NORMAL AND ABNORMAL DEVELOPMENT OF
INTONATION

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Of all the areas of linguistics that are of particular relevance to speech therapy the subject of intonation in my opinion deserves greatest extra attention. Both in training and research, this subject has always been the Cinderella of work on speech. And yet it is one of the most important topics that we need to face when considering both the development of language patterns in the child and, in cases of disability, their treatment. There are many reasons for this neglect, and this is not the place to go into a historical account of _why_ intonation has been so ignored. It is sufficient to point to the difficulties inherent in its study. It has been called by one sociolinguist the 'greasy' part of speech. And it is true that it is difficult to pin point, transcribe and analyse. This contrasts ironically with the ease with which we react to it. Intonation usually strikes us as one of the most dominant features of anybody's utterance. Analysing what we have heard is however more problematic. Indeed it is only in the last twenty years or so that techniques of analysing and transcribing intonation have come to be all widespread, and it is very recent indeed that one sees routine transcriptions of a patient's speech where intonation is systematically marked. Traditionally, one got a transcription of a piece of aphasic speech, for example, which gave only the words and a vague punctuation, such as ''' ''' '''. Such 'transcriptions' are impossible to read back accurately. The dots are supposed to indicate the pauses of the aphasic and presumably something of the melody and rhythm of the speech. But if the purpose of a phonetic transcription is to enable you to replicate in the absence of the tape what has happened, then such a system is obviously terrible. One needs, somehow or other, to be able to introduce the main features of the dynamic movement of speech into transcription if one hopes

to have a precise record of what went on in a particular interchange.
It is likely, therefore, that more and more attention will come to be
paid to intonation, and in this lecture I shall accordingly look at
some of the main points about the study of intonation which have come
up in recent years, and suggest points of contact between that field
and yours.

First, to put intonation in its proper linguistic context. The
linguistic study of the pronunciation system of a language is termed
phonology. Phonology is usually divided into two main fields. On the
one hand there is the study of the vowels and consonants, and the ways
in which these work together to produce syllables: this is generally
called segmental phonlogy, the study of the segments of speech.
Opposed to this there is the study of supra-segmental or non-segmental
phonology: those variations in pronunciation that change the meaning of
an utterance, without altering its vowels or consonants (its 'verbal'
identity), and which are not capable of analysis into units like
vowel/consonant segments. This is obviously a very big field. How
many different ways can one say words like "really" or "well" or
"dielch yn fawr" without changing their segmental character? The point
to be made initially is that there are many different variables. As
we know from acoustics, we can vary the pitch, the loudness, the speed,
the rhythm and many other things besides. Not all of these are
intonation, of course. The term for the main variables - pitch, loudness,
speed and rhythm (which is, of course, a combination of pitch and
loudness and speed) - is usually the prosodic features of language.
Intonation, then, is a more restricted term, referring to the linguistic
use of pitch; it is one field within the study of a language's prosody.

Loudness, speed, and rhythm are thus viewed as separate areas of enquiry. This is not to deny the importance of relating pitch to these other variables, of course, but it suggests where the focus of attention should be.

All of this is not as obvious as it sounds. It is in fact a largely novel emphasis, as regards the speech therapy literature, as can be seen by looking up the word "intonation" in the index of the main text books on speech pathology, as I did in preparing this lecture. In many, the term is not indexed at all. In those where it did appear it is not defined as the linguistic use of pitch. It is defined as pitch. Intonation is said to be the study of melody, or pitch movement, or tunes; not _linguistic_ melody, _linguistic_ pitch movement, _linguistic_ tunes. There is an important difference. It can be seen again in the placement of the topic of intonation in pathology textbooks. Where does one normally find a discussion of intonation or pitch disorders? Usually in the chapters on Voice or Hearing Impairment. Examples of pitch disability are given referring to people whose pitch is too high or too low, excessively monotone, harsh or wide. In other words, this is a discussion of people who, for whatever reason, are unable to control the basic pitch level of their voice and manipulate pitch contrast in conventionally accepted ways. This is a more fundamental, pervasive disability than that implied by my definition above. The overall impression is that intonation disorders are fundamentally the by-product of a physical disability of hearing or voice, and nothing to do with the linguistic system at all.

