'instructor') would then give instructions to the other person ('B' or the 'constructor') as to how to achieve the same pattern with his or her shapes. Both participants were invited to discuss the progress of the operation together throughout, and to express comments on the final result. They then exchanged roles and repeated the exercise, which was in turn also recorded.

In the C-Games, as elsewhere, it happens that grammar and lexis represent only part of what is happening to the state of speaker/hearer understanding at any given time. Intonation stands for a very substantial share of the information therein contained.

In the following sections some of the aspects of discourse intonation in the C-Games will be taken up. Only very selective bits have been chosen for consideration.





of 11 came from the instructor, while the rest were marked by the other speaker (the constructor) who at face value might be assumed, at least temporarily, to occupy a non-dominant position. No way. Constructors were quick to establish their 'equal' status in the exercise. Or, as in C-Game no.1, both parties contributed equally to the initial structuring of the discourse: (A = instructor, B = constructor)

A: || r+ j'<sup>↑</sup>HA || p NU är jag KLAR Jonny || B: r+ <sup>↑</sup>MHM ||  
 ↓

In common with the English classroom frame, this Swedish framing device is almost invariably marked with high key in the C-Games. There is only one frame-like marker which occurs on mid-key in the data, but it comes from, if the reader will pardon the pun, a very 'low key' person.

The major difference is the (r+) rising tone, as opposed to the falling (p) tone. A possible logic behind this could be: I 'refer' (R-tone) to the fact (which you probably have noticed,) that something has been completed and/or something is about to begin, but I am the one taking the initiative, and therefore choose the dominant version of this tone in order to mark this boundary. (Entirely subconsciously, of course.)

In order to set this convention into a broader context, I would like to step briefly outside my Swedish data, and comment on 3 C-Games recorded in American English. A recent perusal of those transcriptions yielded all of 6 examples of a framing device. All featuring high key and falling tone, and all using the lexis of the closed set (Right, Now, etc.,) as described by Brazil & Sinclair (1982) in connection to classroom discourse. A step even further afield is the distinct 'framing' device found in a C-Game in Finnish:

|| p no <sup>↑</sup>NIIN ||

(high key) following the English style intonational pattern. Actually in one way it can be said that the C-Games bear a strong similarity to the classroom situation, in that there is also here a specific body of concrete information to be transmitted in a more or less structured way within a given space of time.

There is, in fact, one Swedish instance (at the beginning of C-Game no.16,) of a classic English-style framing device:

A: || p (↘) o<sup>↑</sup>KAY ||

So this is not in any way to be excluded from the Swedish repertoire.

But from general acute listening (one risks becoming an eavesdropper in this line of work,) plus the preliminary evidence from the data, I believe it can safely be maintained that the non-lexical, high key, rising (r+) tone 'framing' or structural boundary marker device is a significantly prevalent intonational phenomenon in Swedish. A kind of intonational convention which differs partly from the English norm in its realization, but covers the same function and remains fully within the categories of the Discourse model. A 'frame' - in a different 'frame of mind'.

### The Role of Key in the C-Games

The term 'key' is used to describe the relative pitch level of the onset syllable in a tone unit. If the tone unit is minimal, then key is associated with the tonic syllable. It is not in any way a question of absolute pitch values. The workings of key can be described in the following manner: if the speaker finds himself at a certain pitch level at the tonic of a tone unit (termination), he has 3 existential choices, in terms of pitch. He can go higher, stay on the same level, or else drop his voice to a lower level. There is no other way he can go. So it is with key. To an onset pitch level which is perceptibly higher (beyond the lesser 'jump' that prominence entails), a contrastive value is attached. For example, in C-Game no.7, 'B' thinks that he is going to be the first constructor:

B: (...jag tror att jag ska göra ungefär som jag gjorde)

|| r+(r) 'FÖRRA <sup>↑</sup>GÅNGEN || ... (But 'A' has 'beat him to it'):

A: || p(↘) j'har <sup>↑</sup>GJORT en gubbe || p(↘) j'har REDan <sup>↑</sup>GJORT en gubbe

'B' says, 'I think I'll do something like I did last time' - but 'A' has a different idea. He says, 'I've already DONE it' (I've already MADE a little man.) 'DONE' is projected as being in compelling contrast with 'will do', through the use of high key. And compelling it is, as A 'wins' the position of instructor.

