INTONATION AND INTERROGATION IN ENGLISH: IT'S ALL A MATTER OF DEFAULTS

ABSTRACT

Basically, there are two explicit ways to express interrogation: one is by the use of an explicit interrogative sentence form and the other by intonation alone. But sometimes the interrogative use has to be inferred from the lexical choices or the general context. The conventional view is that yes/no-questions have a rising and wh-questions a falling contour. When we look at actually occurring speech, however, we notice very quickly that these two patterns do not always hold, and to understand why they do not hold, I will be looking into the concept of sentence types and their relation to intonation. I will propose that the traditional intonation matches are to be regarded as a matter of defaults only. In other words, each sentence type has a specific default contour, which can be overridden by various contextual factors. The particular point I want to make is that there is no obligation to mark interrogation intonationally in one way or another, but the speaker is free to use the tune he finds pragmatically appropriate in a given context.

I’ll begin by explaining my background assumptions, which are the illocutionary force, sentence type, certain intonational universals and the notion of grammatical construction. Next we will see examples in the light of these notions. Last, I will report on a study on actual frequencies of the contour types.

1. ILLOCUTIONARY FORCE

Speakers use language to perform different kinds of speech acts or illocutionary acts, in the sense of Austin (1962) and Searle (1969); see also Lyons (1977). What this means is that we perform acts in saying something. Consider the following examples. Assume we are in an ice-cold classroom where there’s a window wide open and I say “It’s cold in here”. In saying “It’s cold in here”, I am asserting something about the temperature in the class room, but at the same time, I also perform the speech act or the illocutionary act of requesting that someone close the window. For our purposes then, there are two levels of analysis to be taken in to account: 1) the propositional content of what I’m saying, that is, the linguistic meaning, and 2) my illocutionary force, that is, the intention I have when saying what I am saying.
The next example shows that the same linguistic expression can be used to perform several illocutionary acts. In English, the verb/subject word order and final intonational rise is a y/n-question so that the following could be answered ‘yes’ or ‘no’, depending on whether the addressee has finished or not:

- **actual utterance:** “Have you finished eating?” + rise
- **illocutionary force:** wants to know whether addressee is over with eating

In this case then the propositional content and the illocutionary force match. But, this same sentence can be used also to ask the addressee to take the garbage out. Assume your husband asks you to take the garbage out and you say you are going to eat first. And then, half an hour after, your husband asks you

- **utterance:** “Have you finished eating?” + rise
- **illocutionary force:** (if so,) you can take the garbage out now

Thus, the speaker’s intention may or may not match the propositional content of his utterance. This means that the same sentence can be used to perform several different illocutionary acts.

### 2. SENTENCE TYPES

Sadock and Zwicky (1985) talk about speech act distinctions in syntax and note that in all languages, there are correspondences between the syntactic form and the illocutionary force. They discuss a number of different constructions in several languages and suggest that the coincidence of grammatical structure and conventional conversational use defines a sentence type. There are three major sentence types across languages, with the same conventional conversational use in all three:

<table>
<thead>
<tr>
<th>SENTENCE TYPE</th>
<th>CONVERSATIONAL USE</th>
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<tbody>
<tr>
<td>1. declarative: You caught the duck.</td>
<td>used in making statements</td>
</tr>
<tr>
<td>2. interrogative: Did you catch the duck?</td>
<td>used in asking questions</td>
</tr>
<tr>
<td>3. imperative: Catch the duck!</td>
<td>used in making orders</td>
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</table>

The example sentences above all express the same proposition, they all talk about the addressee catching a duck, but the sentence types are syntactically different, and each one has a specific conventional conversational use, that is, their illocutionary force is the same.

What we have now is a sentential form and its potential pragmatic uses, and any sentence can be put to several different uses. Let us have a look at a couple of examples to illustrate the sentence types and their conversational uses, both conventional and non-conventional. The next two sentences have the declarative form but, because of their morpholexical choices, they are questions.