What must be emphasised is that there are two quite distinct issues here. On the one hand there is the study of pitch and its disturbances; on the other hand there is the study of the linguistic function of pitch –

intonation and its disturbances. These two issues have got to be kept apart: the non-linguistic study of pitch is one thing, the linguistic study of pitch is another. After all, if this distinction was not made in segmental phonology, where would one be? It would be tantamount to saying that any sound you produce is as important as any other sound. A sound which was not part of the English sound system is just as important as a sound which was. Presumably no-one would argue this. But it is exactly the same problem for intonation: is the disordered pitch pattern a product of a deviant English sound system or not? One has to decide whether a disorder of pitch is a universal feature which would have affected the patient regardless of the language he happens to speak, or whether it is a feature of the English intonation system that has gone wrong. In the first case, presumably, one would look immediately for evidence of auditory or physiological deficit in the second case, one would expect to find such factors normal.

To clarify this area, reference needs to be made to the findings of two types of literature: linguistics, and language acquisition. The main conclusion of the linguistics literature is predictable - that intonation is a rather more complex phenomenon than at first appears! As a first example, let me pick on the normal popular way for talking about intonation: one usually says such things as "the child's intonation", "his intonation isn't right". The problem is that in using the phrase "the intonation", people seem to be assuming that intonation is a single thing. 'The intonation is wrong'. 'The light has gone out'. There is a single deficiency - and consequently a single therapeutic focus will get things right again. But intonation is not like that. Intonation is not a single coherent pattern; nor is any other area of pronunciation. The analogy would be to say "his

consonants are wrong", "his vowels are wrong". Intonation is rather a
multiple thing - a system of patterns. And one has to ask: Which
aspect of intonation has gone wrong? What sort of intonation pattern?
This is the main thing that linguistics has done. It has shown that
there are variables within the study of intonation each of which has
to be independently assessed.

The first and the main point is to distinguish between the formal
study of intonation and its functional study. One can study intonation
from the point of view of the actual patterns of pitch that are used to
communicate meanings, and then, secondly, one can study the various
meanings that are communicated - the functions of intonation. Let me
begin with the main distinctions that I have found it necessary to use
in order to classify the observed formal range of intonation disorders.
The main thing is to make a distinction between pitch _direction_ and
pitch _range_. This should be familiar because it is ong-standing in the
literature on voice, but it applies also to the linguistic contrasts as
well. The direction of a pitch is one thing to establish; its range is
another. In English, for example, the direction of pitch may fall, rise
or stay level and each pattern correlates with a distinct range of
meaning. Further possibilities, such as the falling-rising pitch and
the rising-falling pitch also occur, and their meanings are illustrated in
any standard introductory account of intonation. Variations in range are
separate from these. Over and above the different directions in which
the pitch can go; there is the possibility of stretching or narrowing a
movement: for example, a mid-low falling pitch can be widened to produce
a high-low fall, and this widened further - the greater the width the
more emotional involvement there bing in the interpretation of the
utterance. The pitch can then also be narrowed: taking the normal pitch

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movement for an individual it can be flattened, to produce the various degrees of monotone in the language - the flatter the pitch, the more sarcastic or bored being the interpretation. This distinction between pitch direction and pitch range is very important because it applies to a number of types of disability that relate to intonation (see below). Notice that while the above examples are of only single pitches and words, the same point applies in principle to whole stretches of speech. For instance major pitch range contrasts can be heard when a stretch of speech gradually falls, phrase by phrase, as one moves towards the end of an utterance, and the pitch then rises for the beginning of a new intonation 'paragraph'. Good data for analysing intonation paragraphs can come from the BBC news, where each item of information has its own pitch pattern. One of the most common ways of producing a parenthesis, for example, is through this particular technique. How do you communicate a parenthesis in speech? In writing it is easy because you put brackets or dashes on either side of the parenthetic stretch. But in speech there are no brackets, so what do you do? You use intonation. For example in the utterance "my brother- you know my brother don't you - he's been abroad for a few months." At the point of parenthetic opening, the pitch usually drops and returns to the norm at the second dash. The secondary, or less important information, is thereby marked off. I shall return to the implications of this for disability, below.