Mid key in the C-Games is slightly more difficult to exemplify clearly. Not because it does not occur very often - just the opposite. Mid-key tone units are imbued with the quality of additiveness. They are projected as being simply additional bits of information. As in C-Game no.15:

A (och lägger den-) || p till HÖGer om`FYRkanten ||

B ||r MHM || r+ vilken AV dem? ||

A ||r den`STÖRSTA ||

A instructs B to put one of his shapes to the right of the square. But as we can see, this is not sufficient information for B to carry out the task. So he asks for additional clarification. Which square? (In mid-key.) A in turn 'adds' the required information (= the biggest) also in mid key.

Low key on the other hand imbues a tone unit with the quality of equivalence. In the Saussurian general paradigm, one would never find an instance of 'triangle' being considered synonymous with 'hat'. But in the 'existential paradigm' (Brazil 1985), of C-Game no.12, this is precisely what happens:

A (så den här snögubben han har precis som -eh- ) || p+ din

ki<sup>↑</sup>NES || o han har tagit PÅ sig 'n HÄR- || r `STORa triANGeln ||

B || p som HATT || A || r på sitt `LILLA HUVud || ...  
↓

Player A has already presented a configuration of shapes as representing a snowman, even to the extent of availing himself of the masculine personal pronoun. "This snowman he has, just like your chinaman, put on this big triangle--" Whereupon B chimes in with: "As a hat!" but in low key. The two are presented as existentially equivalent, one and the same. The triangle is a hat. 'A' has no objections, and continues with the same line of imagery: "...on his little head..." in mid-key, of course.

The 'Go-Ahead' Phase in the C-Games: A function of the r+ Tone

The dominant version of the referring tone (r+ ) has a number of practical functions depending on the context it occurs in. In using the r+ tone a speaker invokes convergence and dominance simultaneously. As Brazil says, we "have to be clear about the distinction between the generalizable meaning of the formal opposition and the precise interpretation that might be placed on it in any one instance"; the

local meaning of the '+' option is often affected by very obscure considerations of conversational finesse' (Brazil 1985). While a speaker may, on occasion, select the '+' option, and so project an assumption of his own dominance in a way which is acceptable or offensive to the hearer, we must think of this particular part of the intonation system as serving primarily to facilitate the smooth exchange of control of the discourse.

In the C-Games, instructors regularly break up their information into small 'digestible' chunks. They lead the constructors through each step, always making sure that their partners are 'with' them. They regularly 'call' for response, most often with high termination which sets up the expectation of an active adjudicating response; but also with mid termination in expectation of concurrence: (C-Game no.17:

(A:) || o så att spetsen VILar eMOT- || p <sup>↑</sup>TAKet || o på-s ||  
 || o PÅ - || r+ <sup>↑</sup>FYRkanten || (B:) r+ a<sup>↑</sup>HA || (A.) r+ MHM ||  
 || r och triANGeln ligger alltså <sup>↑</sup>OVanför || (B:) r+ MHM ||  
 || (A:) r BORT från dig || (B:) r+ <sup>↑</sup>MHM || ....

At these points in C-Game discourse, the responses are almost invariably non-lexical, or if lexical, are usually limited to 'ja' or 'jaha'. So again it is the intonation alone which carries the meaning factor. Apart from key, which is discussed more thoroughly in other sections of this article, the crucial factor is tone. In all of the 18 C-Games, when the instruction has been correctly understood, the tone of the response is the r+ - ie, the dominant version of the referring tone. In C-Game no.17, there are 36 instances of the r+ tone in the above-described position. In no.18, a shorter recording, there are 21, and so on.