1. I hereby ask you whether you will be there tonight?
2. I just wondered whether you’d be there tonight?

The next example too is a declarative sentence, but, this time, because of its intonation, it is a question:

3. And you’ll be there tonight? + rise
The following is a famous example of a request using the y/n-interrogative form. At a dinner table, it would never be interpreted as a question:

4. Can you pass me the salt?

The speaker’s intention is inferred not just on the basis of the propositional content and the linguistic form, but also the context, so that 4, for example, said in a rainy street in the middle of a night, would only be taken as drunken babbling.

Below, the sentence has the interrogative form, and it is used to ask a question, thus, in this case, there is a match between the sentence form and its conversational use.

5. Are you going to be there tonight? + rise

The intonation can be falling as well and interrogative function would be inferred from the syntactic form alone.

In addition to the major sentence types, languages also have several minor sentence types, each with their specific sentential formulas. Among them, we can mention expressions used for “punctuation of discourse” (Sadock and Zwicky 1985:158); examples are from Sadock and Zwicky:

6. How do you do?
7. Pleased to meet you.
8. Good morning
9. See you later

Another minor type the authors propose is suggestions which use words such ‘how’, ‘what’, ‘why’ and ‘about’. It is to be noted here that, while the suggestions below contain a wh-word, they do not have the syntactic form of a wh-question and thus they are considered to form a separate sentence type.

10. How about going to the beach?
11. What about selling the house?
12. Why waste your time on reading such trash?
13. Why not apply?

Sadock and Zwicky give exclamations as another minor sentence type; in form, they resemble declaratives and interrogatives:

14. What a good boy you are!
15. How tacky that is!
16. Boy, does he ever have beautiful legs!
17. Wow, can he knit!

As another type, we may mention their Imprecatives, which in their turn, resemble imperatives:

18. Shit on you! Fuck you! Screw you!

In this talk, I will be concerned only with the major sentence types, declarative, interrogative and imperative, with an emphasis on interrogatives, of course. The minor types
were given by way of showing how a frequent need to express a specific illocutionary force may give rise to additional sentence types over time. We would expect each of the minor types to have their own intonational characteristics as well.

3. INTONATIONAL UNIVERSALS AND DISCOURSE MANAGEMENT

Vaissière (1995) observes that virtually universally, across languages, an intonational rise signifies continuation or incompleteness, and a fall means completion. She proposes that, ultimately, these two patterns are biologically and ethologically motivated. These two functions, the signalling of continuation and completion, belong to discourse management and turn-taking (Välimaa-Blum 1999a), and as such we can perhaps understand their universal status across languages, because continuation and completion belong to ‘floor management’ (Clark and Schaefer 1989), which is something speakers of all languages have to do.

Asking a question is an example of an incomplete discourse and answering it illustrates potential completion. Yes/no-questions are incomplete in themselves, without the answer, and they use the rising tume. Declaratives are typically used to make assertions which bring in new information into the discourse, and they tend to have the completion-marking, falling pattern. These two intonational shapes would then be the prototypical patterns for questions and declaratives. Rises are also used in non-terminal items on lists and the final item typically has a fall, signalling incompleteness and completion, respectively.

Wh-questions tend to come with a falling tume, but this goes together with the explicit wh-word and word order change, which are further explicit signals of interrogation. Unlike yes/no-questions, wh-questions contain a large amount of propositional presuppositions, which places them in the middle-ground between declaratives and interrogatives. For example, the interrogative sentence “What time did John come?” asks a question about the time of an event whose existence is presupposed, i.e., “John did come”. This may explain why the typical wh-pattern is falling: while they are asking for a specific piece of information, they also give a large amount of information. Yes/no-questions are different from wh-questions also in that any constituent can be made into a y/n-question exclusively by the universal rising contour. Thus, the use of the rising and falling tunes to signal continuation and completion, respectively, is not unique to English, but English manifests a strong universal tendency, which is shared by numerous languages.