Three other important distinctions must be made in order to carry out an intonation analysis (i) Pitch is organised primarily into sequences of tones and tunes which are normally called tone units, or tone groups (primary contours, in the American tradition). Tone units are very important as they are one of the main ways in which we organise

the grammar of our speech. Simple short sentences are no problem, e.g. /The man's coming to see me/ is a single tone unit, a single continuous pitch pattern followed by a pause. But with more complex sentences, e.g. a main clause and a subordinate clause, there are normally two tone units, as in /When I got in/I was tired/ It is possible to analyse all the different types of tone units in English where they occur and where the boundaries are: it emerges that there are about 30 main grammatical structures which are marked by intonation in this kind of way. Putting this another way, it is possible to predict the intonation from the grammar, e.g. if there is going to be a vocative in a sentence, then if this occurs at the beginning of the sentence it will have a separate tone unit. So the normal way of saying or calling somebody and addressing him would be to say /John/ can I speak to you a minute/. The vocative is on its own. One would not normally say /John can I speak to you a minute/ without a break. In contrast, at the end of a sentence, if the vocative is used, one would not normally give it a separate tone unit in English, viz. /Can I speak to you a moment John/. The "John" 'tails away' at the end. A common mistake of foreign learners of English is in fact to give it separate prominence, viz. /can I speak to you a moment/John/. Knowing where the tone unit boundaries come is therefore an important aspect of getting the grammar smooth and organised. Correspondingly, errors in boundary placement are one type of intonational disorder (see below).

(ii) Given a tone unit, the second decision that has to be made is which word is to have the main emphasis placed upon it. A tone unit usually has a single point of greatest prominence, and this is referred to as the nuclear tone or tonic syllable, e.g. /It's going to

to <u>rain</u> again tonight/, /It <u>is</u> going to rain again tonight/,/It's

going to rain <u>again</u> tonight/, and so on. Deciding where the emphasis,

or tonicity, in a tone unit is the second main aspect of intonation

organisation that operates in English, and which (to anticipate) can

go wrong. (iii) Once one has chosen which word has the emphasis, then

a decision has to be made as to whether the tone used is falling,

rising or level - or any of the other possible variations in tune in

the language e.g. /It's 'going to 'rain again tonight/, /It's 'going to

'rain again tonight/, /It's 'going to 'rain again tonight/, etc. These

variations in tune - the different types of <u>nuclear tone</u> - constitute

the third most important feature of intonation, and, accordingly, a

third area of potential disorder.

In summary, there are three main formal features of intonation

analysis worth paying attention to (i) The division of an atterance

into tone unit; (ii) within a tone unit, determining the tonicity; and

(iii) for each tonic syllable, determining the tone. The importance of

these three variables is that it is under these headings that the vast

majority of intonation disturbances can be classified.

Moving on now to the question of the functional analysis of

intonation. Here, the traditional view is that intonation signals

em tional meaning, e.g. surprise, anger, sarcasm, etc. This is certainly

an important function, but it is by no means the only one. It is in fact

uncommon to find a disturbance of intonation which affects solely the

expression of attitude. On the contrary: if there is any use made of

intonation at all by a patient, it is usually the emotional side of

meaning that comes over, if anything does. It is the other functions of

intonation that tend to be more fundamentally affected. In particular,

there is the function already referred to above : the use of
intonation to express the grammar of the lanuage. Intonation
communicates far more than the attitude of the speaker; it
communicates fundamental features of the message, e.g. was someone
trying to communicate a question or a statement, a command or an
exclamation; was he trying to say something in the singular or the
plural, in the positive or negative? Intonation can be as specific
as this, even in English – although there are not many cases of this
type. For example, intonation can affect our interpretation of
singular and plural, as in the two types of relative clause : "My
<u>brother</u>, who's <u>abroad</u> is coming back next week", compared with "My
brother who's <u>abroad</u> is coming back next week". In the first case, the
implication is that I have one brother; in the second case, I have more
than one. In writing this is shown with commas; in speech it is
signalled by intonation : /my brother/ sho's abroad/ is coming ... vs
/my brother who's abroad/ is coming....