This phenomenon is often called feedback or back-channeling. In the C-Games I would prefer to call it the 'go-ahead' phase or turn, which carries, I hope, a more active connotation than the the other terms. The constructor confirms common ground, as 'requested', (R tone) but at the same time reserves in some sense for himself the prerogative of discernment. He 'goes along' with the instructor (assuming he has understood!), but he also signals that in his judgment (the + factor) the activity may proceed. In this frame of mind, the r+ tone is the appropriate choice.

When it does not occur in the position, and some other tone takes its place, or silence, (with the exception of non-verbal responses such as head-nodding, etc.) it is usually a case of the constructor not understanding the instructions sufficiently to carry out the task, as in

C-Game no. 18:

(A): || o EH- || o ti- PÅ- || p den 'LILla kvadratens- ||  
|| p 'VÄNstra 'SIDA || (B): r+ MHM || (A): p har jag lagt  
den 'LILla ROMBen || ... || (B): r tan GERar de varandra eller... (?) ||

It is perhaps appropriate to remark at this point that the same phenomenon also prevailed in the C-Games in other languages as well, notably Italian, French, Spanish, German, English, and Finnish. There were in fact only 2 other language C-Games in all, in which the constructor took a different strategy. One was in Spanish and the other Japanese, and in both cases there was consistently a p tone ( ) in the 'go-ahead phase. In the case of Spanish it seemed to be an exception to the general strategy, as the other 3 C-Games in Spanish more or less conformed to the 'general norm' of the r+ tone. A gloss for the line of thinking behind the p tone here might be 'I have hereby registered this information'. The local effect is rather of a 'detached' or 'scientific' attitude. It is also notable that the tone was always carried by the lexical item 'si' and not 'MHM' or 'MHMHM' as is otherwise usually the case.

In Japanese, on the other hand, there may be grounds for postulating a language specific intonational convention. The R tone, as we have said before, invokes common worlds. It is a well-known part of Japanese culture and psychology to 'veil' personal reactions and emotions of any kind. This characteristic is manifestly evident on all manner of levels, not the least intonation. In the Japanese C-Game, the 'go-ahead' phase is realized in the form of a staccato p tone on the word 'hai' (yes). In this way emphasis is diverted from the common ground aspect of the interaction to a simple notification that a message has been heard. It is not polite in Japanese to place oneself in any way on the level of the teacher or instructor. One simply accepts what the teacher has to say. (Please remember the similarities between the C-Games and a teaching situation.) This intonation reflects the socio-cultural ideal of personal reserve so fundamental to the Japanese way of thinking. Already built into the language and intonational conventions lies the cultural psychology of a nation. Which came first?

## The p+ Tone in the C-Games

The dominant version of the proclaiming tone, which is characterized by a rise-fall (/2) contour, is by far the least common of the tones, and occurs only under rather specific conditions in the C-Games. One of these conditions will be discussed later in section E on the Comparison Phase. This instance can be characterized informally as 'negative discovery/surprise.' However, it must be emphasized that this is not a notional or attitudinal label to be attached to the p+ tone. Notional and attitudinal labelling have diverted attention from the abstract common denominator, which is neither lexical nor emotional nor situational. In the case of the rise-fall tone, such labels have consisted of things like 'surprise', 'sarcasm', 'indignation', and so on. Actually it is the 'doubly world-changing nature' of the p+ tone, plus the social and psychological factor of dominance which, interrelated with other intonational and contextual factors, contribute to the emergence of such locally specific interpretations.

Other than in the comparison phase, there are basically 2 types of instance in which the p+ tone occurs in our material. Take C-Game 7 for example:

(A): (... sitter som hatt, med spetsen uppåt, vad, och sen täcker det, går det ner lite grann över, s'att det liksom, så huvud sticker upp i hatten lite grann)

(B): || p+ Å (!) || p+ avanCERrat (!) || p+ AH (!) ||

The local gloss here might be 'discovery and appreciation', ie. 'This is both new and clever.' Doubly world-changing. 'I congratulate you (the + factor)'. Several other parallel instances are to be found in the C-Games.

