

DE GRUYTER

*M. A. K. Halliday*

**INTONATION AND  
GRAMMAR IN BRITISH  
ENGLISH**

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# INTONATION AND GRAMMAR IN BRITISH ENGLISH

# JANUA LINGUARUM

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INTONATION  
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IN BRITISH ENGLISH

*by*

M. A. K. HALLIDAY

UNIVERSITY COLLEGE LONDON



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## CONTENTS

<b>Introduction</b> . . . . .	<b>7</b>
<b>Part I</b> . . . . .	<b>9</b>
<b>Part II</b> . . . . .	<b>31</b>
<b>Text</b> . . . . .	<b>49</b>
<b>Tables</b> . . . . .	<b>51</b>
<b>Select Bibliography</b> . . . . .	<b>62</b>



## INTRODUCTION

This volume consists mainly of reprints of two previously published papers, "The Tones of English", *Archivum Linguisticum* 15.1 (1963), 1-28, and "Intonation in English Grammar", *Transactions of the Philological Society* 1963, 143-169. Both have been slightly adapted, to render them more suitable for publication in the present form and to incorporate additions and corrections. To these have been appended a small amount of supplementary material: a short text of natural conversation, transcribed and marked for intonation and rhythm; some additional tables and displays, and a bibliography.

The variety of English described in this work is informal educated spoken Southern British. The work is based on a study of recorded texts together with an examination of my own usage as a native speaker. In articulatory features the speakers represented in the recorded texts varied within narrow limits, from "received pronunciation" in the strict sense, with no observable regional characteristics, to a form recognizably southern but still clearly acceptable as "standard British": roughly the range specified in the principal works of Daniel Jones and used as the basis for the teaching of English as a foreign language in areas where British English is taken as the model. There was no observable difference in the systematic use of intonation patterns by the various speakers.

The intention is to show the part played by intonation in spoken English: to suggest how intonation patterns may be described in such a way as to integrate them within the description as a whole. It is not implied that no further contrasts can be recognized other than those accounted for here. Those presented are the ones which have already been incorporated into a grammatical description, which however is open-ended in the sense that when other contrasts are systemized they can without difficulty be brought into the picture. The notation used is one which has been found adequate for this general descriptive purpose; it has also been found helpful on the occasions when it has been used in courses of English for foreign students.

The form of linguistic description adopted here is essentially that outlined in my paper "Categories of the Theory of Grammar", *Word*, 17.3 (1961), 241-292; this has since undergone considerable modifications in the light of further work by, and of extended discussion among, those associated with it. In the material included in the present volume, however, the attempt has been to make as little use as possible of



work not readily available, and to make explicit whatever general considerations were necessary to the understanding of the description.

Anyone working in the field of English intonation leans heavily on previous studies; the selection of items for inclusion in the bibliography reflects my own indebtedness to others. It will be clear also that some of the items listed have appeared since the papers in the present volume were first written. Of the many colleagues from whom I have benefited in discussions on the subject I should like to mention particularly Professor David Abercrombie, Mr. K. H. Albrow, Professor J. C. Catford, Professor Randolph Quirk, Professor J. McH. Sinclair and Mr. J. C. Wells; it should be said at the same time, however, that I alone am responsible for any controversial aspects of the present exposition.

## PART I

### 1

Natural conversation in "British Standard" English may be represented as involving continuous selection from a set of five tones. These five tones constitute a phonological system, at the primary degree of delicacy, that is both chain-exhausting and choice-exhausting. That is to say, connected speech can, it is suggested here, be analysed into an unbroken succession of tone groups each of which selects one or other of the five tones. For purposes of analysis, the selection can be regarded as discrete on both axes, both syntagmatically and paradigmatically: we can make a good description, that is, if we postulate that each tone group begins where the previous one ends, with no overlap and no hiatus, and that each tone group can be unambiguously assigned to one tone, this assignment thereby excluding all the other tones.

Descriptive statements in linguistics are best regarded as having "more/less" validity, "yes/no" being merely a special case of "more/less"; it is thus *a priori* likely that a small number of utterances in this variety of English lies outside this system. I can myself construct examples which may not be accounted for by it. But in the samples examined for the purpose of this study (of which the main sample, that subjected to exhaustive textual analysis, contained just under 2,000 tone groups) there were no tone groups which did not select one or other of the five tones.

Each one of the tones of course exhibits subdivisions, to be recognized when the analysis is carried beyond the primary degree of delicacy. Delicacy is a variable to which no theoretical limit can be set; nor is there yet any valid and objective means of measuring it. But in a phonological statement it is possible to be guided, in the choice of an appropriate degree of delicacy, by certain formal considerations. In describing English intonation, we let the grammar decide how delicate we should be. This is made possible by the relation between phonology and linguistic form. One should perhaps apologise for raising here the question of the status of the phonological description; but a minimum of discussion may be needed to clarify the subsequent statement.

The reason for recognizing phonology as a distinct "level" in descriptive linguistics is that it can in a sense be considered to provide a bridge between form and substance. In phonology we make a separate abstraction from phonic substance, and represent this in statements which show how the given language organizes its phonic resources in such a way as to carry (or "expound") its grammatical and lexical patterns. If we tie phonology directly to form, the result is likely to be either excessive complica-

tion or distortion. It is curious for example that although no linguist has ever suggested that all grammatical categories should be assigned direct phonological exponents — there is no language in which all *classes*, at every rank, are marked phonologically, though the linguist is naturally delighted when he finds a class that is so marked — it has been assumed by many that they must find direct exponents for the *units* of English grammar. But the view that phonological criteria, such as pitch and juncture, serve as direct markers of grammatical units such as morpheme, word and sentence is surely untenable; it may lead either to weak phonology or to weak grammar, sometimes both. Of course there is always an *ultimate* phonological exponent of formal categories and items: this is a requirement of linguistic description. But the “direct exponence” view, though preferable no doubt to an approach in which exponence is not explicitly stated at all, must give way to a recognition that exponence is, or may be, “indirect”, involving a long chain of abstraction.<sup>1</sup> If we really did use pauses, or pitch movements, to mark boundaries of grammatical units in English, the relation between the grammar and the phonology would be very much simplified.

Whenever we describe a language we are concerned with meaning, and all *contrast* in meaning can be stated either in grammar or in lexis. If we regard intonation in English as meaningful — if, for example, the choice between two possible utterances which differ only in that one has tone 1 and the other has tone 4 is a true choice between different utterances — then we should seek to state the place which such choices occupy relative to the total set of formal patterns in the language; and there are only two kinds of formal pattern: grammatical and lexical. It is not enough to treat the intonation systems as if they merely carried a set of emotional nuances superimposed on the grammatical and lexical items and categories.

The contrasts made by intonation in English are clearly not lexical. In this respect English differs from, say, Vietnamese: Vietnamese is a “tone language”, given that we define “tone language” as one in which intonation carries lexical meaning. English intonation contrasts are grammatical: they are exploited in the grammar of the language. The systems expounded by intonation are just as much grammatical as are those, such as tense, number and mood, expounded by other means. They are not even necessarily more delicate than the latter: some are and some are not. There is no difference *in the way they work in the grammar* between systems with direct phonological exponence, such as those carried by intonation, and those expounded indirectly through a long chain of grammatical abstraction.

Therefore, in a description of the grammar of spoken English, “intonational” and “non-intonational” systems figure side by side. They are not to be treated as systems of different types. Moreover since “intonational” systems operate at many different

<sup>1</sup> This of course depends on the purpose of the description. Automatic analysis, for data retrieval or machine translation, requires a description that keeps as close to “direct exponence” as is compatible with reasonable generality; but the description that is best for automatic analysis is unlikely to be the best for other purposes.

places in the grammar, they will not be isolated in a chapter by themselves, but incorporated throughout the description wherever appropriate. The decision whether a given system that happens to be expounded by intonation is to figure in the grammar or not is a grammatical, not a phonological decision; thus it is the requirements of the grammar that set the limits of delicacy on the phonological statement. The latter is just so delicate that it includes those sub-systems of each tone which are required for the grammatical description. This of course is merely pushing the problem one stage further back: a decision still has to be taken regarding the degree of delicacy of the grammar. In the present study the analysis of intonation has been carried to that degree of delicacy which has been reached at the grammatical level in the description of Modern English of which this work forms a part.

The view that phonological statements represent an abstraction from phonic data that is independent of the abstraction made at the formal levels, and that this status enables the linguist to describe more powerfully the exponents of the formal items and categories, does not mean that the phonology cannot be "polysystemic" in the sense that different phonological systems can be recognized to account for different sets of formal contrasts. One must however guard against neglecting likeness for the sake of, and in the course of, recognizing unlikeness. Since, for example, the contrast between tone 1 and tone 2 means one thing — that is, is doing one grammatical job — if the tone group coincides with a clause that is declarative in mood, and another if with a clause that is interrogative, it might be asserted that we should here recognize two distinct *phonological* systems. But phonetically the exponents are indistinguishable in the two cases; and their identity would be obscured, or the statement of it complicated, if two distinct phonological systems were set up. A more serious objection, however, is that unless one specifies "distinct phonological systems only where the *phonology* (as opposed to the formal levels) requires them" there is no telling where to stop. We will certainly be prepared to describe the "phonology of the verbal group" and the "phonology of the nominal group" in a given language if the phonological situation demands it; but not just because they are grammatically distinct — otherwise why not "phonology of the active verbal group" and "of the passive verbal group", and so on to the limits of delicacy? There would be no tone system in Mandarin Chinese: only as many systems as there were sets of lexical items distinguished by intonation. The rejection of the "phoneme inventory" view in favour of a "prepared-to-be-polysystemic" prosodic phonology rests on purely phonological grounds.

In English intonation we can, and I think should, set up a single independent phonological system irrespective of the very many different roles that are played by (different selections of) its terms in English grammar. Tone 1, for example, may be, and is, exponent of a number of terms each in a different grammatical system. But at the same time it is important to note that tone 1 is phonetically identical — that is, has the same range of phonetic variety — in all its uses. The concept of "tone 1" rests on an abstraction from the phonic data in which one has asked simply "is this distinction, which I can abstract from observations of the substance, *meaningful*: is it exploited

*somewhere* in the grammar or lexis of the language?" A mass of noise, or rather of observations of noise, is thus reduced to a relatively simple set of contrastive exponents.

## 2

In the description of English phonology we recognize here four units. These are, in descending order, tone group, foot, syllable and phoneme. They are related taxonomically as are the units of the grammatical rank scale: each one consists of one or more of the one below it. This therefore specifies a set of phonological constituent types parallel to, but not in one to one correspondence with, those of the grammar; and without the possibility of rankshift.<sup>2</sup> Thus each tone group consists of one, or of more than one, complete foot; and so on throughout.

The foot has been described by Abercrombie.<sup>3</sup> It is the unit of rhythm in English, and has a structure of two elements, "ictus" and "remiss", in that sequence: each ictus begins a new foot. The unit below the foot is the syllable, displaying the two primary classes "salient" and "weak": the salient syllable operates at "ictus" and the weak syllable at "remiss". Every foot contains the element "ictus", which may however be silent (have zero exponent) if the foot follows a pause or has initial position in the tone-group. A foot with non-silent ictus is referred to below as a "complete" foot. Not every foot contains the element "remiss". Thus each foot consists of one salient syllable, either alone or followed by one or more weak syllables (the maximum number in the sample was six); in addition a foot that is tone-group initial may consist of weak syllable(s) only. The structure of the foot can thus be symbolized as

$$I(R_1 \dots n),$$

with each place representing one syllable, including the possibility of silent beat at I; and elements in parentheses optional. The foot is characterized by *phonological isochronicity*: there is a tendency for salient syllables to occur at roughly regular intervals of time whatever the number of weak syllables, including zero, in between. In a small sample of loud-reading studied by Katherine Patch, the ratio of the average durations of one-, two- and three-syllable feet was shown instrumentally to be about 5 : 6 : 7. The fact that the foot and not the syllable is the unit of rhythm is referred to by Abercrombie, following Pike, as "stress-timing".

It is the foot which operates in the structure of the tone group. Like the foot, the tone group comprises two elements of structure: in the case of the tone group these are "tonic" and "pretonic". The element "tonic" is obligatory: it is present in every tone group; the element "pretonic" is optional: it may or may not be present. If the pretonic is present, it always precedes the tonic. Moreover it is defined relative to

<sup>2</sup> Cf. my "Categories of the theory of grammar", *Word*, 17.3, (December, 1961).

<sup>3</sup> See David Abercrombie, "Syllable quantity and enclitics in English", *In honour of Daniel Jones*. The term "salient" was suggested by Abercrombie (private communication).

the tonic: a tone group contains a pretonic if, and only if, there is at least one foot *with ictus not zero* (i.e. at least one salient syllable) before the beginning of the tonic. The reason for this definition of the pretonic will appear from what follows, but it may be summarized here: all primary tone contrasts are carried by the tonic, but some secondary contrasts are carried independently by an element preceding the tonic — these operate only, and always, if there is at least one salient syllable in this position.

Tonic and pretonic may each consist of one, or of more than one, complete foot. The reason for considering a tone group whose tonic consists of two or more feet as having *one* tonic (and not as many tonics as there are feet) is that selection of primary tone can be made once, and only once, in each tone group: except for tone groups with “double tonic”, in which it is made twice. There are thus two basic structures to be recognized for the tone group: one having single tonic and one, not necessarily less frequent but much more restricted in choice of tone, having double tonic. (In the latter, the first tonic can select only tone 1 or tone 5, and the second only tone 3.) In both structures a pretonic element may precede the tonic; there is never more than one pretonic, however, even in a “double tonic” tone group.<sup>4</sup>

Each tone group therefore has a structure consisting of either one tonic or two tonics, with or without pretonic preceding the (first) tonic. Each element, tonic or pretonic, may consist of one foot or of more than one. The structure of the tone group can thus be symbolized as

$$(P_{1\dots n})T_{(2\dots n)} \text{ or } (P_{1\dots n})T_{(2\dots n)}T_{(2\dots n)},$$

with each place representing one foot, and elements in parentheses optional.