A third function of intonation is to provide information about
whether one is talking as a member of a certain social group, e.g. a
particular class or profession. The intonation of lecturing is very
different indeed from other styles and we have already had cause to
mention that of the BBC newsreader. This is closely related to the use
of intonation to mediate between people – to keep the conversation going.
This is sometimes referred to as an 'interactional' or 'dialogue' function
of intonation. A use of a certain intonation can stimulate a response
(e.g. the prompt statement in therapy – It's a – '), whereas other
intonation patterns would be unsuccesful. All of this would be part
of a soci linguistic analysis of intonation.

One further point needs to be made about function, and that is to
beware of looking at the functions of intonation in a simplistic kind
of way. It is very easy to assume that when the intonation changes, the
meaning changes - just like that. A common example is to say that
statements have falling tunes, questions have rising tunes. /He's 'coming'
vs /He's cóming/. It is often said that you can change a statement into a
question by changing the tone from falling to rising. But this is not so.
There are many examples where you can change in pitch like that and the
result is not a question at all. After all if a question is basically
a request for information, then in a context like "John's Smith's coming
this evening", if I respond with /cóming/, it can hardly be a question.
I am not asking you, as you have just told me, so obviously the rising
intonation is now an expression of surprise, astonishment, etc., and not
a question primarily at all. It would be wrong, therefore, to assume that
a rising pitch always means 'question'. Sometimes it simply expresses an
attitude. And the same applies for the rest of intonation also.

Turning now from the results of linguistic discussion of intonation
to the findings from language acquisition : here again there is opportunity
to illustrate only some of the main points. A chronological perpective
may be helpful. Traditionally we all know that intonation comes to be
responded to in young children from around 2-3 months. There is an
excellent summary of the traditional literature in M.M. Lewis's book
"Infant Speech", which shows how children will respond to differences in
tones of voice, primarily intonational, from about that age. Recently,
and more systematically, a number of people have tried to test exactly
which aspects of intonation have been responded to, e.g. the habituation
test routines used by Kaplan and others in the United States shows that

from about four months, children respond to and differentiate between
rising and falling pitches. In terms of production there is increasing
evidence to suggest that intonation is the first aspect of a language
to be systematically acquired. (Intonation also seems to be one of the
last features to be acquired, from the point of view of comprehension --
see below - a point which should not be paradoxical, if you remember that
there is no such thing as the intonation, as mentioned above. Some
aspects of intonation come early, other aspects of intonation are not
learnt until very late.) From about six months most children begin to use
language - specific intonation patterns : it is possible to differentiate
such languages as Chinese, French and English. From around this age, it
is possible to hear emerging, against the background of general babble
that has not been language specific previously, certain melodic nuances
which anticipate the intonation structure of the language. These rapidly
become more definite, and they have a clear function. Their primary role
is to segment the utterance into what Ruth Weir once called "sentence-like
chunks". More recently, in a paper in Vol. 2 of the "Journal of Child
Language", John Dore referred to this as a 'prosodic frame'. The point is
that the pitch patterns that we associate with the babbling period are
characteristically random. On the whole it is not possible to be predictive
or generative. The pitch pattern of one sample of babbling differs in many
ways from another, and it is only at around 6 months that it is possible to
see substantial similarities across samples emerge, through the development
of these prosodic frames, or primitive tone units. Most samples of well-
developed jargon illustrate this. The pitch patterns which characterise
these tone units are very similar to those discussed above : there are
pauses at regular intervals, there are centres of emphasis within them,

and there are characteristic melodic patterns. And the point is that
these patterns are very similar indeed to the intonation patterns of the
adult language. One gets the impression of a conversation, or dialogue
being built up - even though of course the segmental or 'verbal' aspects
of the phonology are on the whole unintelligible. In any sample of jargon,
there will tend to be a few prosodic effects that are alien to the English
system (a remnant of prosodic 'babbling'), but most of the features heard
are reflexes of the most salient features of the adult intonation system,
e.g. the point of greatest prominence on the final syllable of a string
(corresponding to the adult tendency to place the tonic syllable on the
last lexical item of the tone-unit). This kind of stabilisation of what was
previously random babble, is the first sign of any language organisation
in the vocal output of children, in my opinion. It occurs long before
the development of a determinate segmental phonemic system, which at this
stage, is till characteristically random. (For a fuller discussion of these
issues, see the paper on language acquisition in my "The English Tone of
Voice", 1975.)