The other main context for p+ tones in the games can be related specifically to the dominance factor inherent in the tone. It occurs where the 'instructor' takes on a 'didactic' sort of role: (C-Game no.11)

(A): || o SÅ- FINNS || p+ den 'LILla kvaDRAATen || p+ LÄNGST ut ||  
|| p+ till <sup>↑</sup>HÖGer ||

The instructor speaks extra clearly in what could locally be characterized as a 'teacherly' tone of voice. In an abstract sense it is largely the choice of the dominant version of the tone (used 3 times in this short bit) which creates this effect. A kind of 'now this is what

you do and this is how you do it' or 'this is new for you and I am telling you all about it' - approach. Definitely in charge.

Key and Termination: Pitch Concord in the C-Games

The phenomenon of pitch concord is an all pervading feature of the C-Games. The cooperative nature of the activity can account for the high instance of this interactive feature of expected/projected termination/key correspondence between speakers across turns. Briefly, pitch concord refers to the relationship between one speaker's projected expectations of the type of response he will get from the other speaker, either adjudicating or concurring, and also of the key choice of that response. (Please see overview chart.) For example, in C-Game no.2, where one placement of a shape on the table has been completed, and the next begins, we have:

(A): || r+( ) SEN går du ut till klockan <sup>↑</sup>TRE || (B): r+ <sup>↑</sup>JÅ ||  
(B): || r+( ) på den 'STORA' <sup>↑</sup>CIRKeln || (B): r+ <sup>↑</sup>MHM ... ||

Player A is checking at each step of the way that B is 'with' him. In both exchanges he is 'asking' for an active, adjudicating response from B, and at the same time projecting an expectation that that response will commence with high key. Now, player B is following A's line of thinking completely, and having accepted the role of constructor, is also fully in agreement with being told what to do. Player A, through high termination, is effectively asking, 'Are you with me or are you not with me here?' B responds both times in the affirmative, and also complies with A's expectations of high key.

In C-Game no.5, we have a rather different configuration: B is reformulating an instruction to make sure that she has understood correctly (Which she firmly believes that she has.):

(B) (Jaha, naha, s'att det är alltså den rätvinklīga  
spetsen så att säga på triangeln) || p som ligger mot spetsen på  
<sup>↑</sup>ROMBen || (slight pause) || (A): r+ NEJ || (skratt/laugh, laugh)  
|| p det är det <sup>↑</sup>INte ||



Now, had her assessment of the situation been correct, the most likely response (as found in almost all similar instances in the other C-Games) would have been an immediate, high key (r+)  $\uparrow$  JA || or || MHM  $\uparrow$  || which is clearly what she was expecting. A's slight pause, coupled with 'nej' and non-compliance with concord expectations indicates that, indeed, something is amiss. Concord is a sign of 'compliance', or 'togetherness', while non-concord sets the utterance up as being outside the area of speaker-hearer convergence. The total unexpectedness of the answer causes both A and B to burst out laughing.

Towards the beginning of C-Game no.13 we have still another configuration:

(A): || p nu BÖRjar jag HANS || r talar OM för dig hur du ska  
 lägga HÄR || (B): r+  $\uparrow$  MHM || (A): r MHM || (B): p JA ||  
↓

A's mid termination in the last tone unit of her first utterance sets up the expectation of a simple concurring 'yes' in mid-key. No difficulties have yet arisen, as this is the first placement of the game. The goal has been mutually agreed upon, so there is no reason for her to expect any thing but concurrence. But again, as it is the beginning of the exercise, B is establishing his own role as equal partner in the enterprise. So he opts for a high key adjudicating response instead, perhaps to signify 'Right, that's a good idea in my judgment as well.' His response simultaneously fills a sort of framing or structural boundary marking function as well, and it is he who closes the pitch sequence with a low termination  $\downarrow$  JA || The + version of the tone, 'concord breaking' and pitch sequence closure are all attributes of dominance. To which B claims his full share. A gloss to the whole sequence might be, 'Right, let's get this show on the road!'