Since each tonic can select only once for tone, and since the pitch movement of the tone selected falls largely on the first syllable of the first foot of the tonic, this syllable being almost always by itself sufficient to permit the tone to be identified correctly, it is tempting to use the term “tonic” to refer to all of three different things: a section of the tone group, a foot and a syllable. This may cause confusion, and it seems better to use distinct terms,

“tonic”: element in structure of tone group comprising one or more complete foot

“tonic foot”: first (complete) foot in tonic

“tonic syllable”: first (salient) syllable in tonic foot.<sup>5</sup>

Note that weak syllables occurring *before* the tonic syllable, but not preceded by a salient syllable in the same tone group (i.e. in foot with silent ictus), do *not* constitute

<sup>4</sup> Only the *first* tonic in a “double tonic” tone group can thus be preceded by a pretonic. This is in fact the reason why such tone groups, having tones 13 and 53, are regarded as single tone groups with double tonic, rather than as sequences of two tone groups: the fact that it is not possible for a pretonic to tone 3 to occur here following tone 1 or tone 5. Other very common sequences, as for example tone 4 followed by tone 1, are not considered as “double tonic” tone groups, precisely because any of the possible varieties of pretonic to tone 1 may occur in between the two tonics.

<sup>5</sup> “Tonic syllable”, or “tonic foot”, could be referred to by the familiar term “nucleus”. I have avoided this merely in order to stress the unity of the tonic element in the tone group.

a pretonic; they carry no separate contrasts and are “proclitic” in the tonic. In no case is a separate contrast carried by any feet *after* the tonic foot; the pitch movement is distributed over the whole tonic, and there is no “posttonic” element.<sup>6</sup>

What are often referred to as “four degrees of stress” are rather, at least in British English, structurally identified syllable classes whose exponents are marked by contrast not only (if indeed at all) in intensity but also in pitch and duration. Primarily (in delicacy), there are two classes of syllable: salient and weak. Since in each tone group one (in “double tonic” tone groups two) salient syllable is a “tonic syllable”, this gives a secondary distinction of salient syllables into “salient tonic” and “salient non-tonic”. In most examples cited by those who refer to four degrees of stress, primary stress seems to correspond to salient tonic and secondary to salient non-tonic — but these are not two sets of labels for “the same thing”, since the difference between salient tonic and salient non-tonic syllables is primarily one of pitch movement, and to the extent that other factors are involved the correlation seems to be with duration rather than with intensity.<sup>7</sup> Within the weak syllables there are a number of systems of secondary classes, involving not only “reduced/non-reduced” but also differences in duration correlating with number of syllables in the foot; the relation of “tertiary” and “weak” “stress” to these is difficult to discover and in any case not relevant to intonation.<sup>8</sup>

The following (textual) examples illustrate the various structures of the tone group. In these and all subsequent examples, conventional symbols are used as follows:

//	tone group boundary
/	foot boundary
_____	tonic syllable
^	silent ictus
...	pause
†	constructed example.

It follows from the relation among the units that each boundary subsumes boundaries of all units lower in rank: a tone group boundary, for example, must be also a foot, syllable and phoneme boundary. For the two units of lower rank, syllable and phoneme, orthography has been used instead of the complete phonological transcription, to avoid unnecessary complication and distraction from the main purpose. The underlining of the tonic syllable serves as the marker of the tonic, since everything following it (as well as any preceding weak syllables if no salient syllable precedes) falls within

<sup>6</sup> The exact way in which the pitch movement is distributed over the tonic depends on the tone. In general, a tonic with a single pitch movement tends, if extended, to flatten, whereas one with a change of movement tends to continue the movement in the final direction.

<sup>7</sup> What is often accounted for by “juncture” can, alternatively, be stated partly as foot and syllable division and partly (an important part) as rules for the relative duration of syllables in the foot. See Abercrombie, *op. cit.*

<sup>8</sup> It is thus a little misleading to ask anyone if he can “hear the four degrees of stress”. The answer may well be that he can hear, and tell apart, what are being *called* four degrees of stress, but would analyse them as something else; but the question is so framed as to preclude this answer.

the tonic. A pause is defined as silence which effects a break in the rhythm. Arabic figures at the beginning of each tone group indicate the tone; for further exposition of these, see below. Examples:

With tonic only:

Single:

//1 no //

//2 is that what you / mean //

//2 ^ are you / serious //

//4 ^ but the / candidates / don't get nine / grades //

Double:

//53 I didn't / think so //

//13 ^ oh it / does level / out in the / long run //

With tonic and pretonic:

Single tonic:

//1 this of course de/pends on the / country where they / live //

//1+ ^ I / thought / cats always / ate them //

Double tonic:

//13 ^ I / think the / rabbit was / more / prominent than they in/tended it to / be  
as a / matter of / fact //

To summarize:

In any tone group, if there is only one complete foot this must always be an exponent of the tonic. If there are two or more complete feet, the tonic may start at the beginning of any one of them — that is, at any salient syllable; and if there are any complete feet preceding the one at which the tonic begins, the tone group has a pretonic as well as a tonic element. Syntagmatically there are only two places in the tone group where tone contrasts can be made, one obligatory (the tonic) and one optional (the pretonic); primary tone contrasts are carried by the tonic, and distinct sets of secondary contrasts both by the tonic and the pretonic. No further contrast can be made after the tonic syllable;<sup>9</sup> everything following this forms part of the tonic, and has its pitch movement determined entirely by the tonic.<sup>10</sup>

<sup>9</sup> That is, within the same tonic; following a tonic of tone 1 or 5 there is the possibility of adding a second tonic, which must be tone 3. It should be emphasized that these statements refer to the analysis presented here; it is not being asserted that no further distinctions can be made in English, but only that these have not yet been brought within the framework of the total description.

<sup>10</sup> There is however sandhi: a tone 1 tone group usually rises in pitch at the end of the tonic if the first salient syllable in the next tone group (tonic or pretonic) is high.



The primary tone system is as follows:

Term in system:	Visual symbol:	Tonic movement:	Terminal tendency:
1	\	falling	low
2	{ / \	rising	high
		falling-rising	high
3	—	rising	mid
4	^	(rising-)falling-rising	mid
5	∨	(falling-)rising-falling <sup>11</sup>	low

Double Tonics:

Term in system:	Visual symbol:	Tonic movement:	Terminal tendency:
13	\—	(as tone 1 plus tone 3)	
53 <sup>12</sup>	∨—	(as tone 5 plus tone 3)	

For the purposes of the present analysis the following secondary systems are recognized:

A: Secondary systems at tonic

Term in primary system:	Term in secondary system:	Transcription symbol:	Visual symbol:	Tonic movement:
1	{ 1 wide	1+	\	high to low
	{ 1 medium (neutral)	1	∖	mid to low
	{ 1 narrow	1—	∖	mid-low to low <sup>13</sup>
2	{ 2 straight (neutral)	2	/	rising to high
	{ 2 broken	<u>2</u>	∨	high falling-rising to high
4	{ 4 high	4	^	falling to mid, rising
	{ 4 low	<u>4</u>	∨	falling to low, rising
5	{ 5 high	5	∨	rising to high, falling
	{ 5 low	<u>5</u>	∨	rising to mid, falling; “breathy”.

<sup>11</sup> Underlining indicates the part of the movement which carries the greatest intensity. The initial movement shown in parentheses is an optional on-glide.

<sup>12</sup> To be read “one three”, “five three” (not “thirteen”, “fifty-three”).

<sup>13</sup> The criteria for the three terms in this system are in fact as follows: in 1 (neutral), the tonic starts on the same pitch as the final syllable of the pretonic (or proclitic weak syllable); in 1+, it starts at a higher pitch and in 1— at a lower pitch.

## B: Secondary systems at pretonic (∩ indicates pretonic-tonic boundary)

Term in primary system:	Term in secondary system:	Transcription symbol:	Visual symbol:	Pretonic movement:
1	1 even (neutral)	1		stepping towards point of onset of tonic <sup>14</sup>
	1 bouncing	-1		each salient syllable low, foot movement rising
	1 listing	...1		each salient syllable mid, foot movement rising
2	2 high (neutral)	2		high level (may step down with neutral tonic)
	2 low	-2		low level
3	3 mid	3		mid level
	3 low	-3		low level
4	4 high	4		high stepping to mid
	4 low	4		each salient syllable mid, foot movement falling

The last of these, the pretonic secondary system at tone 4, is in fact not an independent system, since the choice of pretonic is entirely determined by the choice of tonic: hence the use of the same names "high" and "low". It is included here, however, in order to show the two distinct pretonic pitch movements involved, without which the account of possible pretonics would not be complete.

It is clear that out of this fairly simple inventory of systems, which involve only one step beyond the primary degree of delicacy, very considerable possibilities already emerge in the choice of tone. The primary selection is among five (or, if the tone group has more than one complete foot, among seven); but the selection of tone 1 is in fact a decision to choose between three possible tonics each of which may combine with any of three possible pretonics. There are of course probability restrictions on the combination of tonic and pretonic: the "bouncing" pretonic to tone 1, for example, exerts a strong pull towards the "wide" tonic. (The case of tone 4, mentioned above, is merely a special case of this where the probability concerned is equal to certainty.) Similarly, there are probability restrictions on the combination of tone with other, non-intonational grammatical features: for example, the "listing" pretonic to tone 1 is largely confined to the occurrence of two or more items of the same *unit* (usually word, group or clause) and the same *class* operating (except in the case of the clause) as exponent of *one* element in the structure of the unit above

<sup>14</sup> In general, the neutral pretonic remains fairly level (mid-high) before the neutral tonic, works up towards the 1+ tonic and down towards the 1-.

(e.g. three nominal groups as subject). But the choice of tone is not determined by other grammatical features; on the contrary it is, as we shall see below, an independent grammatical selection in its own right. It is therefore not surprising that the vast majority of utterances in English could be replaced by other utterances, distinct in formal and contextual meaning, which differ only in tone. In some cases only certain of the tones are possible, but it is not difficult to construct utterances which can vary through all seven primary tones, and many secondary ones as well, all other features remaining constant. For example:

†// Peter's / helping them / now //

as one single tone group, with tonic beginning at *Peter* (and second tonic, where appropriate, at *now*), can be spoken on all seven primary tones. When in addition the secondary tones, the tone group boundaries, the startingpoint of the tonic, and even the rhythm are allowed to vary, the number of possible utterances becomes very large indeed.<sup>16</sup> But this number is simply the product of the interaction of different systems each of which, taken by itself, represents a choice among only a very small number of contrasting terms.

## 4

It can be seen, therefore, that in any utterance in English three distinct meaningful choices, or sets of choices, are made which can be, and usually are, subsumed under the single heading of "intonation". These are: first, the distribution into tone groups — the number and location of the tone group boundaries; second, the placing of the tonic syllable (in "double tonic" tone groups, the two tonic syllables) — the location, in each tone group, of the pretonic and tonic sections; third, the choice of primary and secondary tone. I propose to call these three systems "tonality", "tonicity" and "tone". The three selections are independent of one another. They are not of course independent of the system of rhythm, the distribution of the utterance into feet: as long as the rhythm is kept constant, the number of possible choices in the second system, that of tonicity, is equal to the number of salient syllables — that is, the number of "complete" feet as defined above.

It has sometimes been suggested that the division of an utterance into tone groups is congruent with its division into grammatical units. There is no agreement, however, as to which of the grammatical units is co-extensive with one tone group; and this is not surprising, since in fact the tone group bears no fixed relation to any of the grammatical units of spoken English. There is a tendency for the tone group to correspond

<sup>16</sup> With tonality and rhythm constant, and taking into account only tonic and not pretonic contrasts, the number of tonal possibilities for any tone group, at the degree of delicacy specified here, is  $5n(2 + \frac{n-1}{2})$ , where  $n$  is the number of feet.

in extent with the clause; we may take advantage of this tendency by regarding the selection of one complete tone group for one complete clause as the neutral term in the first of the three systems. That is to say, a clause which consists of one and only one complete tone group will be regarded as "neutral in tonality".<sup>16</sup>

But in fact the tone group is regularly more than one clause, and also regularly less than one clause; in these cases it is most frequently two (occasionally more) complete clauses in one sentence or one complete group in a compound clause.<sup>17</sup> It does not even necessarily correspond to any grammatical unit at all: it may, for example, extend over the final element in one clause and the whole of the next. What matters is to recognize that two utterances, distinct in meaning, may be identical in every respect except that one consists (say) of one tone group and the other of two or even more — quite apart from the other possibility, that each consists of (say) two tone groups but with the boundary at a different place. Both these distinctions are contrasts in tonality.

For example:

//1 this of course de/pends on the / country where they / live //

commutes with

†//1 this of course de/pends on the //1 country where they / live //

and this in turn with

†//1 this of course de/pends on the / country where they //1 live //

The three systems, tonality, tonicity and tone, play different roles in English grammar. But in any given utterance they are of course operating in interaction with one another, so that we cannot always give a clear account of the meaning of a particular selection in one system in isolation from the others. Moreover it is *not* the case that a given selection always carries the same grammatical meaning. The grammatical meaning of tone 2, for instance, is quite different if the clause which carries it is declarative in mood from what it is if the clause is interrogative; and both differ from its meaning if the clause is a minor one (without predicator). Furthermore, tone 2 with one type of interrogative clause has a different meaning according to whether the tonic begins on the initial element in the clause or on the final element.

If therefore we attempt a summary of the place of intonation in the English lan-

<sup>16</sup> The fact that, since a tone group boundary must be also a foot boundary, it does not necessarily coincide exactly with the boundary of the clause is immaterial; it is always clear whether or not there is an equivalence of clause and tone group. In any case it must be insisted that the location of the tone group boundary is a theoretical decision: the best description is obtained if a new tone group is considered to begin at the foot boundary immediately preceding the first salient syllable of its tonic or pretonic, as the case may be. But what matters is that the boundary between any two tone groups can be shown to lie within certain limits, so that it is clear how many tone groups there are in any stretch of utterance, and where — that is, in association with which elements of grammatical structure — their contrasts are made.

<sup>17</sup> "Compound" means "consisting of more than one member of unit next below"; a compound clause is one whose structure is made up of two or more groups.

guage, what we are summarizing is in fact the grammatical systems that are expounded by the phonological systems of intonation. What we can abstract as common to the grammatical meaning of a given choice in one of the (phonological) intonation systems may be extremely limited; it may in fact be nothing at all. In the brief account that follows, the attempt has been made to discuss the major contrasts carried by the three systems each in turn; but it must be remembered that the statements made are only conditionally valid. That is to say, it is only in the context of their occurrence in combination, both with each other and with grammatical systems *not* expounded by intonation, that we can fully account for the operation in English of tonality, tonicity and tone.

## 5

In tonality, the choice is that of the number of tone groups in the utterance. If, as suggested above, we regard the occurrence of one tone group for each clause as “neutral” tonality, then we need state only the conditions under which the selection is other than neutral. “Each clause” here means “each clause operating in sentence structure”; for rankshifted clauses the “neutral” is to share a tone group with the rest of the items in the same (non-rankshifted) clause. There are then two “marked” possibilities: that the tone group is more than one clause, and that the tone group is less than one clause.