4. GRAMMATICAL CONSTRUCTIONS

When Sadock and Zwicky propose that a sentence type is a matter of a coincidence of a grammatical structure and conventional conversational use, I interpret it essentially as a matter of a default association of sentential form and illocutionary force. A default choice is one that the speaker makes if nothing in the context dictates otherwise. If we now add intonation to this combination of sentential form and illocutionary force, we have a grammatical construction in the spirit of Cognitive Grammar (Fillmore, Kay and O’Connor 1989; Lakoff 1987). A grammatical construction is a pairing of form and meaning and/or pragmatic function, and intonation one of the formal concomitants of the constructions. The description of a construction thus must include the following type of information: the morphosyntactic pattern and intonation, the compositional semantic interpretation principles and the pragmatic values they express.

I would like to illustrate this approach in some detail and show how intonation and the speaker’s intention are indeed integrated into the grammar. I will take the ‘let alone’-construction, in 19B below, and give the grammatical description proposed for it by Fillmore, Kay and O’Connor (1988):
19. A. Did the kids get their breakfast on time this morning?
B. I barely got up in time to eat lunch, let alone cook breakfast.

THE ‘LET ALONE’ CONSTRUCTION (Fillmore, Kay and O’Connor 1988)

The LINGUISTIC FORM of the ‘let alone’ construction:
- they contain ‘let alone’, which is a kind of conjunction
- constructions that contain ‘let alone’ have a paired (or multiple pairs) focus
- construction, that is, two intonational foci
- before ‘let alone’, there is a sentence
- after ‘let alone’, there is a sentence fragment

The SEMANTICS of the ‘let alone’ construction:
1. the full clause and the clause fragment are interpreted as two propositions from the
   same scalar model
2. the two propositions are of the same polarity
3. One of the two propositions, the full clause, is stronger than the clause fragment.

The PRAGMATICS of the ‘let alone’ construction:
1. the Context Proposition (sentence 19.A) has created conditions under which a
   speech act represented by the clause fragment is a pragmatically appropriate or
   ‘relevant’ response in the Gricean sense.
2. The clause fragment specifically accepts or rejects the context proposition.
3. Regardless of whether the speaker rejects or accepts the context proposition
   (=19A), and while he commits himself emphatically to the clause fragment, he
   indicates that limiting himself to the weaker clause would not be co-operative (in the
   Gricean sense), since there is something even more informative to be said: the
   stronger initial, full clause.

This is then the kind of linguistic entity I assume below when talking about intonation as a
formal concomitant of grammatical constructions.

5. DEFAULT AND NON-DEFAULT CONTOURS

Globally, the locus of the nucleus in a tune follows the information structure of the
sentence (Lambrecht 1995) and it needs to be stated independently of the rises and falls; I will
not touch upon the speaker attitude, which I believe is subsidiary to the information structure.
In this paper, I am mainly concerned with the typical contours of interrogatives and will not
consider the information structure at all. I will next characterize the proposed defaults in some
detail. For the declarative, the default contour is the one with a broad focus (Ladd 1980), that
is, the contour where all the constituents are perceptually roughly equally prominent. I call this
tune the ‘neutral contour’ (Välimaa-Blum 1999b) because, among the kinds of question it can
answer, we find open-ended questions such as ‘What’s new?’ and ‘What’s up?’ In this
neutral contour, the head begins near the center of the pitch range, that is, it is a high head,
and there is a low fall on the nucleus. This combination of the declarative form and the
neutral contour matches the conventional conversational use of this sentence type, which is to
make statements. The default contours of the other two main sentence types have both a high
head and a low rising nucleus in the y/n-question and a high falling nucleus for the Wh-
question.

To give a concrete illustration of what I mean by a default choice for intonation and
the overriding of it by contextual factors, let us consider the examples in 20-22. The cleft
construction can be considered as a syntactic means of focusing, and the item following ‘it
is/was' carries the new information of this construction by default. As such, this constituent also carries the nuclear accent:

20. It was JOHN who started it.
21. It was an APPLE John ate.
22. It was to PARIS he went.

This is the contour we would be most likely to assign to these sentences if we saw them, e.g., like this, in isolation. This would thus be the default choice that is made unless something in the context dictates otherwise.