Having given two examples of pitch concord and two examples of concord-breaking, I would like to specify that it was rather difficult to find the instances of non-concord, while concord was to be found everywhere in the C-Games. Indeed this interplay of matching pitch levels between speakers is perhaps the most striking feature of the intonation in the C-Games.

Absence of pitch concord, on the other hand, is usually quite conspicuous. In a recent summary of the Discourse Model, Cooper-Kuhlen (1986) writes that the pitch concord aspect of the model is applicable in relation to the organization of asymmetrical discourse, but overly rigid in the case of symmetrical discourse, even to the point of breaking down. This is due to a misunderstanding of the way the system works. Speakers may or may not fulfill pitch concord expectations, and as seen above, this can have a number of causes. The speaker always has the prerogative

of choice, whatever is expected of him and whatever the consequences. Although there is perhaps 'no such thing' as totally symmetrical discourse (Per Linell 1987), it can safely be said that the C-Games represent more or less symmetrical discourse, or as Brazil (1985) points out, a situation in which there is an 'ongoing, albeit incipient competition for dominance.' In the C-Games, pitch concord may be viewed as a normative feature which is observably oriented to by the participants. Perhaps it is plausible to postulate a sort of intonational adjacency pair in the tradition and terminology of Sachs, Schegloff and Jefferson. In this way pitch concord and non-pitch concord could be likened to the 'preferred' and 'dispreferred' seconds of conversational analysis.

#### The Comparison Phase in the C-Games

Out of the 18 C-Games in the study, 14 sets of players managed to negotiate their patterns correctly. The remaining 4 pairs ran into difficulties which resulted in dissimilar patterns. The results, correct or incorrect, were 'unveiled' in the final phase of the activity. Again different strategies were taken, which fell into a small number of basic groups. Here are two examples of the comparison phase in correctly negotiated patterns:

(no.10). (B): ||r  $\overset{\uparrow}{\text{JO}}$  || (A): r+  $\overset{\uparrow}{\text{JA}}$  ||

(no.1): (A): || r+  $\overset{\uparrow}{\text{JA}}$  || p HELT rätt || (B): r  $\overset{\uparrow}{\text{JA}}$  || p 'EnASTÄende ||

In such cases of correctly negotiated patterns we can look at the initial tone choices of each player, usually on the words 'JA' or 'JO', which can be roughly glossed as follows:

- r 'Contrary to expectations, (high key) we are together and successful here (r tone), don't you think?'  
(high termination) (7 examples)
- r 'Yes indeed, (mid key) we are together and successful here.  
(r tone) Surely you agree(?)' (mid termination)  
(only 1 example)
- r+ 'Contrary to expectations, (high key) I judge (the + factor) that we are together and successful (r tone). Don't you think(?)' (high termination) (3 examples)

r+ 'Yes indeed, (mid key) I judge (the + factor) that we are together and have done the exercise correctly (r tone). You will agree. (mid termination) (3 examples)

p 'I tell you (the investigator, not my partner,) that the exercise is correctly done. (p tone) You agree. (mid termination) (1 example)

Worthy of note is: firstly the prevalence (14 to 1) of R tone in this summing up phase. The players have just received confirmation of the success of their joint efforts, and the referring tone reinforces this 'jointness' of a mutual world. In fact the only exception to this is when a player turns to a third party in order to give notification of the correct completion of the activity, with a proclaiming tone. Also worthy of note is the preference for the simple r tone (↘) complex with high key/termination. Here the emphasis is on togetherness, ie 'we have done this together'. The simultaneous preference for high key invokes the notion of 'this is not necessarily what one might have expected.