In this first stage, then, intonation patterns develop which act as
frames within which sentence patterns gradually emerge. This begins to
happen when individual words - which over the 9-18 month period are
largely used in isolation as single-element sentences - gradually come to
be put together. For example, how does one know when two adjacent words are
being used as a single sentence? Two-word sequences are not sentences if
they lack intonational coherence. A child who says, for instance, /dǎda/-
/gɒne/ with separate tone units and a pause, is presumably uttering two
one-word sentences. But even when there is no pause, it would be
premature to say there was a single sentence here, unless there was a

single tone unit, /dada gone/. Then there are formal linguistic grounds for interpreting that as a sentence, one could then proceed to give it a grammatical analysis such as subject + verb. As a second example of intonational development in this period, there are the very complex substitution games of around 18 months. This was pointed out very early on by Ruth Weir, in her tape recordings of cot monologue, and more recently it has been stressed by Elinor Keenan in an article on conversation in her twins in Vol 2 of the Journal of Child Language. Here she shows how one twin will produce an utterance, which will be 'played with' by the other, and then taken back by the first – a procedure which may continue indefinitely. The intonation is often played with in this way, e.g. a rising pitch replacing a falling pitch, or the tonic syllable put earlier in the utterance. Judging by the giggling which usually accompanies such actitities, the labelling of these substitution patterns as 'games' seems quite appropriate! At this stage also, the emergence of intonation for dialogue purposes has been noted, e.g. by Halliday in his recent book "Learning how to mean". For his son, Nigel, one of the first contrastive uses of intonation appeared around 15 months : the child first learnt the difference between enquiring about the whereabouts of something and identifying its whereabouts, and used the contrast between rising and falling pitch to exp und this – one of the most predictable features of early intonation.

These are examples of early development of intonation. What happens in later years? One type of learning is well illustrated by Alan Cruttenden, in The Journal of Child Language, Vol. 2, in an

article on the intonation of football results. He took children from 7-10 years and tried to find out to what extent they were able to predict the various scores in football results (win, lose, draw) on the basis of the intonation of the utterance, e.g. /Liverpool óne/ Èverton 'one/, /Liverpool twó/ Ěverton/thrěe/, and so on. Adults can do this, and this is not surprising, because the contrasts involved (semantic reinforcement, diminution and equivalence) are commonly expressed by intonation throughout the language. When do children learn to do it? The experiment showed that 7-year-olds were unable to complete the score in the confident way that most adults do, but by 10 they were able to do it. And as a further example, another use of intonation that is learned relatively late by children is to identify a particular type of contrast e.g. /John gave a book to Jím/ and he gave one to Màry/ (= "John gave a book to Jim and John gave a book to Mary") compared with /John gave a book to Jím/ and hě gave one to Màry/ (="John gave a book to Jim and Jim gave one to Mary"). The contrast changes the entire meaning of the utterance. When do children learn that? It emerges that 8-9 year-olds will still be having difficulty in distinguishing the senses involved.

So far I have talked about developments in the grammatical function of intonation. As a final example under the heading of language acquisition, there are also the developments that relate to strategies of interaction. If one looks particularly at the early period, it would be most misleading to assume that it is possible or desirable to study intonation in a vacuum, independently of the other aspects of behaviour which accompany it. One of the people who has emphasised this point is

Jerome Bruner. In Vol. 2 of the Journal of Child Language, he has a paper called "The Ontogenesis of Speech Acts", where he reports on research that has shown how vocalisation in the first year of life does not make sense unless it is seen very clearly in the context of the behaviour pattern of the child and the adult as a whole. His example of the peep-bo game is a case in point. A tape-recording of 'peep-bo' utterances makes little sense. A video of the activity, without sound, makes little sense either. The only way in which 'peep-bo' appears a meaningful activity is by showing how there is a correlation, a kind of 'complementary distribution' between the action patterns of the mother and her utterance (hiding and emerging in repeated sequence), and the response behaviour of the child. Likewise, Bruner points out the way in which language is used to complete an action sequence. For example, in playing one of those games where the baby is first lying down, and then picked up for some kind of 'nuzzling', the sequence of actions is normally accompanied by a vocalisation on the part of the holder which increases in loudness and pitch as the baby comes closer. This might well be seen as an early use of intonation, forming a primitive sociolinguistic bond between parent and child. To give another example from a different field, Jean Berko Gleason, in a paper in T.Moore (ed.), "Language and Cognitive Development" (1973), talked about the importance of what she called rather loosely the "Hail-Baby-Well-Met" intonation pattern of the first few years. For instance, the child toddles up with a sticky box, a match stick and a piece of string, and says "Mine house". What is the normal adult response? It is to provide such reactions as : "Gosh, what