Next, we have the case where the context does dictate ‘otherwise’:

23. A: “Did John get involved in the quarrel?
B: “It was John who STARTED it!”

In this context, the default tune with the intonational focus on ‘John’, as in 20, would be pragmatically inappropriate or infelicitous. The contour I propose in 23.B is not the only possibility in this context, but the claim is that the tune in 20 is ruled out.

What the default is, is not as simple a matter as was perhaps implied above. For example, there is a strong tendency for the nucleus to go on the last content word in the neutral contour; this is generally true in interrogatives as well. But this rule does not work always. Consider the following sentences, where the nucleus is on the capitalized constituent:

25. What are you going to DO tonight?
26. Where is everybody GOING tomorrow?
27. Who bought a new COMPUTER yesterday?
28. Did Mary buy a COMPUTER yesterday?

All the sentences in 24-28 have a broad focus can be said ‘out of the blue’, without specific contextual presuppositionas, and in that sense they are all neutral and conform to the defaults for these sentence types. We can then observe that the nucleus is on the last semantic argument of the verb, and the circumstantial is deaccented, in the tail. Thus we cannot say that the neutral or unmarked contour places the nucleus on the last content word. This holds for both declaratives and interrogatives. To see this point more clearly, we can contrast the above examples with those below.

24’. John bought a new computer YESTERDAY.
27’. Who bought a computer YESTERDAY?
28’. Did she buy the computer YESTERDAY?

The pragmatic context of the above three is radically different from that of the corresponding earlier examples. In the primed sentences, there is a narrow focus on the circumstantial, and what precedes the nucleus, is contextually presupposed. This is not to say that the unmarked nucleus cannot be on an adverbial expression, because the nucleus placement also depends on the semantic content of the sentence (Ladd 1980). But the ‘take-away’ point at this juncture is that while there are defaults in terms of intonation, the locus of the nucleus in a particular case is not automatic.
We have now seen the two basic concepts, sentence type and default intonation and how they go together. This amounts to a statement that each sentence type expresses a specific illocutionary force by default, and this being so, the default intonation of each construction must then conform to the expression to this basic speaker intention.

CONCRETE EXAMPLES

Next we will see a set of concrete examples of the various contours, in their default and non-default combinations. The example in 29 shows a neutral 2-clause declarative sentence with the default tune; 'do' carries the nucleus.

29. I wish I could do something.

In 30, we have the default pattern for the wh-question, i.e., a fall on the verb.

30. When did John write it?

The utterance in 31 too is a wh-question but it has a narrow focus on 'you', but the contour is nevertheless falling.

31. But what did you say?
In 32, there is a declarative sentence form with a rising contour, which makes it into a y/n-question.

32. YOUR YOUNG LADIES HAVE LEFT YOU ALONE?

The yes/no-question in 34 has a falling pattern and it is perfectly normal and natural. It was produced by a speaker of Southern British English and she sound genuinely interested; this time, the question function can be inferred from the syntactic form alone.

34. DID YOU SEE IT HAPPEN?

The following pair, 35 and 36, two tag-questions, shows how we have to consider the speaker's intention before we can decide whether the contour rises or falls. The first one is a true question and the speaker wants to know whether she was indeed on time:

35. I WASN'T LATE, WAS I?

The next one is not a question but the speaker only seeks confirmation to her being charming.
6. FREQUENCIES OF THE DEFAULTS

What are the frequencies of these contours? In actual speech, how often do speakers use the defaults? Before trying to answer that, I would like to point out that frequencies do not tell anything about the authenticity of a contour, or of any other linguistic form either. The only measure of authenticity is the pragmatically appropriate use in the right context. Nevertheless, here are some numbers of the frequencies. Hirschberg has been studying speaking styles, read and spontaneous speech in particular, and, among other things, she’s been looking at the frequencies of the rising and falling contours in declaratives, y/n- and wh-questions (1989; 2000). Her results suggest, as she notes, that there may not be any ‘natural’ associations of intonation and sentence type in that declaratives and wh-questions do not have a systematic fall and y/n-questions a systematic rise.