The r+ ( ) tone was also chosen quite often, sometimes before or after a simple r tone. Having no videotapes of these games, I can only speculate that those who chose the dominant version, which in this case seems to imbue the speaker with the role of 'judge', - had their attention fixed on the finished patterns, whereas those who chose the simple r tone (non-dominant) were more concerned with their partners.

Now in the case of the less successful games, it will be even easier to characterize them. The following exemplification from C- Game no.12 is typical:

(B): || r+ <sup>↑</sup>ÄH(!) || p+ (↘) ja så du lägger den så <sup>↑</sup>DÄR(!) ||  
 || p+ JA <sup>↑</sup>HÄ (!) ||

The p+ tone has been said to be the least common tone, both in the C-Games and in general. Here, however, in the context of the unveiling and discovery of a mistake, it is basically the only tone used for commenting on the mistake.

In the 4 'failed' C-Games, there are 5 examples of this tone. In fact, it occurs in every mistaken game. So even though there is no 'rule' that it must occur, this ratio nonetheless gives an indication that it is very likely to occur.

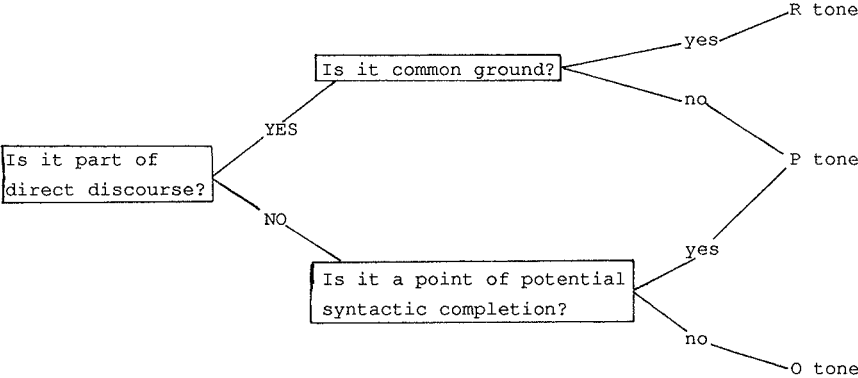
And no wonder. In the C-games, the players have expressly reached an agreement that the exercise has been satisfactorily completed before the unveiling takes place. This is part of the rules of the game.

Remembering that the basic meaning increment of the p+ tone is double world-change, a mistake discovered at the time of the 'unveiling' will by definition be 'new information' to both participants.

Oblique Orientation in the C-Games

In the discourse system a distinction is made between 'direct' and 'oblique' orientation (Brazil 1979, 1985). Direct orientation refers to the intonational stance of the speaker when relating to a here-and-now state of understanding. Adjustments are made on a moment-by-moment basis according to the you and me, I and we situation. Oblique orientation on the other hand, can be seen as a temporary side-step from this interactive relationship, for one reason or another, with a consequent concentration on linguistic organization instead. A chunk of language is presented as - just that, a chunk of language.

The following diagram, adapted from Brazil 1985, may rapidly provide a visual clarification of the tone distribution associated with direct and oblique orientation:



The tone unit may also change its character in oblique orientation. In the 'usual' case, the tone unit consists of one or two prominent syllables, one of which is tonic. (In Swedish, exceptions to this rule are described in Section 1. An oblique tone unit has no such limits. Consider the case of rapid recitation of the alphabet in Swedish:

|| ABCDEFGHIJKLMNOPQRSTUVWXYZÅÄÖ! ||

A 28 prominence tone unit. Key and termination, on the other hand, retain their respective meaning components in oblique orientation.

Oblique orientation serves a number of functions in discourse, among

them stylized announcements (|| o NORRMALMSTORG ||) or in instructions  
 / se UPP för DÖRRarNA- o DÖRRarna STÄNGS ||), prayers, all manner of  
 ritualistic language, some kinds of quotations and recitations, and so  
 on.

