

AMBIGUITY: QUESTION OR STATEMENT?

OR

"ARE YOU ASKING ME OR TELLING ME?"

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This paper presents the results of asking a group of subjects "Are the following utterances questions or statements?" where the grammatical form of the utterance was that of a statement, but the intonation contours were of a wide variety. It is of course a commonplace that in many languages, including English, sentences need not be cast in a special question form to operate as questions.

The experimental material, the stimuli, consisted of the sentence "He'll be here on Friday", synthesized on the speech synthesizer "PAT" in the Phonetics Department of Edinburgh University. The segmental material remained the same throughout, but fourteen different intonation contours, which are shown in the accompanying chart, were superimposed upon the sentence by manipulating the fundamental pitch parameter. The range used was from about 75~ per second to about 200~; important intermediate points were 105~, 130~, and 160~.

The 27 subjects were two groups of undergraduate students in the Speech Department of the University of Illinois, and one group of research workers at the Haskins Laboratories, New York, all speakers of American English.

This material was part of an investigation into the attitudinal meanings of intonation contours, using C. E. Osgood's "Semantic Differential" technique of attitude measurement; thus, "question or statement?" was only one of eleven word-scales on which each contour was rated. The Semantic Differential procedure consists in asking subjects to rate whatever is to be judged on a 7-point scale between two opposed terms. The other terms in this particular experiment were of the type "bored-interested", "rude-polite", "calm-excited". The attitudinal meanings have been discussed elsewhere.

A seven-place scale was offered to the subjects, thus:

1 2 3 4 5 6 7

"question" — — — — — "statement"

and the meanings to be attached to the various places were explained as follows:

- 1: conveying "very strongly" the meaning of the left-hand term;
- 2: conveying "quite strongly" the meaning of the left-hand term;
- 3: conveying "slightly" the meaning of the left-hand term;
- 4: not conveying the meaning of the term at either end; neutral; inapplicable;

- 5: conveying "slightly" the meaning of the right-hand term;
 6: conveying "quite strongly" the meaning of the right-hand term;
 7: conveying "very strongly" the meaning of the right-hand term.

Each sentence-plus-contour was on a loop of tape, and each was played repeatedly until all the subjects had rated that particular combination.

The distribution of the judgments is shown in the graphs accompanying the contours, from which we can draw some conclusions in reply to the question forming the sub-title of this paper.

1. "Question/statement" is a genuine linguistic dichotomy: "neutral" judgments are fewest in number; an utterance is most likely to be taken as either a question or a statement but rarely as neutral to this distinction. The "neutral" judgments come from a minority of the subjects; slightly more than half of all the subjects never used the neutral rating at all, and no subject used it more than three times out of the fourteen opportunities for doing so.

2. Some distributions of judgments are bi-modal, that is, some of the contours are *ambiguous, questions* to some subjects and *statements* to others.

3. Contours ending at the highest pitch used, whatever their shape – rising or falling-rising – are predominantly questions.

4. Contours ending at the lowest pitch used, and the continuously-falling contour which does not reach the lowest pitch, are almost purely statements.