She did two studies, and for the first, I have no data on the actual number of sentences involved. I present the percentage of falls and the the remaining sentences were then read with a rise.

Table 1. The percentages of intonational falls as opposed to rises in two data bases (RM and TIMIT) (Hirschberg 1989)

<table>
<thead>
<tr>
<th></th>
<th>yes/no-question</th>
<th>wh-question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Base</td>
<td>RM Fall</td>
<td>RM Fall</td>
</tr>
<tr>
<td></td>
<td>TIMIT 1 Fall</td>
<td>TIMIT 1 Fall</td>
</tr>
<tr>
<td>Read speech</td>
<td>45%</td>
<td>91%</td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>92%</td>
</tr>
</tbody>
</table>

We can see that y/n-questions had a fall in almost half of the utterances and 20% had a fall in the other study. Wh-questions had a fall most of the time but rises as well. In this study the data were only read speech.

The second study used both read and spontaneous speech. It has the following percentages of falls, and again, the remaining sentences had a rising contour.
Table 2. The percentages of intonational falls as opposed to rises (Hirschberg 2000)

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<tr>
<th></th>
<th>atis Data BAs</th>
<th>Declarative</th>
<th>yes/no-question</th>
<th>wh-question</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall (N=288)</td>
<td>Fall (N=74)</td>
<td>Fall (N=30)</td>
<td></td>
</tr>
<tr>
<td>Read</td>
<td>93%</td>
<td>30%</td>
<td>84%</td>
<td></td>
</tr>
<tr>
<td>Spontaneous</td>
<td>70%</td>
<td>43%</td>
<td>62%</td>
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These data tend to confirm the idea that the traditional view of a rigid intonational match with a sentence type does not really hold. In the read speech, there is a closer match with the conventional view in that declaratives and wh-questions tend to have a falling and y/n-question a rising contour. But it is the spontaneous speech that is of greater interest, and there the tendencies are less clear-cut. Spontaneous declaratives had 30% of rises, y/n-questions 43 percent of falls and wh-questions 38% of rises. So, these data support the view that the traditional patterns can be seen as defaults, nothing more.

Hirschberg’s study was done on American English, but British English does more or less the same, though I don’t have any actual numbers. Hirschberg was able to show experimentally that the tunes are not a matter of static choices, and also that there are differences between spontaneous and read speech in terms of the frequency of rises and falls.

7. IMPLICATIONS TO TEACHING

What should we teach to our students then? The most important fact is, of course, the correct placement of the nucleus and an understanding of why the nucleus is where it is; this depends on a number of factors, primarily the information structure, but also the morpholexical content and the syntax (Ladd 1980; Lambrecht 1995; 2000). Otherwise, we can take the defaults as the point of departure for the major sentence types. In written language, declaratives are often seen with a question mark and these are the best candidates for a final rise.

8. CONCLUSION

A grammatical construction is an association of linguistic form, meaning and a conventional conversational use, and intonation is one of the formal concomitants. The argument of this paper was that the relation between intonation and interrogation within a construction is a matter of defaults. This means that there is a strong tendency to have rises in yes/no-questions and falls in wh-question, but they are by no means the only patterns possible. The defaults may be overridden by various contextual factors and the interrogative intention must be inferred from other elements present in the utterance. The speaker attitude, such as a high level of interest or the lack of it, incredulity, etc., may also influence the contour and, especially the pitch height of the utterance. The correct placement of the nucleus and an understanding of why it goes where it goes are of central importance in the study of intonation, and I believe the information structure to be the chief determinant in this respect. But the most important fact about intonation is that it can go wrong only if it creates semantic incongruity.
REFERENCES