In the C-Games, oblique orientation constitutes a relatively high  
 percentage of the tone units involved, and is usually associated with  
 hesitation and verbal planning (remember we said that in oblique  
 orientation the speaker turned attention away from interaction and  
 towards the language in question). Consider the following example from  
 C-Games no.3:

(A): || o <sup>↑</sup>SEN - || o I <sup>↑</sup>DEN - || o 'HÖGRA - || o NEDRE - ||  
 || p <sup>↑</sup>SPETSen || (B): || r+ <sup>↑</sup>MHM || p lägger du den  
 'STORA 'CIRKELN ||  
<sup>↑</sup>

This is the second placement of the game, and A is the first instructor  
 of the set. The entire activity is new to the speaker, and he is  
 fumbling for ways of getting his point across. With o SEN - (=THEN),  
 he marks off the boundary of a new placement with high key (a kind of  
 focussing device). In the tone units that follow ('on the - right -  
 lower - tip...) He is having enough difficulty finding the right words,  
 let alone trying to classify them simultaneously as belonging to common  
 or separate worlds. Oblique orientation is 'all he can manage' at this  
 point.

The discourse takes on a 'chopped-up' quality with these short  
 oblique tone units. When the lexical search for positioning terminology  
 is over, however, the speaker has no difficulty whatever in planning a  
 much longer tone unit in direct orientation, ('You place the big  
 circle'), - which was he was 'waiting to say' all along.

It is interesting that oblique orientation is also widely used in  
 C-Game data in other languages as well, and in similar ways. Please note  
 the following example in French:

(A): || r+ la loSANGE (?) || p il <sup>↑</sup>TOUCHE la losange ||  
 || o il TOUCHE l'ANGLE || o du GRAND - || r du GRAND  
 losange || (B): r+ QUI || (A): r+ <sup>↑</sup>MHM || o LE - ||  
 || r/o GRAND triANGLE || p/o TOUCHE || p l'a - l'angle ouVERT

du GRAND losange || (A): p j'eSPÈRE c'est pas

un test d'intelliGENCE tout ca! ||

Here again we have the 'choppy bits' in O - orientation so typical of this type of discourse. Speaker A (the instructor) clearly is not accustomed to running into such planning difficulties otherwise. This he expresses in no uncertain terms, in an exclamation which he has no difficulty whatever in planning as a unified whole. And very directly.

#### Further Considerations in the C-Games

There are many interesting areas still to be explored in the communication games, which will no doubt prove illuminating on many levels. Among them would be the following:

1. The different intonational strategies taken for negotiating meaning. In the C-Games there are two basic strategies taken by instructors, with many sub-categories and combinations. The 1st was 'instructions for building the pattern', and the 2nd was 'description of the pattern'. Internally, beyond the basic 'to the left, right, above, below' approach, we have analogies such as the clock and the compass, as well as figurative imagery (a house with sun and moon, a snowman balanced on a pile of sugar-boxes, a Chinaman kicking a ball, a Christmas tree with presents, etc.) Most interesting at the moment from our point of view is the role of intonation, particularly the P/R opposition of common or separate existential worlds used for creating mutual understanding of this type of here-and-now meaning.

2. The way different personalities are expressed through intonation. For example the subject with his 'head in the intellectual clouds' who tends to speak in long semi-oblique tone units, 'getting in' as much as possible into the limited space of a tone unit. Or the subject who has several mental 'channels on' simultaneously, and breaks up or combines his tone units accordingly, in order to 'get in' more than one 'channel' at a time.

3. The inter-relationships of discourse control, and the multi-layered role of intonation in creating and establishing power (dominance), facilitating power exchange, as well as creating a sense of equality between the speakers. What factors are involved in C-game discourse?

4. Male-female differences and relationships intonationally speaking, and what factors in intonation play a role. There are certain more or less sex differentiated conventions in Swedish. What are they and why? How do they show up in the C-games?

5. How different social relationships between the players, plus different attitudes towards the C-Game itself, can affect or alter intonational patterns and strategies. The less formal, the less predictable.

