

All sentences, as well as some grammatical word-group units within a sentence, have an intonation contour. In symbolizing contours you should indicate the pitch levels at three places: the beginning of the grammatical unit, the beginning of the syllable bearing the primary stress, and the end of unit before the terminal. There will be a primary stress somewhere between every two terminals. Primary stress usually accompanies pitch level 3.

There are two exceptions to this requirement of three pitch indications for every contour, as you will note in the pages to follow. First, the initial syllable of a contour may be given primary stress for emphasis, as in

3 1
Jósephine got the reward ↓ (not Harry)

In such cases a beginning 2 pitch need not be shown. Second, a single word may take an intonation contour, as in

2 3 1 1 2
Come hóme ↓ Tómmý ↑

In these cases only the beginning and end pitches are shown.

We are now ready to examine some of the more commonly used intonation contours in American English and the kinds of grammatical units they accompany. But first a word of caution. The contours described below are widely employed, but not to the total exclusion of variant ones. For instance, instead of the 2 3 1 pattern for "I'm going home," some speakers will use a 2 2 1 pattern. So, when you do the exercises, don't try to slavishly follow the contours described in the text; just put down exactly what you hear yourself say.

1. 2 3 1 ↓ (or 2 2 1 ↓). These contours occur in three kinds of sentences.

a. Statement or declarative sentence:

2 3 1
We drove to the láke ↓

b. Command:

2 3 1
Go to your róom ↓

c. QW question (this means a question that begins with a question word, like *who*, *what*, *which*, *when*, *where*, *why*, *how*):

2 3 1
Who is your friend ↓

It is interesting to note that the ordinary statement contour can be used for this kind of question because the sentence already contains a sure signal that a question is coming: the question word at the beginning.

Although the 2 3 1 ↓ contour accompanies the three types of sentences just described, it also is used randomly, especially in long sentences. If you

listen carefully to serious TV speeches, you may hear it in unexpected places.

2. 2 3 3 ↑ (or 2 2 3 ↑). This contour is used in three common situations.

a. Yes-or-no question in statement form:

2 3 3
He's góne ↑

Here a special contour is needed to signal a question, for without it the sentence would be a statement.

b. Yes-or-no question in question form:

2 3 3
Are you thére ↑

c. Initial grammatical unit (phrase or clause or sentence segment)

2 3 3
In shórt ↑
2 3 3
If you'll wáit ↑

EXERCISE 53

For each sentence or grammatical unit supply the marks of the intonation contour—the pitch levels and terminal junctures. It will help you to put in the primary stress first.

1. He walked to the lab.
2. Get out of my sight!
3. Where is my necktie?
4. She won't be home till twelve?
5. Are you going to the game early?
6. To tell the truth, I haven't learned to dance.
7. Unless you take the car, I won't go.

3. 2 3 2 →. This contour signals incompleteness. In the first situation below it is an alternate for the 2 3 3 ↑ of 2c.

a. Initial grammatical unit (phrase or clause):

2 3 2
In shórt →
2 3 2
If you'll wáit →

b. Statement, to indicate that the speaker has more to say; often the word following this contour is *but*:

2 3 2
She's a nice girl →

4. 3 2 ↓ or 2 2 3 ↑. This is a call, such as you hear from neighborhood mothers. The handful of English names which are stressed on the last syllable—

ble—for example: *Marie, Eugene, Bernice, Monroe*—may take the 2 2 3 ↑ intonation pattern:

2 2 3
Maríe ↑.

Others take either pattern:

3 2 2 3
Hárry ↓ or Hárri ↑

If neither of these patterns brings results, the mother may change to the threatening

3 1
Hárry ↓

which is more likely to bring the culprit scampering home.