The former arises principally in two types of sentence (actually sequences of elements of sentence structure linked by presupposition): reporting clause followed by reported clause, and conditioned clause followed by conditioning clause.

For example:

//4 ^ but I / don't see / why they should lose / marks for / this //

//1 ^ I / think ... you'll / find that it's / just that it's / new //

//4 ^ it's / all right if you're / photo/genic //1 what / happens if you're / not //

//4 ^ this / wouldn't count a/gainst you when you / did your / maths paper //

If a conditioning clause precedes the conditioned clause which it presupposes, the two may still sometimes share a single tone group; usually, however, sentences of this structure have neutral tonality, with a tendency for all clauses except the last to select tone 4; for example

//4 ^ and and / since the / credit mark is a / hundred //1+ ^ you / couldn't very well / mark out of a / hundred //

Similarly in the sequence conditioned — conditioning, there may be neutral tonality:

//1 ^ per/haps it's / easier when you're //1 marking / language //

The fact that in general relative clauses do not take a separate tone group whereas adding (so-called “non-defining relative”) clauses do is merely consistent with

neutral tonality: relative clauses are rankshifted and do not operate in sentence structure, whereas additioning clauses are not rankshifted and therefore do enter into sentence structure. Compare for example:

//1 ^ in / fact you / end / up with a / pure / culture of / something you / didn't /  
start with //

//1 ^ if you've got / something that / grows / rapidly it / kills off the / other thing /

with

//1 ^ I'm / marking a / thousand ... //4 ^ of which / three are from / home centres  
and ... //

The second possibility, where the tone group is less than one clause, occurs mainly with the break (into two tone groups) coming after the first element of clause structure other than fully grammatical elements: that is, the first element that contains a lexical item. In other words, the break occurs after the theme.<sup>18</sup> A declarative clause with subject first is "neutral" in theme; any element, other than a fully grammatical item, occurring before the subject in declarative clause is "thematic". While a break into two tone groups can occur between any two elements of clause structure, and any one element may be assigned a tonic and therefore demand a new tone group, lexical adjuncts and complements in thematic position are particularly likely to carry a separate tone group: they are already marked by sequence, being away from their neutral position after the predicator, so that with marked tonality their thematic status is further reinforced. (Notice however that the two selections are independent: a marked theme does not necessarily carry a separate tone group, nor is it the case that the only place where a clause can break into two tone groups is immediately after the theme.) Examples:

(with break after unmarked theme)

//4 all the / dialect forms are //1+ marked / wrong //

(with break after marked theme)

//4 ^ but / in A/merica they they //1 layer / things //

(with break other than after theme)

//4 ^ they can / change / overnight / then //1 ^ into / something com / pletely /  
different /

A break other than after the theme is most commonly found immediately before a clause-final adjunct, as in the above example.

Selection for tonality can be regarded as the distribution of "information units", though if this view is taken it is important to keep in mind the relation of tonality to

<sup>18</sup> See my "Syntax and the consumer", *Georgetown University Monograph Series on Languages and Linguistics* 17 (1964), pp. 18-20.

clause structure, and to the various other systems operating at the rank of the clause. Each tone group is then considered to contain one major information point, “double tonic” tone groups having one major followed by one minor. The minor information point is frequently associated with final adjuncts (the clause thus having neutral tonality), for example:

//13 ^ it / seems / odd though to / me //  
 //1 + 3 ^ they they / change peri/odically //

(note that 1 + 3 is not “1 plus 3” but “13 with tone 1 wide”)

or with conditioning clause following conditioned (this being marked tonality, since the two clauses share one tone group), for example:

//13 ^ they don't / have to / move if they / only take in / food like / that //

But these are not the only possibilities, and a minor information point may occur on any element of structure that is in suitable position in the tone group.

//13 ^ it was a / live / broadcast //  
 //13 ^ no / I saw the / first one //

## 6

The system of tonicity is clearly linked to the preceding system: the choice of how many tone groups, and where their boundaries are, goes a long way towards determining the choice of how many tonics, and where they are located. But it does not go the whole way; we can still vary tonicity while keeping tonality constant.

In tonicity also, we can recognize a neutral term. A tone group is neutral in tonicity if the tonic falls on the last element of grammatical structure that contains a lexical item. In fact this could be formulated even more simply by direct reference to lexis: the tonic, in neutral tonicity, falls on the last lexical item in the tone group. The statement in terms of structure is, however, more accurate, and makes the statement of marked tonicity easier.

If the tone group is a clause, “last element of structure” means of course last element of clause structure; so also if the tone group is more than one clause. If it is less than one clause, “last element of structure” can be taken to refer to “last element of group structure”. No contrasts of tonicity within the word occurred in the texts, though it is easy to construct them. For purposes of discussion we need consider tonicity only in relation to neutral tonality: what is said applies, *mutatis mutandis*, to tone groups that are more or less than a clause.

In neutral tonicity, then, the tonic begins at the final element of clause structure unless this contains only “fully grammatical items”: that is, on final adjunct (if any) other than items such as *there*, *to him*; otherwise on complement (if any) other

than personal pronouns or items such as *it*, *some*, and the substitute *one*; otherwise on predicator (if any) other than those consisting of auxiliaries only or with the substitute *do* (unless the subject is a pronoun, in which case even a fully grammatical predicator — one consisting only of fully grammatical items — will, if final in the clause, carry the tonic). Any other placing of the tonic is “marked” tonicity. Examples of neutral tonicity are:

//5 ^ I / very often / meet him in the / square //  
 //2 did they ever / get a / hundred per/cent //  
 //1 ^ how / long do these / changes / take //  
 //1 ^ they / grade them //  
 //1+ ^ that's / why it's so / awful to / have to get / rid of it //  
 //1+ ^ I was / just going to sug/gest that ... you / left home / after / Michael / did then //

Marked tonicity occurs, in general, under either (or both) of two conditions. Either some element other than the one just specified is “contrastive”; or the element just specified (and possibly also other elements before it) is “given” — has been mentioned before or is present in the situation. An element marked by tonicity as contrastive may, of course, be either a lexical element that is not final or a final element that is not lexical. Examples of marked tonicity are:

//1 what / happens if you're / not //  
 //4 ^ it / may be that it's //1 just the / general / rule that //1 all the / G.C.E. / papers have to be / marked out of / two / hundred //

There is one clause class in which the tonic so regularly (at least with one of the tones) begins *before* the final lexical element that, although such a clause can still be regarded as marked in tonicity, it needs to be specially mentioned. This is the class “interrogative clause” (in the system of “mood”: see below), secondary class “non-polar” (the “WH-” or “information questions”). The neutral tone for this class (see below) is tone 1; items in this class can however be marked for tone by the use of tone 2. If so, they carry a distinct (and unique) two-term sub-system of tonicity: either the tonic is in its usual place on the final lexical element, or it starts on the interrogative element (the “WH-” item). The interrogative element in this structure has thematic position, the theme in such clauses being naturally the “unknown” item. The second type, or “echo question”, is therefore a special instance of the tonic starting on the thematic element in clause structure; in the case of this class of interrogatives the contextual meaning is “I have forgotten”, “I didn’t hear” or “I don’t believe you”. For example:

(neutral tone)

//1 ^ and / where's / he from //

(marked tone, neutral tonicity)



//2 ^ oh / what did they / say //

(marked tone and tonicity) (echo question)

//2 what's it / called //

A final set of (contracted) examples may be used to illustrate the range of variety afforded by the two systems of tonality and tonicity.

Neutral tonality:

Neutral tonicity:

†//1 ^ there's a/nother one in the / kitchen // (one information point, major)

†//13 ^ there's a/nother one in the / kitchen //

(two information points, major and minor)

Marked tonicity:

†//1 ^ there's a/nother one in the / kitchen //

Marked tonality:

†//1 ^ there's a/nother one in the //1 kitchen //

In the first instance, the information point is on the final element, which is therefore “new” but not contrastive: in the second, *another* is contrastive, but *kitchen* is retained as a minor information point. In the third instance, *kitchen* is marked as given — the previous one was also in the kitchen; in the fourth, *kitchen* is a major information point in addition to the contrastive *another*, suggesting that the previous one was not in the kitchen.

7

Any discussion of the place of the tone system in English starting from the phonological end — asking not “how are these grammatical systems expounded?” but “what grammatical systems do these tones expound?” — can only be partial, since in the last resort the comprehensive grammatical statement is presupposed as explicit throughout. Here the initial step is taken of ranging the tones in grammatically contrastive sets, with labels to assist identification. It seems simplest to start from the clause system of “mood”, since this determines which tone is neutral in a given instance. There are three terms in the mood system: declarative (subject before predicator), interrogative (subject, unless “WH-”, after first word of predicator), and imperative (with no subject); in contrast with all these are minor clauses which are so to speak “moodless”. This is a primary system (first degree of delicacy); for tone, however, we have to distinguish within interrogative mood, at one further degree of delicacy, the secondary classes of “polar” and “non-polar” — “polar” being the “yes-no” or “confirmation” interrogative, non-polar the “WH-” or “information” interrogative.

*Tones 1 and 2 in contrast*

Tone 1 can be regarded as neutral for all terms in the mood system except polar interrogatives. Leaving aside the latter for the moment, we will first consider the systemic contrast between neutral tone 1 and marked tone 2. If we take the total set of contextual sentence functions to be “statement”, “question”, “command”, “answer”, and “exclamation”, the mood system combines with these tones to operate normally as follows:

(1) *Affirmative clauses*

Tone 1: statement or answer (neutral)

Tone 2: statement or answer (contradictory) (“challenging”, “aggressive”, “defensive”, “indignant”, etc.).

//–2 I don’t / know // (in reply to “how extraordinarily inefficient”)

A declarative clause on tone 2 seems to be (at least in British English) only rarely a question, in spite of the frequent assertion that this is a regular way of forming questions in English. There are no examples in the texts of a tone 2 (or any other) declarative clause as question. Minor clauses on tone 2, on the other hand, are frequently questions.

(2) *Imperative and minor clauses (except “WH-” minor)*

Tone 1: command (imperative), answer (minor) or exclamation: (neutral)

Tone 2: question (less often, but especially in negative, contradictory answer or negative command)

//2 right / length // (in reply to “it’s about the right length”)

//2 seven // (in reply to “they start at seven in America don’t they?”)

(3) *Interrogative clause (non-polar) and “WH-” minor clause*

Tone 1: question (neutral)

Tone 2

(a) tonicity neutral (final element tonic): request question (“I’d like to know”)

//2  $\wedge$  oh / what did they / say //

(b) tonicity marked (WH- element tonic), repeat or “echo” question (“I’ve forgotten”, etc.)

//2 what’s it / called //

In “WH-” minor clause this distinction is neutralized, since the WH- element is the only, and therefore also the final, element. An example of the (b) type in the text is:

//2 how many // (in reply to “you’ve got probably about six foot of intestine I suppose—all coiled up”)

By contrast for polar interrogatives tone 2 is neutral:

(4) *Interrogative clause (polar)*

Tone 2: question (neutral)

Tone 1: demand question (“I insist on knowing”; “I disapprove”; “admit it!”)

//1 did you now //

A special secondary class of polar interrogative clause is the tag, which displays a sub-system of its own according to whether the polarity of the preceding clause is kept constant or reversed. The four common types are illustrated here by constructed as well as textual examples:

**Polarity reversed**

Tone 2: question (neutral) (“I think I know the answer”)

//1 ^ and in fact / most of the / Zoo department were / there //2 weren't they //  
 †//1 Jack's been here //2 hasn't he //

Tone 1: demand question (“I know the answer; admit it!”)

//1— ^ this / isn't quite / true //1— is it //  
 †//1 Jack's been here //1 hasn't he //

**Polarity constant**

Tone 2: echo statement (“I've just gathered”)

//1 used to be ... the / habit in / China //2 did it //  
 †//1 Jack's been here //2 has he //

Marked tonality; tag forming one tone group with preceding clause

Tone 1: echo statement (“I've just learnt”; “I see”)

†//1 Jack's been here / has he //

*Tones 1, 3 and 5 in contrast*

Declarative and minor clauses, and rarely polar interrogative clauses, are marked in a different system by the use of tone 3 and tone 5. It is useful to distinguish two sub-systems, of which the first, where the clause is short and the tone group usually consists of tonic only, is the more common of the two.

(5) *Minor clause; short declarative (or polar interrogative) clause (no pretonic)*

Tone 1 (Tone 2 if interrogative): answer (etc.) (neutral).

Tone 3: non-committal answer (“disengagement”; “unconcerned”, “discouraging”)

//3 six / foot //3 I dont' / know // (in reply to “how many” in (3) above)  
 //—3 ^ it's / quite / long e/nough //

Tone 5: committal answer (“involvement”: “assertive”, “superior”, “encouraging”)

//5 ^ I / certainly / do //  
 //5 ^ it / did //  
 //5 ^ it's / very / interesting //  
 //5 ^ oh I'm / sure it / was //

(6) *Declarative clause* (With pretonic)

Tone 1: statement (neutral)

Tone 3: statement (confirmatory, dependent) (“this is not the whole of it”, “I confirm what you have just said”)

//3 that's / right //  
 ...//3 ^ and he / mentioned his / name and //...

Tone 5: statement (unconditional, independent) (“I’m telling you!”)

//5 ^ he was a / very / famous / man //  
 //5 look what / I've made //

The special use of tone 3 following tone 1 or tone 5 in “double tonic” tone group has been mentioned above. The “double tonic” tone groups form a small system of their own:

(7) *Declarative clause with final adjunct* (or other instances of major followed by minor information point)

Tone 13: statement (neutral)

//13 ^ though I / don't think it / can be come to / think of it //  
 //13 ^ I / don't know / why they / do it //  
 //13 ^ no / I saw the / first one //  
 //13 ^ well they / haven't you / see but then //

Tone 53: committal statement (“assertive”, “forceful”)

//53 I didn't / think so //  
 //53 ^ they / do in / some uni/versities //

*Tones 1 and 4 in contrast*

In the samples studied, tone 4 was the next most frequent after tone 1. The contrast between the two is best stated in terms of two distinct systems, in one of which tone 1 is the neutral term and in the other tone 4.