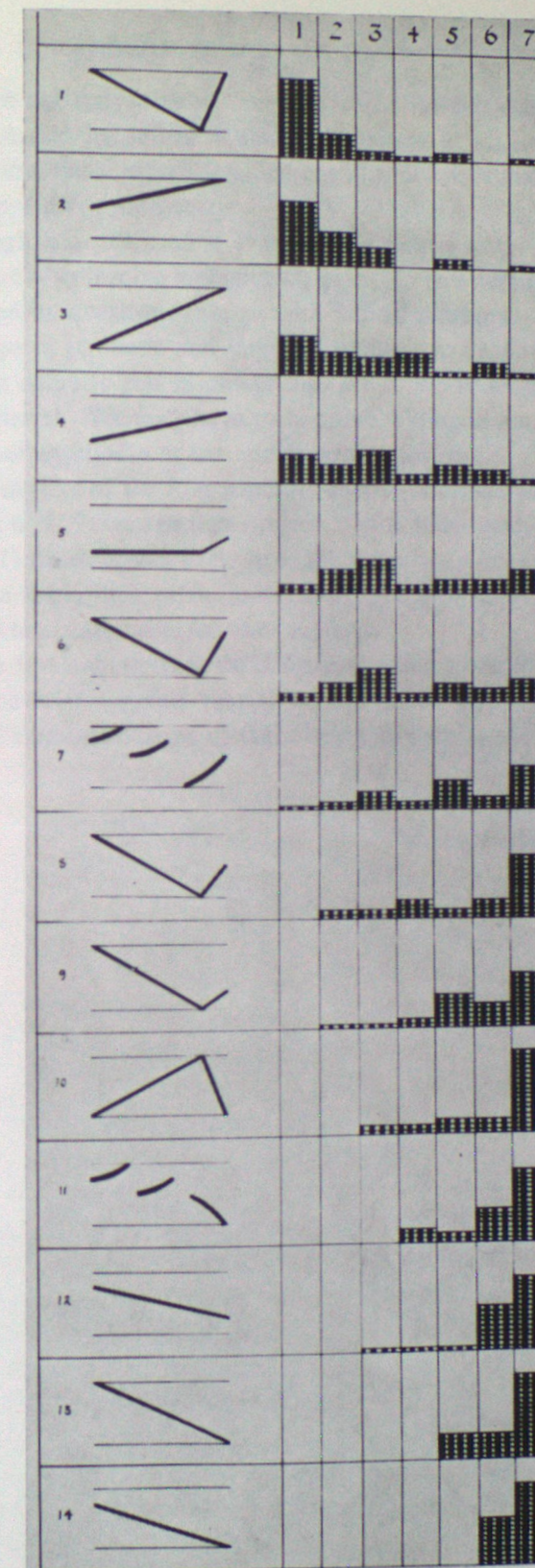
5. Falling-rising contours ending at the lower mid-points are generally accepted as statements.

6. The remaining contours ending at mid-points are ambiguous. "Shape", the relation of the end-point to previous pitches, enters the picture here, and I think this must be related to American intonation-habits on questions. If no higher pitch precedes the end-point (4, 5) the graphs are slightly heavier on the "question" end; the "question" flavor of these contours is no doubt due to their resemblance to the typical American intonation contour for general questions, a continuous rise to a fairly high pitch; their ambiguity is presumably due to doubt about the relation of the contour to the total range.

7. The two remaining contours (6, 7), which are not continuous rises, are highly ambiguous; the one with the lower end-point (7) has a larger number of statement ratings.

As in much research, some of these findings are merely painstaking confirmation of the obvious; the part which I find interesting is the clear demonstration of the existence of ambiguity. It is my impression that the classic remark in American English, "Are you asking me or telling me?", is typically a reaction to an utterance cast in statement form but with an intonation of the type of these lowish final rises, or with a final fall. If the utterance is indeed intended as a question, the clue to this may be in facial expression – raised eyebrows, earnest look at one's *via-à-vis* –, or a gesture, which may be missed if the listener is not looking at the speaker.

This is one of the great difficulties in dealing with real intonations set in real con-



texts; however much one may wish to "keep it clean", the fact is that the same kind of information is carried by several systems all present at all times: pitch, voice-quality, tempo, gesture, facial expression, any one of which, or combination of which, may be dominant at a given moment.

There exist in English words used in a way rather similar to the question-particles of Chinese; these can also resolve ambiguities, as in "So he's coming", or "Then you do want some" used as questions though with falling contours.

One tends perhaps in phonetic and linguistic analysis to demand too much neatness: all items must come to rest in one or another of the boxes we have set up for sorting out our material. We may have to be more willing to accept and deal with such obvious cases of ambiguity as the one demonstrated here.

If we follow the careers of the four similarly-shaped contours which differ only in their end-points (1, 6, 8, 9) we see that subjects divide them fairly convincingly into three groups: one (1) which comes back up to the top pitch, a question; one (6) which comes back up to a fairly high pitch, ambiguous; and two (8, 9) which come back up to lower mid-pitches, statements for most subjects.

Supposing that a levels-analysis is valid for intonation in American English, this particular lot of material suggests that three end-points can be distinguished for "question" versus "statement", one of these being an "ambiguity" category.

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