5. 2 3 ↑. On an individual question word this contour signals a request for repetition of some part of the preceding message:

2 3 1 2 3
Jane has a new píano teacher ↓ Whó ↑

6. 3 1 ↓. On an individual question word this contour constitutes a request for further information:

2 3 1 3 1
Jane has a new píano teacher ↓ Whó ↓

EXERCISE 54

For each sentence or grammatical unit supply the primary stress and the marks of the intonation contour—the pitch levels and terminal junctures.

1. When do we eat?
2. If you'll come,
3. For the most part,
4. He's very handsome, (but)
5. George, (come home at once).
6. We're going to eat in Chicago. Where? (= In what city did you say?)
7. We're going to eat in Chicago. Where? (= In which restaurant?)

7. 2 2 3 ↑ or 2 3 ↑. This contour is used on a stressed word, phrase, or clause in a series, with the exception of the last item. Note that in each example there are three contours because there are three primary stresses:

2 2 3 2 3 2 3 1
She prefers oranges ↑ apples ↑ and chérries ↓
2 2 3 2 2 3 2 3 1
She looked under the béd ↑ in the dráwers ↑ and in the clóset ↓

5. Repetition of Previous Pitch. This is used for a quoted clause of the "he said" kind in medial or final position:

2 3 3 3 3 3
Are you góing ↑ he asked ↑
2 3 1 1 1 1
I'm through ↓ he said ↓

9. 1 2 ↑ or 3 3 ↑. The name of the person whom you are addressing is accompanied by various contours, of which these are quite common:

2 3 1 1 2
Why are you wáshing → Jóhn ↑
2 3 1 1 2
What did you put on the táble → Méllon ↑
2 3 3 3 3
Are you cóming ↑ Géorge ↑

10. 2 3 3 ↑ 2 3 1 ↓. In this and the following section two contours combine to make a distinction in meaning. This one signals a choice of two possibilities:

2 3 3 2 3 1
Do you want téa ↑ or cóffee ↓

This means, "Which of the two do you want, tea or coffee?"

11. 2 3 3 ↑ 2 3 3 ↑. This contour proposes a yes-or-no question:

2 3 3 2 3 3
Do you want téa ↑ or cóffee ↑

The meaning is "Do you want tea or coffee in preference to something else?"

EXERCISE 55

For each sentence or grammatical unit, supply primary stress, pitches, and terminals.

1. Will you have hot chocolate or milk? (one or the other)
2. Will you have hot chocolate or milk? (or something different)
3. I'm taking physics, chemistry, German, and American history.
4. "When are you driving home?" she asked.
5. Give me a lift, Gertrude.

B. Variations for Emphasis

The contours described above are modified when we single out certain words for emphasis. One way to get special emphasis is to give primary stress and a higher pitch level to the word we wish to emphasize.

- Normal: He wants to eat all the time ↓
 Emphatic: He wants to eat → all the time ↓

Such a primary stress on the emphasized word abrogates the primary stress that would normally come later in the same contour:

- Normal: He fell into the pond ↓
 Emphatic: He fell into the pond ↓ (He didn't jump.)

In sentences like the foregoing the pitch slopes gradually down from level 3 to level 1. If the emphasized word has more than one syllable, it is the syllable with the highest word-stress that is given the primary stress and the higher pitch level.

- Normal: Spike does not enjoy intellectual games ↓
 Emphatic: Spike does not enjoy intellectual games ↓
 (He prefers other kinds.)

Another mode of emphasis is found in yes-or-no questions. The word to be emphasized takes a primary stress and higher pitch level, just as in the previous examples, but the pitch remains at this higher level for the duration of the question. The next illustrative sentences show the contours used when the emphasis is placed on different words.

- Normal: Are you walking to the party this evening ↑
 Emphatic: Are you walking to the party this evening ↑
 Emphatic: Are you walking to the party this evening ↑
 Emphatic: Are you walking to the party this evening ↑

EXERCISE 56

You are given below two groups of sentences. For the first sentence in each group indicate the normal intonation contour and primary stress. For the others indicate the contours and primary stresses that take into account the emphasized (italicized) word.