(8) *Declarative or minor clause*

Tone 1: statement or answer (neutral)

Tone 4: statement or answer with reservation (“there’s a ‘but’ about it”)

//4 ^ I / don't know / whether it's / true //  
 //4 ^ no there / was a / Russian in the / first one //  
 //4 ^ yes ... I I / don't think you can / do much a/bout it //  
 //4 ^ but the / Japa/nese did it //

- (9) *Conditioning clause preceding conditioned clause* (or thematic element in clause structure having separate tone group)

Tone 4: neutral (forward linking)

//4 if its / father was a / mathema/tician then it //4 obviously was //1+ going to  
 get a / hundred percent in / maths //  
 //4 ^ in the / case of the / British ... e/xam //4 ^ say in / Russian a/gain //1 ^ I  
 don't know / whether it / does //  
 //4 ^ oh the ma/terial was //5 excellent //

Tone 1: (discrete)

//1 ^ after / all this is a //1+ great / puzzle //

Tone 1 here is limited in the texts to a small set of adjuncts including *anyway*, *in any case*, *of course*. Contrast (a) sequences of linked free clauses and (b) clauses with more than one tone group but no marked theme, such as the following, in which tone 1 is neutral:

- (a) //1 last night's was re/corded ... and em ... //1 ^ they / got they / ran over /  
time and //1 had to cut / various things / out and //1 cut down what / people  
 were / saying and //  
 (b) //1 well you see / he'd just / organized a / big em sym/posium in //1 Moscow  
 //1 couple of / years back on the //1— origin of ... / life on / earth //

### *Secondary Systems*

- (10) *Tone 1, tonic*

Tone 1: new non-contrastive (neutral)

Tone 1+: new contrastive

Tone 1—: given

//1 no in fact the //1+ smaller ones / eat the / bigger ones //  
 //1+ ^ I / don't know / whether it / does level / up //  
 //1— ^ perhaps / so //  
 //1— ^ I'm / not / sure that it's / worth it //

- (11) *Tone 1, pretonic (a)*

Tone 1: neutral

Tone -1: forceful

//-1 + ^ it's / rather / interesting //  
 //-1 + ^ and / this is a / bit / hard //

(12) *Tone 1, pretonic (b)*

Tone 1: neutral

Tone ...1: listing

//...1 ^ it's grade / one / two / three to / nine //  
 //...1 ^ of / vitamins and / this and / that and ... / sugars and / salts and ...

(12) *Tone 2, tonic*

Tone 2: neutral (question)

Tone 2: "new" question ("point of query new or shown as information point"; "element of surprise")

//2 ^ and / do they give the / lectures over / tele/vision in //2 stead of / live //  
 //2 is your / flat / furnished / by the uni/versity //  
 //2 did you see the / first //

(13) *Tone 2, pretonic*

Tone 2: neutral (question)

Tone -2: "given" question ("point of query given"; "element of casualness")

//-2 was this de/liberate //

(14) *Tone 3 (pretonic) (see 5 and 6 above)*

Tone 3: neutral (dependent or confirmatory statement or answer)

Tone -3: casual (non-committal statement or answer)

//-3 ^ they / just find a / comfortable / place in your / gut and they //-3 stick  
 their / hooks in and //1 stay there //

(15) *Tone 4*

Tone 4: neutral

Tone 4: contrastive

//4 no worse than / anyone / else //  
 //4 seemed to / think it was / very / good //  
 //4 ^ but he / wasn't / serious a/bout it //  
 //4 ^ well ... they / did when / I did it //

The set of phonological systems in English that are referred to collectively as "intonation" can be summed up in broad terms as follows:

Tonality marks one kind of unit of language activity, and roughly where each such unit begins and ends: one tone group is as it were one move in a speech act.

Tonicity marks the focal point of each such unit of activity: every move has one (major), or one major and one minor, concentration point, shown by the location of the tonic syllable, the start of the tonic.

Tone marks the kind of activity involved, by a complex pattern built out of a simple opposition between certain and uncertain polarity. If polarity is certain, the pitch of the tonic falls; if uncertain, it rises. Thus tone 1 is an assertion, or a query not involving polarity; and tone 4, which falls and then rises, is an assertion which involves or entails some query. Tone 2 is a query, 2 being a query about a specific assertion; and tone 5, which rises and then falls, is a dismissed query, one countered by an assertion. Tone 3 avoids a decision; as an assertion, it is at best confirmatory, contingent or immaterial.

Such a summary has, clearly, a very limited value. It may be useful if only as a reminder that no very precise statement can be made of the "general meaning" of English intonation: the meaning of a choice of tone is bound up with other grammatical choices in the utterance. But the first step is to display the range of choices available; and here I have tried to show how the study of texts in spoken English may help to throw light on the contrastive use of intonation resources, and how this in turn may contribute to the analysis of the resources themselves. The alignments suggested here are as it were pregrammatical; the next step is their organization into grammatical systems.

The phonological contrasts treated here have been presented as systems of discrete terms: this applies both to the phonological systems themselves and to the grammatical contrasts in which the phonologically identified terms act as exponents. It is possible to describe English intonation in this way, and justifiable on the grounds that in present-day linguistic theory we can handle discreteness more effectively than non-discreteness, at least at the level of grammar. So for example it is useful to recognize a three-term secondary system at tone 1, having the terms  $1+$  and  $1-$ , because by selecting a criterion which yields clearly differentiated exponents we keep the terms discrete. But this discreteness is, at least in some cases, arrived at by a more or less arbitrary cutting of the continuum; and if the theory of grammar can be extended to include systems which are not made up of discrete terms but rather form a gradient, systems expounded by intonation will be the first to be reexamined. We should not, however, wait until then before bringing such systems fully within the scope of the description of English grammar.

## PART II

### 1

In Part II suggested a possible form of phonological statement for English intonation, such as might be found suitable for the purpose of describing the grammar of the spoken language. The description was based on the analysis of recorded texts of natural conversation in educated British English, supplemented by observations of speech events in daily life and by an examination of my own usage as a speaker of the language. Intonation was analysed as a complex of three phonological systems, or (more accurately) systemic variables: tonality, tonicity and tone; these in turn being interdependent with a fourth, that of rhythm. This required the setting up of three phonological units in hierarchical relation: tone group, foot and syllable; and the recognition, within the tone group, of tonic and pretonic elements of structure. Rhythm was concerned with the operation of syllables in foot structure; tonality and tonicity with the operation of feet in tone group structure. Tone was the selection by the tone group from a set of systems characterized by contrastive pitch movement and interrelated in delicacy.

The phonological categories were then provisionally ordered on the basis of meaningful grammatical contrasts, the attempt being to suggest how the phonological resources of the language are distributed into a number of sets of contrastive terms, each such set representing one grammatical selection. The aim of this part is to take the next step: to establish the sets of contrasts as grammatical systems, referable to and in mutual definition with other grammatical systems set up for the total description of the language. In other words, while Part I was so to speak looking from the phonological end, the question being "what are the phonological resources of intonation that expound grammatical meaning?", in Part II, I am attempting to look at the same patterns from the grammatical end, asking "what are the grammatical systems that are expounded by intonation?" The statements made here depend on, and form a part of, a more general study of English grammar; it should be stressed that no claim is made that the description of intonation is complete, in the sense of exhaustive in delicacy. The attempt is rather to suggest what light may be shed on the nature and function of English intonation by its treatment within the framework of the grammar of the language.

Under the heading of "systems" are included, for purposes of this discussion, not only grammatical systems properly so-called but also a few other sets whose members



are differentiated by intonation. A system is a set of classes whose members contrast in respect of a single property, such as the classes "singular" and "plural" in the system of "number"; most of the contrasts shown here as expounded by intonation features are systemic in this sense. In some cases however it seems useful to indicate where intonation features distinguish sets which do not directly contrast in this way. Such instances are of two kinds: those where the contrasting sets are related only through a chain of systemic relations (nos. 4, 6, 14), and those where a grammatical system is not itself expounded by intonation but includes sub-sets whose members are distinguished by intonation alone (nos. 10, 11, 20).

The convention adopted in the presentation of the systems is as follows:

(serial number) *system*: term—exponent // example //; term—exponent // example //.

Constructed examples are used throughout, to simplify the display of systemic contrast. In some instances explanatory material is added in parenthesis; since this is intended primarily as an aid to the identification of the items concerned it has been formulated in reference to the specific examples, rather than in the more lengthy form that would be necessitated by a general explanation.

Of the systems expounded by intonation in English, the majority are referable to one particular grammatical unit, the clause. The remainder are of two kinds: those referable to one of the two adjacent units, the sentence or the group; and those whose terms represent precisely a choice among different relations between the clause and an adjacent unit, such as the choice between a sentence having two elements of structure (and thus consisting of two clauses) and one having only one.

In a general description of English grammar it seems preferable to consider systems expounded by intonation as in no way different from other grammatical systems; their place in the description is determined by the total picture, so that those referable to the sentence will be described in relation to other systems of the sentence, and so on. Here, however, where the intention is to summarize the grammatical values of intonation, it is simpler to relate all systems in the first place to the clause; those which are not directly referable to the clause can be shown to be derivable, by generalization across grammatical units, from those that are. An analogy may be found with other systems such as polarity and tense-aspect, which are also referable to more than one grammatical unit.

It is thus convenient to take as the startingpoint the syntagmatic equivalence of clause and tone group, in the sense that the unmarked value of the phonological unit "tone group" will be that it is exponent of the grammatical unit "clause". The condition of coextensiveness of one tone group with one clause is referred to as "neutral tonality". This does not imply that neutral tonality, in a grammatical system where it contrasts as exponent with "marked tonality", always necessarily expounds an unmarked term; there are indeed systems in which a grammatically unmarked term is expounded by marked tonality. Neutral tonality is a postulate which simplifies the descriptive statement: it means in effect the isolation of one variable, which can then be separately examined.

In the same way, another variable can be isolated, that of “tonicity” or location of the tonic, and a “neutral tonicity” postulated. Again, neutral tonicity does not necessarily imply a grammatically unmarked term; it is simply a name for the condition that the tonic begins on the final lexical item in the tone group.

It is impossible to “define” the clause in abstraction from a total grammatical description; the clause is that unit which enters into sentence structure and whose own structure is stated in terms of (classes of) the group. But for recognition purposes a clause is any item whose parts enter into clause-type structural relations: this means any item in which can be identified any two or more of the elements subject, predicator, complement, adjunct and “absolute” nominal, and with certain restrictions only one such element. The predicator may be either a finite or a non-finite verbal group; moreover not every clause contains a predicator.

No attempt has been made here to present the full grammatical framework within which the intonation-expounded systems operate; this would require nothing less than the comprehensive description of the grammar of the language. But grammatical notes have been added where these might help to show the range of operation of the systems concerned. The sequence in which the systems are presented is determined by the desire for clarity; the general pattern is: first, systems expounded by tonality; second, those expounded by tonicity; third, those expounded by tone.

## 2

(1) *Information Distribution*: one information unit—tonality neutral // I saw John yesterday //; two information units—tonality marked (two tone groups) // I saw John // yesterday //.

If, however, the clause has marked theme (complement or lexical adjunct preceding the subject), “two information units” represents the grammatically unmarked term:

(1.1) // John // I saw yesterday //, // in those circumstances // I would agree //;  
// John I saw yesterday //, // in those circumstances I would agree //.

This system also operates in compound sentences (those consisting of more than one clause). Here its operation depends on sentence structure: on whether the elements are related (a) in dependence (non-transitive depth-ordering), specifically (i) as in *I came because he told me*, (ii) as in *he said was coming* or (iii) as in *John, who arrived late, missed the speeches*; or (b) in co-ordination (transitive depth-ordering), specifically (i) by linking, as in *I asked him and he told me*, or (ii) by apposition, as in *that’s another thing; I don’t know yet*.

In (a) (i), the system operates as in clause structure:

(1.2) // I came because he told me // (= “that’s why I came”; *I came* is “given”),  
// I’m leaving now to catch the train //; // I came // because he told me //, // I’m leaving  
now // to catch the train //.

Note that the potentiality of operation of this system is a structural criterion. If *he came to hear about it* is one clause with two predicators in phase, it is one tone group; if it is two clauses in dependence relation it is subject to system (1.2). In *he left me to get on with the job*, the difference lying in the presence of what if the item is one clause is a complement-subject, here *me*, the situation is more complex: if it is one clause it is subject to system (1), and if it is two clauses it is subject to (1.2). The distinction is that here the *unmarked* term is neutral tonality in each case: // he left me to get on with the job // if one clause, // he left me // to get on with the job // if two.

If the independent clause is negative, the same system operates:

(1.3) // I didn't come because he told me // (*I didn't come* is "given"); // I didn't come // because he told me //.

Here the term "one information unit" carries a sub-system:

(2) *Negation Type*: simple negative—tone 1 //1  $\wedge$  I / didn't / come because he / told me // (= "it was because he told me that I didn't come"; transferred negative—tone 4 //4  $\wedge$  I / didn't / come because he / told me // (= "it wasn't because he told me that I came"). (The optional variant // ... / come be/cause he / ... // is possible in each case, but more likely in simple negative.)

This system operates with the items *because*, *so* (*that*); alternatively it could be regarded as operating with all items but neutralized with the others, as in *I won't come if you don't want me*; the latter, however, is probably better regarded as an instance of (15) with marked tonality.

The selection of transferred negative is possible only where the independent clause precedes. With the sequence dependent-independent, system (1) again operates but with "two information units" as the unmarked term as in (1.1):

(1.4) // if you want me // I'll come //; // if you want me I'll come //. Note that the latter is subject to (8) below: either //  $\wedge$  if you / want me I'll / come // (*if you want me* "given": = "I know you do want me"), or //  $\wedge$  if you / want me I'll / come // (*I'll come* "given": = "you know I may come; this is what determines it").

The first term, "two information units", also carries a sub-system, which may be taken together with (3.1), following (15), below:

(3) *Dependence Contrast*: dependent clause unmarked—tone 4 //4  $\wedge$  if you / want me I'll //1 come // (= "I don't know whether you do or not"); dependent clause confirmatory—tone 3 //3  $\wedge$  if you / want me I'll //1 come // (= "I think you do"); dependent clause contrastive—tone 4 //4  $\wedge$  if you / want me I'll //1 come // (= "I think you don't", or "but I'd rather not").

Sentences of type (a) (ii) are subject to system (1) as in (1.2); and, with sequence dependent-independent, as in (1.4). With the latter sequence, the possibilities vary according to the items in the independent clause (contrast here for example *say* with *know*, and

*I know with you know*); and with the term "one information unit" neutral tonicity is rare: //  $\wedge$  he was / coming he / said // is infrequent, although possible in concord with tone 4 by non-systemic selection of a term in (15).

With type (a) (iii) tonality is the defining criterion of the structure in question, so that here a different system must be recognized:

(4) *Sentence Structure (Status of Relative Clause)*: compound—relative clause is separate tone group // John // who arrived late // missed the speeches //, // we never saw John // who arrived late // ("non-defining relative clause"); simple—relative clause is not separate tone group // we never saw those who arrived late // ("defining relative clause").<sup>19</sup>

Tonality is thus neutral in each case: if the sentence consists of two clauses, with the relative clause dependent, there are two tone groups (three if the relative clause is inclosed); if the sentence consists of one clause, with the relative clause not dependent but rankshifted, there is one tone group. The compound structure resembles appositional structures (see (6) below) in being subject to tone concord: the dependent clause takes the tone of the preceding clause, for example //4 John //4  $\wedge$  who arrived / late //1 missed the / speeches //.