a marvellous house! What a lovely house! Did you do that all by yourself?" and so on! What is the function of this? Why do we act so inanely!! According to one view, what we are doing here in such cases, apart from any psychological reinforcement we may be providing, is teaching the child how to react, linguistically. The child has to learn how to say things about things. By reacting in an exaggerated and redundant kind of way, the adult provides him with models of possible questions and responses. It is, in effect, a kind of training in basic conversation. It can be seen also in role play situations, where, for example, the speech of children talking to baby dolls, adults and others shows distinct intonational variation, reflecting the features used in adult utterances (see the paper by Sachs and Devin in Vol. 3, No. 1 of the Journal of Child Language). By about 3 years of age, children distinguish in their intonation between play with dolls, other children and adults, and so on.

What, then, can be said about disability? In a sense, I have been talking about disability all the time. The easiest answer to the question "How do you classify intonation disability? is to say 'More or less anything that can go wrong will, in one patient or another" The important thing to know is the range of possibilities that can go wrong – which is why I have spent most of this paper outlining what they are. Any of the four mainformal patterns can be disturbed. Any of the three main funtional correlations can be disturbed. Here are some examples. First of all, a person's ability to sequence intonation patterns might be impaired. Earlier, I gave an example of parenthesis in normal speech. Parenthesis is, in the intonational sense, a common type of problem

in language disturbance also, which may give an impression of speech
being totally unintelligible or disorganised. A parenthesis, after all,
is where the meaning of what you want to say is not as important as the
meaning of the surrounding utterance. The pitch drop, quieter voice, etc
reinforces this. Now what happens in parenthetic disturbance, in either
children or adults? is the person dropping the voice for the important
information, and not for unimportant information. So for example a
patient might say : "The important thing about all this is .... and
the next thing he'll do then is ......". One hears the transitions
between the important pieces of information but the main items are
themselves intonationally obscure. This is particularly noticeable in
adult aphasics, but it seems common too as a feature of children who are
slowly regaining some control over syntax after brain damage or accident.
It is as if the intonation cannot keep up with the grammar. As a second
example, one could cite errors in the use of tone units. There may be
too many of them for an utterance, or too few (though the latter is not
common, in my experience, in children). The effect of too few units is
of 'ignoring the punctuation' - omission of expected pauses, junctures,
tones, producing a continuous stream of speech. Much more common are
cases where too many tone units are used. In an extreme form, this
produces 'word at a time' speech, each syntactic unit being given its own
intonation pattern e.g. /the màn/-/ìs/-/ìn the garden/. In normal speech
this sentence would be given a single tone unit, but it is broken down
here into sub-tone units. There are two noticeable types of disturbance.
Either the brakedown will follow the grammar, e.g. there may be a tone unit
for the subject, a tone unit for the verb, a tone unit for the object,

and so on; or the tone unit breakdown does not follow the grammar, and there is 'chunking' in the wrong place, e.g. /My/-/daddy is/-/going to/-/town/. Here a bit of the object is attached to the verb, a bit of the verb is attached to the subject and so on. This is much more difficult to eradicat. (An example is discussed in detail in chapter 8 of "The grammatical analysis of language disability" Crystal et al, 1976).