- 1a. Did his sister make him a cake?
 b. Did his *sister* make him a cake? (not his mother)
 c. Did his sister *make* him a cake? (not buy)
 d. Did his sister make *him* a cake? (not his brother)
 2a. Is the library in your college quite large?

- b. Is the library in your college quite large? (not the gym)
 c. Is the library in *your* college quite large? (not Jim's)

C. Review Exercises on Stress, Pitch Levels, and Terminals

ORAL EXERCISE

Practice reading these sentences aloud, following the signs of stress, pitch, and juncture. Be prepared to restate the meaning of each.

- What are you going to find out there ↓
- What are you going to find → out there ↓
- We have ladies ready-to-wear clothes ↓
- We have ladies → ready to wear clothes ↓
- Give poor food instead of tickets ↓ (headline)
- Give poor → food instead of tickets ↓
- I had to go → on Sunday ↓
- I had to go on → Sunday ↓
- State your name ↑ age ↑ address ↑ sex ↑ and residence requirements ↓
- State your name ↑ age ↑ address ↑ sex and residence requirements ↓
- Hope you are both well and warm ↓
- Hope you are both → well and warm ↓
- Harris is a black counselor ↓
- Harris is a black counselor ↓
- They work out → in the field ↓
- They work → out in the field ↓
- He lives with his wife ↑ a former model ↑ and his daughter ↓
- He lives with his wife → a former model → and his daughter ↓
- Some teenagers are home less ↓

- Some teenagers are homeless ↓
- Adult → bookstore owner ↓
- Adult book → store owner ↓
- Australian → Language Research Center ↓
- Australian Language → Research Center ↓
- Listeners have said they do Brahms Second → best ↓
- Listeners have said they do Brahms → second best ↓
- The chauffeur will dust → or wash and polish the car ↓
- The chauffeur will dust or wash → and polish the car ↓
- My favorite farmer's daughter ↓
- My favorite farmer's daughter ↓

EXERCISE 57

In these pairs of sentences the segmental phonemes are identical, but the intonation contours and the positions of the primary stresses are different. Explain briefly the difference of meaning in each pair.

- He took pictures of the Salvation Army cooking students ↓
- He took pictures of the Salvation Army → cooking students ↓
- I called Bill an amateur ↓
- I called Bill ↓ an amateur ↓
- Why are you scratching Bess ↓
- Why are you scratching ↓ Bess ↓
- You'd better do it ↓

- You'd better do it ↓
- What are we having for supper → Hám ↑
- What are we having for supper ↓ Hám ↑
- I have instructions to leave ↓
- I have instructions to leave ↓
- I suspect that you were right there ↓
- I suspect that you were right there ↓
- People who drink Old Stump → don't know any better ↓
- People who drink Old Stump → don't know any better ↓
- I believe that man is idealistic ↓
- I believe that man is idealistic ↓
- It's all right here in the book ↓
- It's all right ↓ here in the book ↓

EXERCISE 58

On each expression place the stress marks that will result in the meaning stated.

- | | |
|----------------|--|
| 1a. fair crowd | a. a medium-sized crowd |
| b. fair crowd | b. a crowd at the fair |
| 2a. wet suit | a. a special suit for divers and surfers |
| b. wet suit | b. a suit that is wet |

- 3a. a record sale
b. a record sale
- 4a. a secondary road program
b. a secondary road program
- 5a. They're wading pools
b. They're wading pools
- a. a sale of records
b. a sale that breaks the record
- a. a program for secondary roads
b. a road program that is secondary
- a. They are pools for wading
b. They are wading through pools

EXERCISE 59

Supply sustained junctures /→/ where needed to make, or help make, the differentiation in meaning. Some of the stresses are supplied. Remember that sustained juncture is a matter of the lengthening of the preceding pitch-3 word.