Within (a) (iii) there is a distinct sub-type exemplified by // John arrived late // which was a pity //. These are not subject to system (4), since there is no corresponding simple term; moreover they are not subject to tone concord: the dependent clause selects freely for tone.

The reasons why (a) (iii) is not regarded as an appositional structure are: first, the structure resembles other types of dependence in being non-transitive, whereas apposition seems rather to resemble co-ordination in being a transitive relation; second, relative clauses are bound whereas appositional items are free (i.e. capable of operating as a simple structure of the rank above); third, relative clauses such as that in *John arrived late, which was a pity* would in any case not be appositional since they are not subject to tone concord, which is the regular exponent of apposition. There is, however, as intonation shows, some resemblance between appositional structures and this type of dependence.

Sentences of structure (b) (i), co-ordinate linked, select in system (1) as in (1.2) above. The term "two information units" carries a sub-system related to (3) but with a different term unmarked:

(5) *Co-ordination Contrast*: unmarked—tone 3 //3  $\wedge$  I / asked him and he //1 told me //; contrastive—tone 4 //4  $\wedge$  I / asked him and he //1 told me //.

Here, of course, the degree of marking depends on other features; a linked clause with *and* and polarity constant is more likely to correlate with tone 3 in the previous clause,

<sup>19</sup> In compound (non-defining) structures the relative clause is usually of the WH-type. For the frequency of different types of relative clause in these structures see Randolph Quirk, "Relative clauses in educated spoken English", *English Studies* 38 (1957).

one with *but* and polarity reversed with tone 4: //4 ^ I / asked him but he //1 didn't / tell me //. One could treat this as a separate system, but the two would be mutually predictable. The point is that here, as regularly with intonation choices, there is a probabilistic correlation but the choice remains: this is the significance in such cases of regarding one term as grammatically unmarked. The linked clause in this structure selects freely for tone.

Neutral tonality operates as an exponent of structure where ambiguity would otherwise arise (cf. under (1.2) above) between a compound sentence of two linked clauses and a single clause with two linked groups; this can be regarded as the operation of system (4):

(4.1) *Sentence Structure*: compound—two tone groups // he washed // and brushed his hair //; simple—one tone group // he washed and brushed his hair // (with tonality neutral in each case), where *he fell and hurt his foot*, being unambiguous, selects normally from system (1); and likewise between two linked groups and a single group with linked words, for example at head in nominal group structure: // white paper // or cardboard // as against // white paper or cardboard //. (The reason why the first example determines *sentence* structure while the second does not determine *clause* structure is that two co-ordinate clauses expound two elements of sentence structure, this being a primary dimension of sentence structure, whereas two co-ordinate groups together expound one element of clause structure.)

In sentences of structure (b) (ii), co-ordinate appositional, tonality with tone concord provides the defining criterion. This is in fact the defining criterion of apposition at all ranks:

(6) *Sentence Structure*: compound sentence, appositional—two tone groups with tone concord //1 that's a/nother thing I //1 don't / know yet //; simple sentence (with rankshifted clause as qualifier in nominal group) //1 that's a/nother thing I / don't / know yet //.<sup>1</sup>

Compare at other ranks, where the non-appositional terms have various values:

(6.1) //1 ^ he / died a //1 happy / man //, intransitive clause with discontinuous subject (two groups in apposition); //1 ^ he / died a / happy / man // and //4 ^ he / died a //1 happy / man //, clause with subject and intensive complement. (This explains why *he seemed a happy man* can only occur as the two latter, and not as two tone groups in concord; apposition is here impossible.)

(6.2) //1 ^ I'll / ask my / brother the //1 heart specialist //, two groups in apposition (= "my brother already identified", perhaps "my only brother"); //1 ^ I'll / ask my / brother the / heart specialist //, one group with rankshifted qualifier defining *brother*: apposition in contrast with qualification.

<sup>1</sup> Note the further possibility of two tone groups without tone concord, as in //1 that's a/nother thing I //4 don't / know yet //. Here there is no structural relation between the clauses, which thus constitute, or enter into, different sentences.

(6.3) //1 ^ I'll / come to/morrow //1 after the / meeting //, two adverbial groups in apposition (= "the meeting is today"); //1 ^ I'll / come to/morrow / after the / meeting //, two adjuncts in hypotactic relation (= "the meeting is tomorrow"): apposition in contrast with "narrowing".

So far we have been considering the choice between one tone group and two tone groups. Within "one tone group", there is a further choice between a simple tone group, with tone 1 2 3 4 or 5, and a compound tone group, with tone 13 or 53. This could be regarded as an intermediate term in a three-term system, representing one and a half information units; system (1) could then be rewritten as follows:

(1\*) One information unit—one simple tone group // ^ I / saw / John / yesterday //; one and a half information units—one compound tone group // ^ I / saw / John / yesterday //; two information units—two simple tone groups // ^ I / saw / John // yesterday //.

But the value of this "intermediate term" varies with different structures, so that it is best regarded as a term in a separate sub-system of "one information unit" which can be represented as follows (and compare (19)):

(7) *Information Distribution (one unit)*: major information point—simple tone group // ^ I / saw / John / yesterday // or // ^ I / saw / John / yesterday // (see (8)); major plus minor information point—compound tone group // ^ I / saw / John / yesterday //.

Which of these two terms is unmarked depends on the structure of the clause. There is a high correlation between minor information point and clause-final adjunct; so that in a clause with final adjunct "major plus minor" can be regarded as the unmarked term: // ^ I / saw / John / yesterday //, // ^ I / saw / John on the / train //. In all other clauses "major" is the unmarked term: // ^ I / saw / John //. As usual, however, the system represents an independent choice and the correlation is one of probability only.

Parallel to (1.1)-(1.4) can be recognized subsystems (7.1)-(7.4). In (7.2), "major plus minor" is the unmarked term, with independent clause as major and dependent clause as minor information point: // ^ I'll / come if you / want me //. In (7.1) and (7.4), however, "major" is the unmarked term: it is unlikely, though not impossible, for // John I saw / yesterday // and // ^ if you / want me I'll / come // to be structured as major plus minor information point. This system does not allow for minor preceding major; something like this can be achieved only by more delicate contrasts within the pretonic. In (7.3), "major plus minor" is unmarked provided that system (2) does not apply (is "neutralized"); where it does, "major plus minor" is marked and, in fact, extremely unlikely except in transferred negative with marked tonicity (tonic on negative word): // ^ I / didn't / come because he / told me //.

The information sub-system will serve here as a bridge between tonality and tonicity. Tonicity refers to the location of the tonic within the tone group; here, as with tonality, it is useful to recognize one condition as “tonicity neutral”, namely the occurrence of the tonic on the final lexical item within the tone group. If neutral tonality is taken as the startingpoint, then this is equivalent to the final lexical item in the clause. This then contrasts with marked tonicity as follows:

(8) *Information Focus*: information point unmarked—tonicity neutral // ^ I / saw / John on / Tuesday //, // ^ I / saw / John / there //, // ^ I / saw / John //, // ^ I / saw him //, // John's de/parted //, // John / has done //; information point marked—tonicity marked // ^ I / saw / John on / Tuesday // etc.

The range of possible places where a marked information point can fall in any tone group is determined by the rhythm: only a salient syllable can be tonic. It is important to note that variation in rhythm represents a different choice from that represented by variation in tonicity; the two are interconnected, but either may vary while the other remains constant. The grammatical meaning of rhythm requires a separate study; as an instance of it might be cited the contrast between // ^ the / question / which he / asked is // surely ir/relevant // (= “the question ‘which did he ask?’”) and // ^ the / question which he / asked is // surely ir/relevant // (= “the question that he asked”). Here, although only tonicity is being considered, this must be taken to subsume those variations in rhythm which are determined by tonicity: that is, where the contrast is between a weak syllable and a salient syllable *that is also tonic*, for example // ^ I / saw him // as against // ^ I / saw / him //.

Within “information point marked” it is useful to recognize a sub-system:

(9) *Marked Information Focus*: information point final (non-lexical—tonic “post-neutral” // ^ I / saw / him //; information point non-final (lexical or non-lexical)—tonic “pre-neutral” // I / saw him //, // John's de/parted //.

The marked information point is either contrastive, or new by reference to another item as given: // ^ I / saw / him // either = “not her” or is in answer to *who did you see?* The difference, especially with non-final marked information point, is often expounded by tone: see system (15) below. (The man in the London underground who was worried because he had no dog had read the well-known notice as //1 dogs must be / carried //, with *dogs* marked as new.) With certain high frequency collocations the marking is reversed; these are found especially in intransitive clause structure, with inanimate nouns as subject: // ^ my / head aches //, // ^ the / door's / locked //. This may also happen if the final lexical item is itself of very high frequency, at the grammatical end of lexis as it were: // ^ the / doctor's / coming //. In such cases neutral tonicity expounds a marked information point.

In transitive clause structure tonicity distinguishes extensive from intensive clauses, since an intensive complement always carries the tonic as unmarked information point even when fully grammatical (hence the obligatory use of *-self* items for personal pronouns as intensive complement): intensive //  $\wedge$  he / seemed him/self // contrasts with extensive //  $\wedge$  he / hurt him/self //, //  $\wedge$  he / hurt him // . Again of course these can be reversed to give a marked information point, as in //  $\wedge$  he / seemed him/self // (but, rhythmically, not \*//  $\wedge$  he / seemed himself //, though //  $\wedge$  he / hurt himself // is regular), //  $\wedge$  he / hurt him/self // . It is perhaps useful to recognize a distinct system here:

(10) *Extension in Transitive Clause*: grammatical complement extensive—tonicity neutral //  $\wedge$  he / felt him/self // (= “to see if he was bruised”); grammatical complement intensive—tonicity marked //  $\wedge$  he / felt him/self //, where, by the usual reversal of marking, //  $\wedge$  he / felt him/self // might also be intensive contrastive (= “but he didn’t look himself”).

In a clause with final *-self* item the same distinction in tonicity may expound a structural contrast between extensive transitive clause with *-self* as complement and intransitive clause with *-self* as qualifier.

(11) *Clause Structure*: transitive—tonicity neutral //  $\wedge$  he / asked him/self //; intransitive—tonicity marked //  $\wedge$  he / asked him/self // (= “he himself asked”).

Again these can be reversed to give a marked information point. For the appositional // he asked him/self //, compare (6.1) above.

System (8) can be generalized to extend to compound sentences with marked tonality (one tone group): unmarked information point //  $\wedge$  he / said he was / coming // contrasts with marked //  $\wedge$  he / said he was / coming // . In group structure, however, tonicity has distinct functions, both in the verbal group and in the nominal group, which should perhaps be regarded as forming separate systems.

(12) *Contrast (Verbal Group)*: non-contrastive—tonicity neutral //  $\wedge$  he / hasn’t been / asked //; contrastive—tonicity marked //  $\wedge$  he / hasn’t been / asked //, //  $\wedge$  he / hasn’t / been asked // .

The contrastive term requires tonic *does/do*, *did* in present and past positive active (note that non-tonic *does/do*, *did* are non-contrastive: //  $\wedge$  he / did / ask //, with tonicity neutral, is non-contrastive marked positive); and non-reduced forms where these items carry the tonic: //  $\wedge$  he / has asked // beside //  $\wedge$  he’s / asked // . In verbal groups with three or more words there is a sub-system of “contrastive”:

(13) *Focus of Contrast*: polarity contrast—tonic on finite element /  $\wedge$  he / has been / asked // (= “it’s not that he hasn’t”); tense contrast—tonic on non-finite element //  $\wedge$  he’s / been asked // (= “it’s not that he’s going to be”).

But the factors determining this choice are complex, and other variables, such as voice,



may be involved; sometimes it is difficult to show that the exponents are not simply in free variation.

In the nominal group tonicity expounds a structural contrast which is too complex to be dealt with here; it has been fully described elsewhere.<sup>2</sup> It is generalized here into a single system, merely as an indication that it must be included in any discussion of the role of intonation:

(14) *Head Structure (Nominal Group)*: simple head—tonicity neutral // army / officer //, // home / help //; compound head—tonicity marked // shop as/sistant //, // cheque / book // or // shop assistant //, // cheque book //.

Either of these may of course be reversed, by the superimposition of system (8), to give a marked information point: // army / officer // (= “not air force”), // cheque / book // (= “not a single cheque”). Ambiguity thus arises in a form such as // paper / bag //, which may be either compound head with neutral tonicity (= “bag for paper”) or simple head with marked tonicity (= “bag made of paper (and not, as you thought, of polythene)”); // paper bag //, however, can only be the former: a post-tonic simple head remains salient.

## 4

The systems so far discussed have been for the most part those expounded by tonality and tonicity, with only occasional reference to systems expounded by tone. The remainder of this part will be concerned with the latter. These will be considered on an assumption of neutral tonality and neutral tonicity: one clause one tone group, with tonic on final lexical item. They are, in general, in free combination with the systems described above; no attempt is made here to state the restrictions on such combination or to exemplify all possibilities.

Tone-expounded systems in the clause are, it is suggested, most usefully to be regarded as secondary systems of mood; that is to say, they are referable to the primary terms of the mood system: declarative, interrogative and imperative. Mood is defined as the selection of values for the subject-predicator complex; the terms of the system, with their exponents, are as follows: declarative—subject precedes predicator; interrogative—subject (unless WH-) follows first word of predicator; imperative—predicator present but subject absent (*you* in imperative *you go* is not subject). The full implications of this system, and the explanation of problematical structures, lie outside the scope of this paper; for the purpose of displaying the role of intonation the generalized statement given here will suffice. The mood system is a system of the independent clause; dependent clauses, which are declarative or, occasionally, interrogative in form, are not subject to this system: their principal tone choices have already

<sup>2</sup> See, for example, Robert B. Lees, *The Grammar of English nominalizations* (The Hague, Mouton & Co., 1963).

been mentioned in connection with compound sentences, systems (1)-(4) above.

The treatment will be polysystemic; the value of the tones varies with, and depends on, the choice of mood. Declarative clauses are considered first.

(15) *Reservation*: unreserved—tone 1 //1 ^ I'd / like / to //; reserved—tone 4 //4 ^ I'd / like / to // (= “but I daren’t”).