6. Selectivity and the prominence system - how it contributes to the negotiation of meaning in the C-Games.

7. Discourse and relationship structuring through the use of the pitch sequence in the C-Games.

#### Concluding Remarks

It goes without saying that the C-Games represent only a very limited type of discourse. Nonetheless it is hoped that this brief exposition will have given the reader an indication of some of the ways in which the Discourse Model may be applied to other types of discourse as well. The model, being finite, renders intonational meaning imminently accessible to a wide range of analysts, and not 'too difficult' after all. The functional categories in the model may also provide an impetus towards the search for acoustic correlates and the varying ranges involved in their expression. The Discourse Model's applicability to the Swedish language has been illustrated, and preliminary questions related to the tone accents have been discussed.

There are of course areas of prosody which are not included in the system, such as loudness, voice quality and overall pitch level. This system deals only with linguistic intonation; systematic factors resulting from choices of the all-or-none sort. This view places intonation solidly within language, rather than 'round the edge of language' (Bolinger 1961) - and right up on the level of grammar and lexis in terms of functional utility.

The Discourse Model is definitely not aimed at generating synthetic speech. As intonation is both context-created and context-creating, on both informational and psycho-sociological levels, a computer would need to think and feel like a human being in order to sound like one. On the other hand, it is not at all difficult to imagine that some of the elements of the system could be implemented in a stylized way in synthetic speech programs, which would result in a more humanoid-sounding organization than previously has been achieved.

As to Swedish as a foreign language, and the teaching of Swedish intonation, it is clear that both lesson content and methodology will require some re-thinking in the light of the insights of the Discourse Model. More emphasis will need to be placed in future on the function and meaning of intonation in action rather than on the mastery of static

forms. How intonation works and what it means. Shall we say, let's not talk about what intonation 'IS', but rather about what intonation 'DOES'.

Here, as everywhere else in science, there is still much to explore and much to learn. But a discourse approach to intonation in Swedish surely represents a major step towards the useful and fruitful cultivation of the 'no-man's land' that intonation and intonational meaning have so long inhabited.

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Appendix:

DISCOURSE INTONATION  
OVERVIEW

THE TONE UNIT

Building block of  
verbal communication

Place of operation of a  
set of speaker options

PROMINENCE

Selectivity  
vs  
Non-selectivity

NB:

General vs  
Existential  
Paradigm

DISCOURSE  
CONTROL

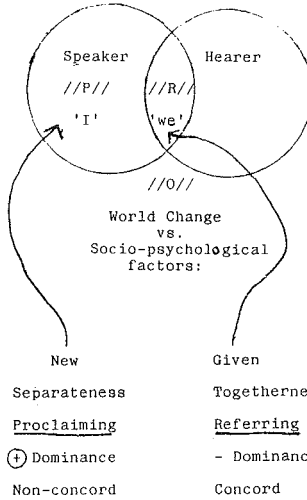
Consider:  
Symmetrical  
vs.  
Assymetrical  
Speaker-Hearer  
Relationships:

⊕ Tone

Pitch sequence  
closure

Non-concord

P vs. R



TONE

- p ↘
- p+ ↘↘
- r ↘↘
- r+ ↘↘
- o →

ORIENTATION

Direct - P/R  
(Interactive);

Indirect - O/P  
(Oblique)

Consider:  
Speaker projection  
(+ misjudgment!)

Speaker exploitation  
(+ manipulation!)

of the VARIOUS CHOICES

KEY

(Inter-TU relationships):

- High Contrastive
- Mid Additive
- Low Equative

(Inter-sequential  
'syntagmic' relationships):

- High Maximal dysjunction  
(New topic or 'tack')
- Mid Additive (subordinate)
- Low Equative (existentially  
valid reformulation)

TERMINATION

(Interactive  
relationships):

- Projected response: High - adjudicating
- Projected/invited response key: High
- Mid - concurring Mid
- Low - pitch sequence closure
  - High
  - Mid
  - Low