- 1a. Every *dáy* passengers enjoy a meal like this.
= Passengers enjoy the meal every day.
b. Everyday *pá*ssengers enjoy a meal like this.
= Ordinary passengers enjoy a meal like this.
- 2a. The blue *dréss* particularly interested her.
= interested her particularly.
b. The blue dress particularly interested her.
= particularly the blue dress.
- 3a. French *pláne* with twenty-four *cráshes*
= the plane which has had twenty-four crashes
b. French plane with twenty-*fóur* *cráshes*.
= Plane crashes with twenty-four aboard.
- 4a. I consider *thése* *érrors*.
= I consider these things to be errors.
b. I consider these *érrors*.
= I think about these errors.
- 5a. The *sóns* raise *méat*.
b. The sun's *ráys* *méet*.

EXERCISE 60

Indicate any primary stress, pitch, and juncture that occur on the italicized words. Use your own natural pronunciation as your guide.

- He was looking for a *lake that* always offered good fishing.
- Every Saturday Sam drove to Clear *Lake, which* was about thirty miles away.
- The *freshmen who* make a B average will be given a picnic by the national honorary society.
- The incoming *freshmen, who* will arrive during the weekend, will take their examinations on Monday and Tuesday.
- He chose the *canoe that* seemed the most durable.
- May I present Michael *Smith, who* is from Seattle?
- There will be a meeting of *students who* are from California.
- The neighbors did not approve of the *shrubs which* we had planted.
- The hedge was composed of French *lilacs, which* flowered in May.
- Dr. *Bloom, who* specializes in bone surgery, built a new clinic.

EXERCISE 61

Indicate any primary stress, pitch, and juncture that occur on the italicized words. Use your own natural pronunciation as a guide.

- That young woman is Harriet *Boulder, a promising junior*.
- Hoskins, a first-string quarterback*, was on the bench with an injured ankle.
- Typhoon, a well-known novel*, is famous for its descriptive writing.
- She was reading the *novel Typhoon*.
- For Christmas she gave him a silk *necktie, a hand-painted beauty*.
- My *sister Karen* is trying out for a national merit scholarship.
- We all hoped that *Karen, my younger sister*, would win a scholarship.
- He lives in Elk *Valley, a county seat*.
- Her favorite opera was *Carmen, a work by Bizet*.
- The *opera Carmen* was her favorite.

EXERCISE 62

State the meaning of each expression.

- 2 3 1
1a. Còmic stríp àrtist díes ↓
- 2 3 1
b. Còmic stríp àrtist díes ↓
- 2 3 1
2a. He àccidèntally dròwns a wànted mán ↓
- 2 3 1 2 3 1
b. He àccidèntally dròwns ↓ a wànted mán ↓
- 3a. Automàtic brídge tòll collèctors
- b. Automàtic brídge tòll collèctors
- 4a. Mentally retárded teachers ↓
- b. Mentally retarded téachers ↓
- 2 3 1
5a. Òh bóy ↓
- 2 3 3
b. Òh bóy ↑
- 6a. Géorge's bódý wòrks

66 The Phonology of English

- 2 3 1
b. Géorge's bódý wòrks ↓

- 2 3 1
7a. I am an óutdòor lòver ↓

- 2 3 1
b. I am an óutdòor lòver ↓

- 8a. Some wòrk in the líbrary

- 3 2 2 3 1
b. Sóme → work in the líbrary ↓

- 2 3 1
9a. Hè gáve the líbrary bòoks ↓

- 2 3 1
b. Hè gáve the líbrary bóoks ↓

- 2 3 1
10a. More and more doctors are spécializing ↓

- 2 3 2 2 3 1
b. More and móre → doctors are spécializing ↓

6

Internal
Open
Juncture

In the preceding chapter we studied the three terminal junctures and noted that they occur at the end of grammatical units or sentences. The fourth juncture of English differs from the others in that it occurs within grammatical units or sentences. It is found between words and between parts of words, and is called *internal open juncture*. Like the other three it is phonemic, as this minimal pair will show:

keep sticking
keeps ticking

Internal open juncture is indicated by a plus sign /+/ and is sometimes called plus juncture. Here it is with a complete phonemic notation of the pair above:

2 3 1
kíp + stíkɪŋ ↓
2 3 1
kíps + tíkɪŋ ↓

By means of internal open juncture we are able to make distinctions between pairs like these: *an itch, a niche; its praise, it sprays; Grade A, gray day; see Mabel, seem able*. But although most native speakers have little difficulty in perceiving internal juncture, they have trouble in explain-

ing just what gives them a sense of break or separation at the junctural point. It is only through the combined efforts of sharp-eared linguists and spectrograph analysts that we have been able to learn the conditions under which internal juncture occurs. In general, it is the nature of the sounds surrounding the juncture that serves to locate it. The details are numerous and complex and vary with the kinds and positions of the sounds involved. All we can do here is to examine a few examples of the sound characteristics that define internal open junctures. You will find it good ear training to try to detect for yourself the differences in sounds between the members of each pair before you read the explanation that follows each.

- 1a. kēep stīcking
b. kēeps tīcking

There are three differences here between *a* and *b* in the sounds around the junctures. First, the /p/ of *keep* is longer than the /p/ of *keeps*; that is to say, the lips remain closed for a longer time. Second, the /s/ of *sticking* is longer than the /s/ of *keeps*. Initial (postjunctural) consonants are usually longer than those in other positions. Third, the /t/ of *ticking* has more aspiration than that of *sticking*. This means merely that there is more air following the explosion. See for yourself. Hold the back of your hand an inch from your mouth, say *stick* and *tick*, and notice which /t/ is followed by the stronger blast of air. The same difference is true of all three voiceless stops /t/ k/. In initial position before a stressed vowel they have heavy aspiration, but after an /s/ (with no juncture intervening), only slight aspiration. Such are the differences in sound that cue the listener to differentiate between *keep sticking* and *keeps ticking*.

- 2a. a + nīce mǎn (with emphatic stress)
b. an + ǐce mǎn

In 2a the /n/ of *nice* is about twice as long as the /n/ of *an*. This is the clue that it belongs in initial position with *nice*.

- 3a. it + swīngs
b. its + wīngs

Here we find two sound differences that determine internal juncture. The first you already know—the initial /s/ of *swings* is longer than the final /s/ of *its*. The second is a kind of assimilation. In *wings* the /w/ is voiced, as it normally is in initial position, but in *swings* the /w/ is wholly or partly devoiced because of the preceding voiceless /s/. This kind of devoicing is common; a voiceless consonant tends to make voiceless a following /w/, /l/, /r/, /m/, /n/. A few examples of this devoicing are *twist*, *flee*, *cream*, *smoke*, *snow*.

- 4a. why + chōose
b. whīte + shōoes

In this pair the /ay/ is longer in *why* than it is in *white*. In general, final (prejunctural) vowels and diphthongs are longer than those in other po-

sitions. The /s/ of *shoes*, being initial, is longer than the /s/ that is the second component of /ē/ in *choose*. (Remember that /c/ consists of /t/ plus /s/ uttered as a single speech sound).

The foregoing examples illustrate a few of our speech habits that enable us to distinguish internal open junctures between words. Now let us recapitulate those that you will find helpful in doing exercise 63.

1. Initial (postjunctural) consonants are longer than those in other positions. For example, the /m/ in *may* is longer than the /m/ in *seam*.

2. Final (prejunctural) consonants are longer than internal consonants. The /p/ in *keep* is longer than that in *keeps*.