Tone 4 is the tone of which the native speaker feels “there’s a ‘but’ about it”; it is in fact very frequent on clauses which are not final in the sentence, often followed by a linked clause with *but*, and in clauses with marked tonicity: compare (5) and (9) above. It also enters, but *only* non-finally, into a sub-system which is not a sub-system of mood but operates in initial dependent clauses and in the first tone group of clauses with marked (double) tonality, where it is often associated with marked theme. This sub-system has already been stated as (3) above, but it may be useful to repeat it here to show its operation in clause structure:

(3.1) *Thematic Contrast*: theme unmarked—tone 4 //4 John //1 always / helps //, //4 ^ at / Christmas we //1 stay at / home //, //4 literature I //1 like //; theme confirmatory—tone 3 (in place of tone 4); theme contrastive—tone 4 (in place of tone 4). All three can be regarded as in contrast with tone 1 in neutral tonality, in which the theme is “given”: //1 John / always / helps // and so on.

(16) *Commitment*: neutral—tone 1 //1 ^ it’s / possible // (= “I don’t know”), //1 ^ he / does //; uncommitted—tone -3 // -3 ^ it’s / possible //, (= “I don’t care”) // -3 ^ he / might do //; committed—tone 5 //5 ^ it’s / possible // (= “so what?”), //5 ^ he / will do // (= “you ought to know that”).

This system is largely restricted to a clause standing alone as a simple sentence, and the marked terms are usually associated with rather short clauses.

(17) *Agreement*: neutral—tone 1 //1 ^ I’ll be / back to/morrow //; confirmatory—tone 3 //3 yes I’ll be / back to/morrow //; contradictory—tone 2 //2 but I’ll be / back to/morrow // (= “what are you fussing about?”).

Note that (16) has tone -3, so that any pretonic salient syllables are low; (17) has tone 3, with mid pretonic: the pitch of *back* is likely to be as high as, or higher than, that of the final point of the rise on *tomorrow*.

It is possible that there is a distinction between tone 2 in (17) and tone 2 in the next system:

(18) *Sentence Function*: statement—tone 1 //1 John has //; question—tone 2 //2 John has //.

But I have not been able to find convincing evidence of a distinction, and ambiguity does arise: //2 John has // — “has he?” “no, I’m asking you: has he?” It seems in any case rather rare for tone 2 declarative clauses to be used as questions in British English, although minor clauses on tone 2 are regularly questions (cf. below).

(19) *Information "Pointing"*: major unmarked—tone 1 with tonicity neutral //1  $\wedge$  I / saw / John on the / trian //; major marked—tone 1 with tonicity marked //1  $\wedge$  I / saw / John on the / train //; major plus minor—tone 13 //13  $\wedge$  I / saw / John on the / train //,

This system is related to (7) and (8), but with the specification of tone these three terms can be brought together as a system of the declarative clause. Here the system has an additional value, in that the term represented by tone 13 is in high probability correlation with the "substitution" structure: //13  $\wedge$  it's a / good / shop / that one //, and its variant *it's a good shop is that one*. This yields a distinct contrast:

(20) *Clause Structure*: transitive—tone 1 //1  $\wedge$  they've / left the / others //; intransitive with substitution—tone 13 //13  $\wedge$  they've / left the / others //.

The second of these is ambiguous, since it could be transitive with "major plus minor" information point; the first is not. Tone 13 also occurs in minor clauses consisting of two nominal groups, where its occurrence allows us to recognize a structure of complement plus subject by analogy with the substitution structure //13 nice / chap / John //.

In spite of the exponential parallelism, tone 53 does not stand to tone 13 in quite the same relation as does tone 5 to tone 1 (system (16) above). In the first place, tone 53 contrasts with tone 13 in substitution and in minor clauses as above as well as in other structures; in the second place tone 53, though it could still be regarded as expounding "commitment", tends to imply eagerness to help rather than the superiority or even censure that are often associated with tone 5. Since moreover there is no third term here it seems better to recognize a new system:

(21) *Commitment (with Major plus Minor Information Point)*: neutral—tone 13 //13 John could / tell you //, //13  $\wedge$  it's a / good / shop / that one //; committed—tone 53 //53 John could / tell you //, //53  $\wedge$  it's a / good / shop / that one //.

Finally, the varieties of tone 1 yield three systems in declarative clause as follows:

(22) *Key*: neutral—tone 1 //1  $\wedge$  I / don't / know //; strong—tone 1+ //1+  $\wedge$  I / don't / know // (= "stop asking me!"); mild—tone 1- //1-  $\wedge$  I / don't / know // (= "sorry!").

(23) *Force*: neutral—tone 1 //1  $\wedge$  he / simply / doesn't under/stand //; insistent—tone -1 //-1  $\wedge$  he / simply / doesn't under/stand //.

The "insistent" tone -1 is that with uneven or "bouncing" pretonic, each pretonic foot starting on a low pitch and rising steeply. (This tone is pedagogically very useful for demonstrating the rhythm of English speech.)

(24) *Co-ordination*: neutral (linking)—tone 1 //1  $\wedge$  I had the / jack the / king and the / ace //; listing—tone ...1 //...1  $\wedge$  I had the / jack the / king and the / ace //.

Each listed item rises slightly from mid-pitch, beginning with the salient syllable, and with optional pauses in between. If the listed item contains more than one foot, pre-final salient syllables are level, at a pitch level with or above that reached by the end of the final foot; for example *two* and *a* in //...1 ^ I want / two / oranges and a / lemon //.

In interrogative clauses the value of intonation contrasts depends on a distinction into two types: WH- interrogatives and yes/no interrogatives. The WH- interrogative, which will be considered first, resembles the declarative in having tone 1 as a generally “neutral” term.

(25) *Key*: neutral—tone 1 //1 where are you / going //; mild—tone 2 with tonicity neutral //2 where are you / going // (= “may I ask?”).

Here the mild key represents a question with, as it were, request for permission to ask; it is less peremptory, more distant and more polite. Within “mild key” there is a further sub-system of “involvement”; this system however operates only marginally with WH- interrogatives, the marked term being rare in this type; it is therefore presented as (29) below.

If the tonic falls on the WH- group, the meaning of tone 2 is different:

(26) *Relation to Previous Utterance*: unrelated—tone 1; echo question—tone 2 with tonicity marked (tonic on WH- group) //2 where are you / going //.

The echo question is a request for repetition of something unheard, forgotten or disbelieved.

A sub-system cutting across (25) and (26) operates within each of the tone 2 terms:

(27) *Specification of Query*: unspecified—tone 2, tonicity neutral or marked; specified—tone 2, tonicity neutral //2 what are you / looking for // or marked //2 what are you / looking for //.

Tone 2 is the sharp fall-rise; the rise takes place on a new foot if one is present (on *looking for* in the second example), otherwise on a new syllable (on *for* in the first example); and if the tonic consists of one syllable only this syllable is falling-rising: //2 why //. This term means “that’s what I’d like to ask about” and occurs characteristically when the clause contains an item that is “new” (as opposed to “given”), such item carrying the falling segment of the tonic: //2 what’s the / basket / for // (= “why have you got a basket with you?”).

The yes/no interrogative, on the other hand, has tone 2 as its “neutral” tone:

(28) *Key*: neutral—tone 2 //2 are you going to/ tell me //; strong—tone 1 //1 are you going to / tell me // (= “I want to know”).

Strong key here implies a question with demand for an answer; sometimes demand for a satisfactory answer, hence approaching a request. The choice of key is bound up with the form of the verbal group: a “pleading” item such as *won’t you*, for example, is unlikely to occur with tone 1.

System (27) operates here as with WH- interrogatives: //2  $\wedge$  d'you / want a / biscuit // specifies *biscuit* as the point at issue and is more likely to occur when the biscuits are not already on display. Cutting across this is a further system:

(29) *Involvement*: neutral—tone 2 //2 are you coming / with us //; involved—tone -2 // -2 are you coming / with us //.

Involvement may mean a desire to affect the decision, thus implying suggestion or encouragement, or may imply some judgment such as “you ought (not) to”, “you should have told me”. The combination of the marked terms of (27) and (29) is the most infrequent variant: // -2 are you coming / with us // might imply “I thought you were going on your own (27), and it would have been better if you had done (29)”. (29) also operates with WH- interrogatives (see (25) above), but rather infrequently (that is, the marked term is infrequent) except with clauses which could be suggestions: // -2 why don't you / take a / taxi //.

Two further systems are found only with yes/no interrogatives:

(30) *Commitment*: neutral—tone 2 //2 is he / sure of it //; uncommitted—tone -3 // -3 is he / sure of it // (= “not that I care”); committed—tone 5 //5 is he / sure of it // (= “because if not, then ...”).

This system is closely parallel to (16). The “committed” type often begin with *yes but* or end with *though*; the uncertainty is a cause of concern, by contrast with the “uncommitted” where concern is disclaimed.

(31) *Sentence Function*: question—tone 2; statement (strong assertion)—tone 4 //4 is he / sure of it // (= “of course he is”).

This system is marginal; the tone 4 term seems to occur in children's speech and in loud-reading but rarely in conversation among adults: it may represent a survival or a dialectal form. It is likely to be the repetition of a question.

Finally, yes/no interrogatives with co-ordinate groups display a distinct choice in which the co-ordinate items may be in one of two contrasting relations, with marked tonality in each case:

(32) *Co-ordination Type*: alternative question—tone sequence 2(...)1 //2 would you like / tea or //1 coffee // (= “which?”); list question—tone sequence 2(...)2 //2 would you like / tea or //2 coffee // (= “yes or no?”).

The same choice appears with co-ordinate clauses:

(32.1) //2  $\wedge$  shall I / write or shall I //1 phone you //; //2  $\wedge$  shall I / write or shall I //2 phone you //.

The second term in each case may be an unfinished alternative question: = “or what?” An interrogative clause with co-ordinate groups may, on the other hand, have neutral tonality, in which case the choice is expounded as follows:

(32.2) alternative question—tone 1 //1 would you like / tea or / coffee //; list question—tone 2 //2 would you like / tea or / coffee //.

The first term is subject to system (24): it may have tone ...1, in which case it is unambiguously an alternative question. With tone 1 (neutral) it tends to be ambiguous, or at least to be treated as such by the humorist, who may answer simply: "yes".

In imperative clauses, it seems necessary to consider negative imperative as being distinct from positive imperative, at least as regards "key". In positive imperative tone 1 is perhaps "neutral":

(33) *Key*: neutral—tone 1 //1 wait for / me //; mild—tone 3 //3 wait for / me //

The choice is however affected by another factor: if the final element is new, tone 1 is more likely: //1 take the / train //, //1 come for / dinner //; if given, tone 3: //3 leave your / coat //, //3 keep the / change //. This is the neutral variety of tone 3, with mid pretonic; here, uniquely, pretonic and tonic may occur on a single foot or even a single syllable: //3 hur-ry //, //3 ru-un // (compare (40) below).

In negative imperative, tone 1 is marked as "strong":

(34) *Key*: neutral—tone 3 //3 don't be / late //; strong—tone 1 //1 don't be / late //.

In both positive and negative, system (22) operates as a sub-system of the tone 1 term, although, especially in negative imperative, its marked terms seem less frequent than in declarative clauses.

The remaining systems in imperative operate with both positive and negative; the marked terms thus contrast with tone 1 or with tone 3.

(35) *Request Type*: neutral—tone 1 or 3; deliberate (warning)—tone -3 // -3  $\wedge$  be / careful //, // -3 don't / move //.

(36) *Information "Pointing"*: major—tone 1 or 3; major plus minor—tone 13 //13 wait for / me //, //13 don't be / late //

This system is derived from (7) and (8) (cf. (19) above); here tone 13, if the imperative verbal group carries the tonic, has the additional function of showing the verbal element as a major information point with the complement or adjunct as minor: //13 leave the / others //; this is especially common in the negative, where the tone 1 tonic falls on *don't*. The tonic marking of the finite verbal element relates to the polarity of the request (cf. (13) above); in the negative, and the marked positive with *do*, this tone is often a plea and is accompanied by creaky voice quality: //13 do hurry / up //.

The marked exclusive imperative with *you*, as in *you go* (exclusive by contrast with inclusive imperative *let's go*), is distinguished from declarative by the fact that *you* in imperative clause is always a salient syllable; it may or may not be tonic: // you / go // contrasts with // you / go //. In declarative it may also be tonic, but if it is not it is weak: // you / go // contrasts with //  $\wedge$  you / go //. There is thus ambiguity when (and only when) *you* is tonic; such a clause could be either declarative or imperative. If

declarative, however, it is likely, because of marked tonicity, to have tone 4: //4 you say so //, whereas in imperative it will be more likely to have tone 1, 3 or 13 as above. Likewise ambiguity arises with tonic *you* between negative imperative and interrogative: // don't / you / go //; here interrogative is likely to have tone 2 and imperative (see next paragraph) tone 4.

(37) *Force*: neutral—tone 1 or 3; compromising—tone 4 //4 tell him the / truth // (= “at least do that”), //4 don't let him / have it // (= “whatever else you do”); insistent—tone 5 //5 tell him the / truth // (= “why not?”), //5 don't let him / have it // (= “that's the solution, obviously”).

The “compromising” term is clearly related to declarative “reserved”, system (15), but not identical; tone 4 in imperative implies “do this whatever else you (don't) do” and is often accompanied by *at least*. A special use of this term is that with tonic *you* in negative imperative: //4 don't / you / do it // (= “whoever else might” or “let someone else”). Thus while tone 4 suggests that this is all that is being asked, tone 5 by contrast implies “I make no concession”. It is perhaps worth noting in this connection that the use of *please* in imperative clauses, both initially and finally, is subject to a great deal of variation both in tone and in tonality; a more detailed study would need to take account of this.

Finally in imperative clause:

(38) *Sentence Function*: command—tone 1 or 3; question—tone 2 //2 tell him the / truth // (= “shall I?”).

“Minor” clauses, those with no predicator, which lie outside the mood system, are subject to systems (15)-(24) as are declarative clauses. There are however one or two additional points to be made about them.

Minor clauses on tone 2 regularly have the sentence function of question; a clause such as //2  $\wedge$  on the / train // may be selecting with equal likelihood either in system (17) or in system (18). A minor clause consisting of, or containing, a WH- group is subject to (25)-(27); if however it consists of only one foot, such as // who //, the distinction between (26) and (27) is neutralized. Thus while //2 which / book // is echo question and //2 which / book // is “mild key”, //2 who // may be either.

A minor clause on tone -3 may be either, as declarative, “uncommitted” (17): // -3  $\wedge$  per/haps //, or, as imperative, warning (35): // -3 careful //. On tone 5 it is usually operating in (16): //5 certainly //; there is however a sub-system here:

(39) *Exclamation Key*: neutral—tone 5 //5 wonderful i/dea //; strong—tone 5, often with breathy voice quality //5 wonderful i/dea //.