What about tonicity? Tonicity is probably the most commonly occurring type of intonational disability. The child puts the intonation emphasis on the wrong word, i.e. the word selected is not the important item in the tone unit, and the result is a mismatch between the form of the sentence and its meaning. The sentence sounds odd or unintelligible. This happens especially in dialogue where a point is made to the child, who responds accurately in terms of the meaning of the question, but intonationally not in terms of the meaning e.g. "Who's got the ball?" produces "That man's got the ball". This is wrong, because one would expect "That man got the ball" only if the question had been e.g. "What's that that man got?". Conversely, to the first question, one would have expected the child to provide some new information such as "The man's got the ball", or "That big man's got the ball". In other words, the information the adult presupposes seems to be ignored by the child. This is probably the most common kind of tonicity error; but there are others. There are a few structures in English where a tonic syllable is not permitted on certain words. For example, if a sentence contains an example of the "empty" it, as in "I think it's raining", then there would be no tonic syllable on that word. One cannot say "It's raining". But sometimes in disordered intonation this is found. Likewise, with the empty word "there" as in ....

"There were lots of people in the garden, weren't there?". One cannot
have "<u>There</u> were lots of people in the garden, weren't <u>there</u>?". This is
another example of putting the tone in the wrong place.

Lastly, there are disorders of <u>tone</u>, as such, i.e. changes of rising
and falling pitch where they are not expected. This is probably the most
familiar kind of disturbance. It is also one of the most irritating,
because of the emotional connotations some of the tones may convey, e.g.
a persistent 'doubting' fall-rise tone. Tonal differences may also be
used in a quite unexpected way e.g. one child, when asked "Have you got
a báll/, said/"Me got ŏne"/. What did he mean? He meant he <u>hadn't</u> got
one. He was simultaneously shaking his head; but before this was
noticed, his meaning was already evident from the falling/rising tone.
A falling/rising pattern in English usually conveys a degree of doubt
or hesitation - a negative implication, e.g. in response to "Are you
going to come out tomorrow night?", the answer /yés/really means 'no'!
The contrast this child was using was therefore "Me got one" (= yes) vs.
"Me got ŏne" (= no) - quite a logical use of the English system, in a
way, but not one that one would normally expect to happen.

Once identified, the problems for therapy are many and various.
They do however need to be attacked systematically, and one needs to
avoid doing certain things which could complicate issues for a child who
displays intonational disturbance. For example, one tries to avoid
varying one's intonation when operating in a <u>drill</u> context with a patient.
Again, it is particularly easy, I have noticed, to 'catch' the intonation
from the child, and to end up unconsciously producing precisely the

intonation pattern that it was the purpose of the session to eradicate!

It is also important to try to avoid constraining the patient's choice

of intonation too much. For instance, if one is trying to establish a

rising pitch pattern in a patient who does not have it, one will want

to avoid giving him sentences which demand a falling pitch pattern.

For example, 'prompt' sentences generaly go up in pitch at the end, and

thus motivate a fall in the response. One says : /What is it/- it's a

green one/-/it's a/. The patient is unlikely to respond with /green

one/; he is going to say /green one/. If the therapist is after a rising

pattern, then this is obviously not the sort of intonational stimulus

to use. This raises perhaps the most important point of all - to preserve

intonation patterns in drills. After all, if intonation is one of the

earliest features to be learnt as regards comprehension, then changes in

the intonation pattern could be tantamount to presenting the child with

two quite different utterances - the different intonational profiles

being seen as primary. For example, if one is training a child to say

something like /There's a cat/, /There's a dog/, with the emphasis on the

final lexical item, then it would be very disturbing to suddenly switch

the intonation and put it earlier in the sentence, away from the

prominent word one is aiming for. But this very often happens, not so

much in the early stages of drilling, but when one moves on to something

slightly more complicated, e.g. a therapist had been for a while doing

things like "There's the cat, there's the dog" and then moved on to

/That's a little cat/. She then said "What is it?" and the child replied

with /That's a little/. A quite expected response, under the

circumstances, because he had learnt to respond on the basis of the

emphasis of his stimulus sentence.

There are, then, many things to remeber about the formal patterns of intonation we face children iwth, and about the function that the intonation patterns have. I do not for one moment think that the suggestions I have been making amount to a comprehensive classification. These are all examples that have cropped up in our routine analysis of patient performance, and they seem to correlate with some of the main distinctions that have emerged from the literature in linguistics and language acquisition. I am quite sure that there remains a great deal to be done before a respectable and detailed classification can be made, and appropriate therapeutic strategies evolved. It is my hope, therefore, that my outline discussion and few examples will be sufficient to awaken fresh interest in what has been one of the most neglected facets of Speech disability.