3. Initial voiceless stops /p t k/ are strongly aspirated. Examples are *pot*, *tot*, *cot*. If, however, these are preceded by /s/, the aspiration is greatly reduced. Compare the aspiration of these pairs: *pan*, *span*; *top*, *stop*; *kill*, *skill*. But when there is a juncture between the /s/ and the /p/, /t/, or /k/, there is no reduction of aspiration. For example, you can feel on your hand the aspiration after the /p/ in *this + pot* but not in *this + spot*.

4. In initial position the consonants /w l r m n/ are voiced, as in *way*, *led*, *ray*, *might*, and *nag*. But after a voiceless consonant they tend to become devoiced, as in *sway*, *fled*, *pray*, *smite*, and *snag*.

5. Final (prejunctural) vowels and diphthongs are longer than those in other positions. For example, the /u/ is longer in *new* /nu/ than in *nude* /nud/, and the /ɔ/ is longer in *I saw + Ted* than in *I sought + Ed*.

EXERCISE 63

Write the following expressions in phonemic notation with segmental phonemes and internal junctures. After each pair, explain what characteristics of the surrounding sounds identify the position of the internal junctures. All the information you need for these cases has been included in the foregoing discussion.

- 1a. I scream _____
b. ice cream _____

- 2a. night-rate _____
b. nitrate _____

- 3a. that stuff _____
b. that's tough _____

- 4a. seem able _____
b. see Mabel _____

- 5a. its lid _____
b. it slid _____

- 6a. new dart _____
b. nude art _____

- 7a. it sprays _____
b. its praise _____

EXERCISE 64

Can you distinguish by ear between *a name* and *an aim*? Many persons find this difficult because there may be no internal juncture between a weakly stressed and a strongly stressed syllable. In the history of English such difficulty had led to some changes in spelling, as this exercise will reveal.

Look up the etymology of each of the following words in your desk dictionary, write down its ME (Middle English) original, and show how each received a new spelling through incorrect division.

| | Present Form | ME Form | Process |
|----------|--------------|---------|-----------------|
| Example: | newt | an ewte | became "a newt" |
| 1. | adder | _____ | _____ |
| 2. | apron | _____ | _____ |
| 3. | auger | _____ | _____ |
| 4. | nickname | _____ | _____ |
| 5. | umpire | _____ | _____ |

An accurate and exceptionless statement about the distribution of internal junctures cannot be made because the habits of speakers vary too much. It can be said that in running discourse many words are separated from one another by /+/. But also, there are cases where words run together in close transition without the /+/, like the unstressed *is* *thē above*. Contrariwise, internal juncture may occur within words, as in *sly + ness* compared with *minus*. We can at best offer just a few principles that will help guide your ear to the presence of internal junctures, with the warning that they are not inviolable.

1. If two vowels in successive syllables carry primary or secondary stresses, there will be a /+/- somewhere between them.

- līkes + méat blūe + dréss

But if two such vowels carry primary and third stresses, there may or may not be a /+/- between them.

- bóathòuse bóot + blàck

2. Two adjoining vowels are usually separated by /+/-.

- ǎn ópěrá + of thě + ǐděá + ǎmúses

3. A vowel with weak stress followed by a consonant is often in close transition with the consonant, and there is no /+/-.

- ǎbóve ǎ bág thě bést

4. A consonant followed by a vowel with weak stress is in close transition, with no intervening /+/-.

- móst ǒf fóund ǐn

5. Between successive syllables with weak stress there is no /+/-.

- ǒf thě wátər

EXERCISE 65

Put in internal junctures where they belong, following the five principles given above. Then read these expressions aloud, following the markings, and try to hear the difference between internal juncture and close transition.

- fine jób
- móst of the tíme
- the pártý
- thát pártý
- tálk wíselý
- sòme of the inspíred ártists
- Jáne lóves cándý
- stòne fénce
- bírd in the búsh
- óutlòok

Internal open juncture is the last phoneme in our enumeration of the suprasegmentals. Now we shall revert to the segmental phonemes and see how they pattern in English words.