This system may be found associated with some clauses having imperative form with exclamatory sentence function, for example //5 look at the / time //.

Vocatives may operate, usually initially or finally, in major clauses; if final, they do not take a separate tone group, although they frequently "turn" a tone 1 into a tone 13 or a tone 2 into a tone 2; if initial, they may take a separate tone group, usually with tone 1 or 2. When a vocative operates as a minor clause on its own, it may take any of the simple tones 1-5, including the "split" variety of tone 3 (see under (33) above). It may be worth while recognizing a distinct system for minor clause vocatives:

(40) *Vocative*: command, as in (33)—tone 1 //1 John //, with sub-system (22); question, as in (28)—tone 2 //2 John //, with sub-system (27); warning, as in (35)—tone 3 //3 John //; mild command, as in (33)—tone 3 "split" //3 Jo-ohn //; address, as "unmarked theme" in (3.1)—tone 4 //4 John //; insistent command, as in (37)—tone 5 //5 John //; reproach, as in (39)—tone 5 //5 John //.

## 5

The above is an attempt to organize some of the meaningful contrasts expounded by intonation in English into the framework of a grammatical statement. It is not, as already remarked, claimed to be "complete", either at the level of phonology, where many more delicate distinctions can be recognized,<sup>3</sup> or at the level of grammar, where in addition to contrasts expounded by the more delicate phonological distinctions (for example those in the pretonic of tone 1, which is widely variable) there are undoubtedly other meaningful uses to be stated for the distinctions here recognized.<sup>4</sup> In particular, intonation features characteristic of specific items have not been taken into account; moreover I have concentrated on those places where intonation can be shown to be independently systemic: that is, not fully correlated with other choices, but wholly or at least partially independent of them.

It is perhaps necessary to justify the introduction here of yet another form of notation; the reason for doing so was that the present form seemed simpler for the specific purpose of discussing intonation as an exponent of grammatical meaning. The contrasts which it was necessary to take into account are phonetically much less delicate than those provided for in a "tonetic" notation; the system used here reflects the general principle that only those distinctions which are shown in the grammatical description to be meaningful are represented in the phonological analysis.

In treating intonation grammatically I am not suggesting that the view of it as carrying emotive meanings is to be rejected. The response of informants to contours which they are asked to evaluate on certain scales reflects precisely the native speaker's awareness of intonation as meaningful in the language; and many of the labels used here, which like all grammatical labels are chosen on semantic criteria, add by them-

<sup>3</sup> As already in the work of J. D. O'Connor and G. F. Arnold, and in the current programme of the Survey of English Usage under the direction of Randolph Quirk.

<sup>4</sup> See especially Maria Schubiger, *English intonation: its form and function*.



selves nothing to a formulation in attitudinal terms. What I have tried to suggest is that in many cases the patterns can be systematized into a formal grammatical statement, which enables us both to show what are the contrastive possibilities at specific places in the language and to link these with other grammatical choices. We cannot, I think, fully describe the grammar of spoken English *without* reference to contrasts expounded by intonation; many important distinctions are made in this way, including some on which others not themselves intonational can be shown to depend.

The danger is perhaps of not seeing the wood for the trees; it is natural that we should wish to seek "the general meaning" of English intonation. In Part I I attempted a crude generalization of this kind. This could certainly be considerably improved upon; but with each refinement some generality tends to be lost: there is the familiar inverse relation between range of validity and precision. The results of the extensive current work in this field could well lead to a more effective synthesis; meanwhile the sort of treatment suggested here may in turn perhaps contribute to the total picture.

## TEXT

- A. //1+ ^ I / don't / know //1+ ^ they just say ... that / this paper is to be / marked out of two / hundred //4 ^ and and / since the / credit mark is a / hundred you //1+ couldn't very well / mark out of a / hundred //
- B. //4 ^ well they could / make the / credit mark fi / fifty //1+ seems such a / funny number to / start with //
- A. //13 ^ I / don't know / why they / do it //4 ^ it's / just ... a / thing they always / have done //
- B. //1 ^ per/haps it's / easier when you're //1 marking ... / language //2 is it // ...
- A. //13 ^ no I / don't / know about this ... / two hundred / mark ... / business ... because ... //4 ^ it / may be that it's //1 just the / general / rule that //1 all the / G.C.E. / papers have to be / marked out of / two / hundred //
- B. //1— oh per //1— haps / so //1—3 ^ it / seems / odd though to / me I //1 must say //
- A. //13 ^ though I / don't think it / can be come to / think of it because //4 on the / form that you ... / fill / in to ... to ... / tell them how you've / marked the ... / papers ... there's a //1 space which says //1 indicate / total / mark for / paper so //
- B. //1 ^ and / anyway they //4 give the / final re/sults as ... //1 in a per/centage //
- A. //1+3 ^ they / don't give / any marks at / all in the / final re/sults ... //1 ^ they / grade them //
- B. //4 but they / did when / I took er //
- A. //5 ah //
- B. //4 ^ ad/vanced level //
- A. //4 ^ they / don't / now ... //4 well they / may do at / A level //
- C. //1 how many / grades ... //13 ^ there are / several / grades //2 are there //
- A. //1 nine //1 nine grades //
- B. //2 are there //
- A. //4 ^ and / what you're / told //
- C. //2 not just / pass or / fail //
- A. //2 no //...1 ^ it's grade / one / two / three to / nine ... and ... //1 that's all the / teacher gets / told about it ... //4 ^ I mean ... / not only does the / candidate not / know any / more but the //1+ teacher doesn't //1+ either //
- B. //4 but the / khandigates / candidates / don't get nine / grades ... //2 do they //
- A. //2 yes they / do //



## **TABLES**



TABLE 1 - SUMMARY OF PHONOLOGICAL SYSTEMS

*Tonality*

Distribution of utterance into tone groups (location of tone group boundaries).

*Tonicity*

Distribution of tone group into tonic and pretonic (location of tonic foot).

*Tone (primary; pitch movement on tonic)*

- 1 fall
- 2 high rise; high fall-high rise
- 3 low rise
- 4 fall-rise
- 5 rise-fall
- 13 fall plus low rise
- 53 rise-fall plus low rise

*Tone (secondary)*

	<i>Pretonic</i>		<i>Tonic</i>
1	1 even (level, falling, rising)	} ×	1+ high fall ("wide")
	-1 uneven ("bouncing")		1 mid fall ("medium")
	...1 suspended ("listing")		1- low fall ("narrow")
2	2 high (level, falling, rising)	} ×	2 high rise ("straight")
	-2 low (level, rising)		2 high fall-high rise ("broken")
3	3 mid (level)		
	-3 low (level)		
4			4 high fall-rise
			4 low fall-rise
5			5 high rise-fall
			5 low rise-fall

*Conventional Symbols*

- // tone group boundary (always also foot boundary)
- / foot boundary
- tonic syllable
- ^ silent ictus
- ... pause

Tone, primary and secondary, is shown by Arabic figures, alone or with diacritics (see above), placed immediately after the tone group boundary marker.

TABLE 2 - SUMMARY

Serial number	Domain : Unit	Class/*type	System/*non-systemic contrast
1	sentence, clause, group	all classes	INFORMATION DISTRIBUTION
2	sentence	*complex (hypotactic)	NEGATION TYPE
3	sentence	*complex (hypotactic)	DEPENDENCE CONTRAST
4	sentence	—	*sentence structure: status of non-initial "relative"-type clause
5	sentence	*compound (paratactic)	CO-ORDINATION CONTRAST
6	sentence	—	*sentence structure: status of non-initial (unmarked) clause
7	clause	all classes	INFORMATION DISTRIBUTION (sub-system of 1 (a))
8	clause	all classes	INFORMATION FOCUS
9	clause	all classes	INFORMATION FOCUS (sub-system of 8 (b))
10	clause	transitive	*EXTENSION: status of <i>-self</i> as complement
11	clause	all classes	*TRANSITIVITY: status of final <i>-self</i>

## OF GRAMMATICAL SYSTEMS

Terms	Exponents	Type of Exponence
(a) one "information unit"	one tone group	tonality
(b) two "information units"	two tone groups	
(a) simple negative	tone 1	tone
(b) transferred negative	tone 4	
(a) unmarked	tone 4 (followed by tone 1)	tone (sequence)
(b) confirmatory	tone 3 (followed by tone 1)	
(c) contrastive	tone <u>4</u> (followed by tone 1)	
(a) compound sentence with "non-defining relative" clause	two tone groups	tonality
(b) simple sentence with "defining relative" clause	one tone group	
(a) unmarked	tone 3 (followed by tone 1)	tone (sequence)
(b) contrastive	tone <u>4</u> (followed by tone 1)	
(a) compound sentence with appositional clause	two tone groups with tone concord	tonality and tone concord
(b) simple sentence with "defining relative" clause	one tone group	
(a) major information point	simple tone group	tone group type
(b) major plus minor information point	compound tone group	
(a) unmarked	tonic neutral (final lexical item)	tonicity
(b) marked	tonic marked (elsewhere)	
(a) marked final	tonic post-neutral	tonicity
(b) non-final	tonic pre-neutral	
(a) extensive	tonic neutral (- <i>self</i> non-tonic)	tonicity
(b) intensive	tonic marked (- <i>self</i> tonic)	
(a) transitive (- <i>self</i> complement)	tonic neutral (- <i>self</i> non-tonic)	tonicity
(b) intransitive	tonic marked (- <i>self</i> tonic)	



Serial number	Domain: Unit	Class/*type	System/*non-systemic contrast
12	group	verbal	FOCUS
13	group	verbal	CONTRASTIVE FOCUS (sub-system of 12 (b))
14	group	nominal	*nominal group structure: status of "compound noun" forms
15	clause	declarative/minor	RESERVATION
16	clause	declarative/minor	COMMITMENT
17	clause	declarative/minor	AGREEMENT
18	clause	declarative/minor	SENTENCE FUNCTION
19	clause	declarative/minor	INFORMATION "POINTING" (derived from 7 and 8)
20	clause	declarative	*TRANSITIVITY: status of final nominal element
21	clause	declarative/minor	COMMITMENT
22	clause	declarative/minor	KEY

*Continued*

Terms	Exponents	Type of Exponence
(a) non-contrastive	tonic on lexical element in group	tonicity
(b) contrastive	tonic elsewhere (in group)	
(a) polarity contrast	tonic on initial element in group	tonicity
(b) tense contrast	tonic on non-initial element	
(a) simple head	tonic on modified noun	tonicity
(b) compound head	tonic on modifying noun	
(a) unreserved	tone 1	tone
(b) reserved	tone <u>4</u>	
(a) neutral	tone 1	tone
(b) uncommitted	tone —3	
(c) committed	tone 5	
(a) neutral	tone 1	tone
(b) confirmatory	tone 3	
(c) contradictory	tone 2	
(a) statement	tone 1	tone
(b) question	tone 2	
(a) major information point with unmarked focus	tone 1, tonic neutral	tone group type, tonicity and tone
(b) major information point with marked focus	tone 1, tonic marked	
(c) major plus minor information point	tone 13	
(a) transitive	tone 1	tone group type and tone
(b) intransitive (with substitution)	tone 13	
(a) neutral	tone 13	tone
(b) committed	tone 53	
(a) neutral	tone 1	tone
(b) strong	tone 1+	(secondary)
(c) mild	tone 1—	

Serial number	Domain: Unit	Class/*type	System/*non-systemic contrast
23	clause	declarative/minor	FORCE
24	clause	declarative/minor	CO-ORDINATION
25	clause	interrogative, WH-	KEY
26	clause	interrogative, WH-	RELATION TO PREVIOUS UTTERANCE
27	clause	interrogative	SPECIFICATION OF QUERY
28	clause	interrogative, yes/no	KEY
29	clause	interrogative	INVOLVEMENT
30	clause	interrogative, yes/no	COMMITMENT
31	clause	interrogative, yes/no	SENTENCE FUNCTION
32	clause	interrogative, yes/no	CO-ORDINATION
33	clause	imperative, positive	KEY
34	clause	imperative, negative	KEY

*Continued*

Terms	Exponents	Type of Exponence
(a) neutral (b) insistent	tone 1 tone -1	tone (secondary)
(a) neutral (b) listing	tone 1 tone ...1	tone (secondary)
(a) neutral (b) mild	tone 1 tone 2, tonic neutral	tone and tonicity
(a) unrelated (b) echo question	tone 1 tone 2, tonic marked (WH- element)	tone and tonicity
(a) unspecified (b) specified	tone 2 tone <u>2</u>	tone (secondary)
(a) neutral (b) strong	tone 2 tone 1	tone
(a) neutral (b) involved	tone 2 tone -2	tone (secondary)
(a) neutral (b) uncommitted (c) committed	tone 2 tone -3 tone 5	tone
(a) question (b) statement (assertion)	tone 2 tone <u>4</u>	tone
(a) alter native question (b) list question	tone 1 (preceded by one or more tone 2) tone 2 (preceded by one or more tone 2)	tone (sequence)
(a) neutral (b) mild	tone 1 tone 3	tone
(a) neutral (b) strong	tone 3 tone 1	tone

Serial number	Domain: Unit	Class/*type	System/*non-systemic contrast
35	clause	imperative	REQUEST TYPE
36	clause	imperative	INFORMATION "POINTING" (derived from 77 and 8)
37	clause	imperative	FORCE
38	clause	imperative	SENTENCE FUNCTION
39	clause	minor	EXCLAMATION KEY
40	clause	minor, vocative	VOCATIVE FUNCTION

*Continued*

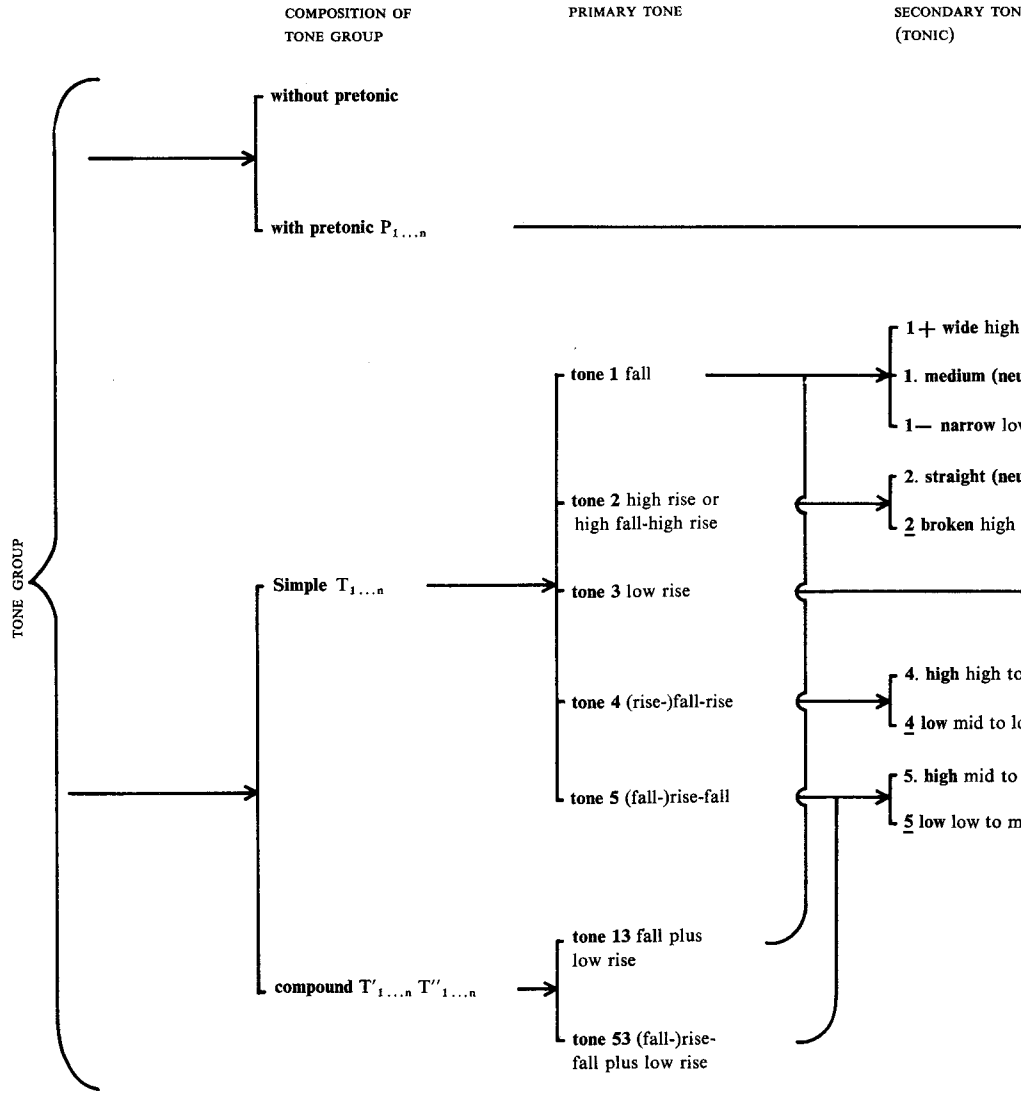
Terms	Exponents	Type of Exponence
(a) neutral (b) deliberate	tone 1 or 3 tone -3	tone (secondary)
(a) major information point (b) major plus minor (plea)	tone 1 or 3 tone 13	tone group type and tone
(a) neutral (b) compromising (c) insistent	tone 1 or 3 tone <u>4</u> tone 5	tone
(a) command (b) question	tone 1 or 3 tone 2	tone
(a) neutral (b) strong	tone 5 tone <u>5</u>	tone (secondary)
(a) command (b) question (c) warning (d) mild command (e) address (f) insistent command (g) reproach	tone 1 tone 2 tone 3 tone 3 'split' tone 4 tone 5 tone <u>5</u>	tone (including second- ary tone)

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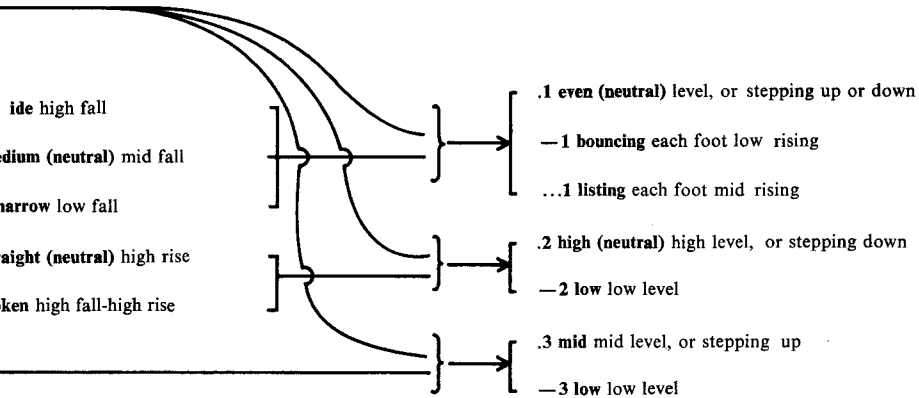
*f Intonation Systems*

PRIMARY TONE

( )

SECONDARY TONE

(PRETONIC)

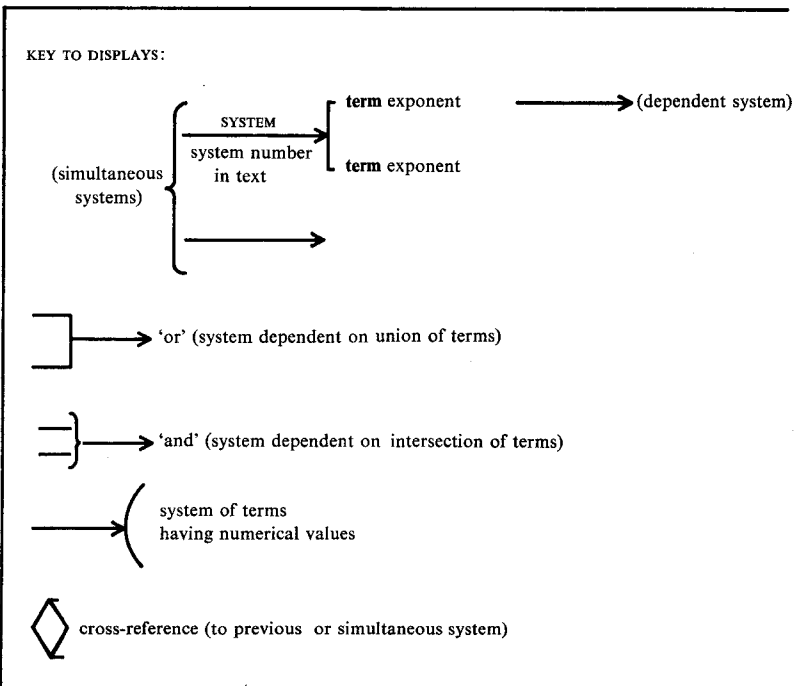


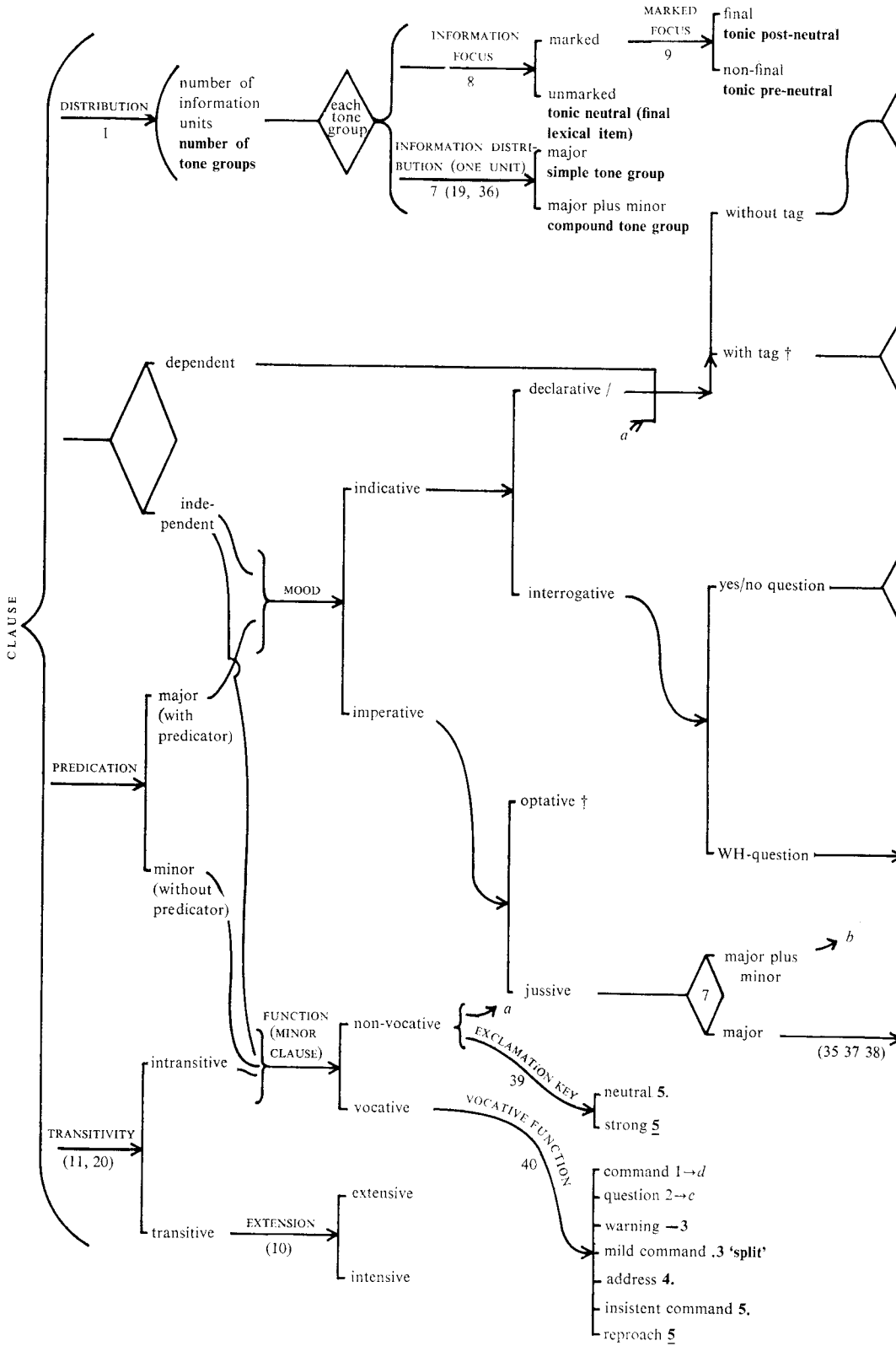
high high to mid fall-rise

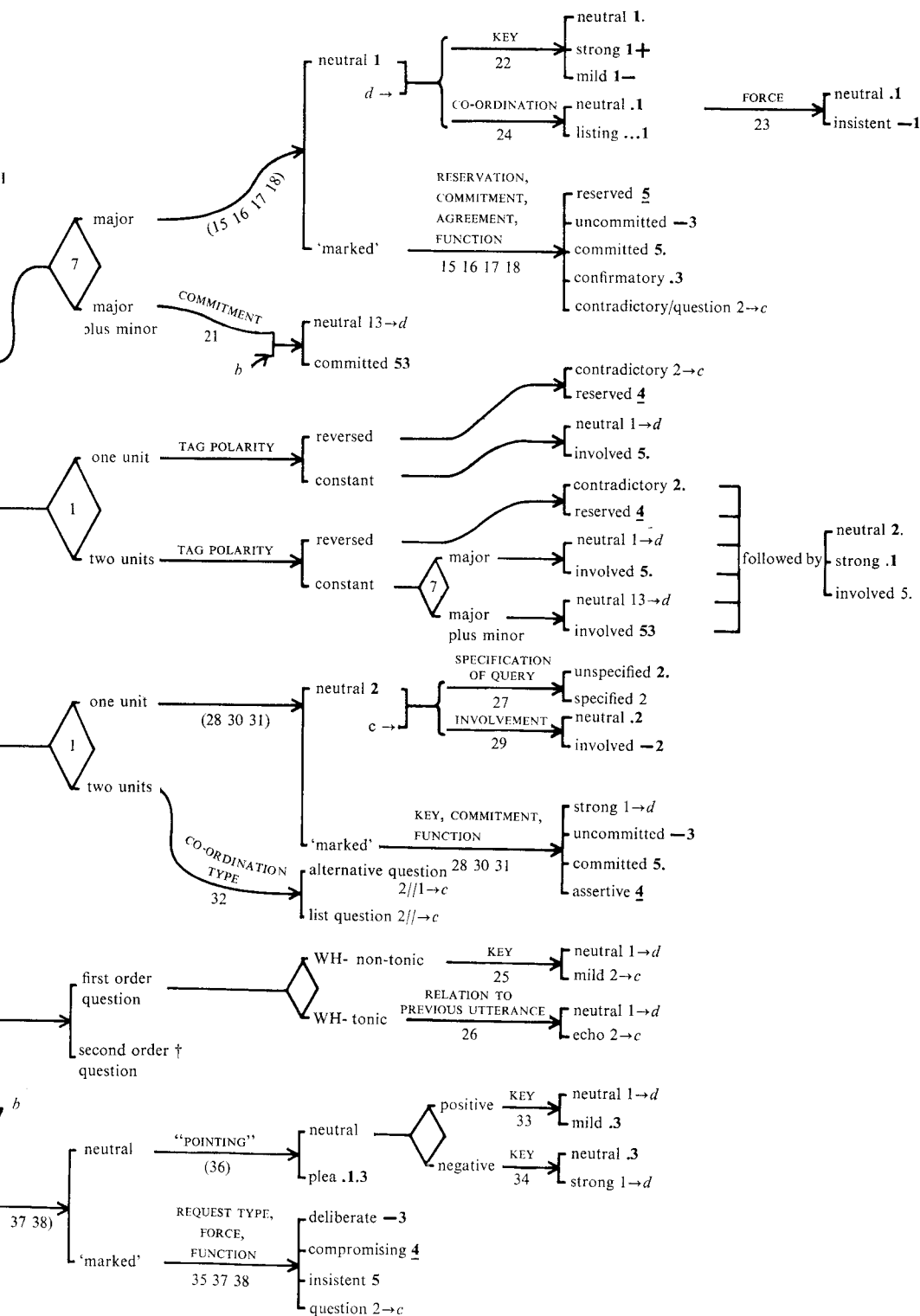
mid to low fall-rise

high mid to high rise-fall

low to mid rise-fall







This diagram shows the interrelations of those systems which have the clause as their domain and are expounded by intonation. Systems with other domains (i.e. nos. 2 3 4 5 6 12 13 14) are not included; of systems not expounded by intonation, only those are shown which are directly related (by derivation in 'delicacy') to systems which are expounded by intonation. Terms marked † are not treated in the text. Italic letters indicate patterns not shown, e.g.  $\rightarrow b$  means 'to  $b \rightarrow$ '.

