Notation systems

The system of notation is a generalization of a great variety of linguistically relevant sound phenomena. The extent of the generalization may vary.

Depending on what the notation is intended for, it may be

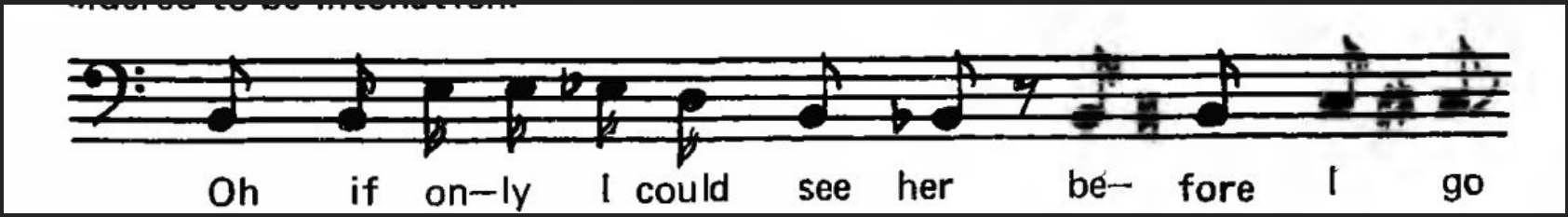
- broad
- narrow

- A broad notation is intended to reflect only the most relevant prosodic features by using the fewest possible symbols. These symbols should represent intonation visually as clearly as possible and act as a pictorial stimulus for immediate reproduction.
- A narrow notation is intended to be more detailed and precise.

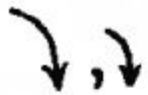
There is a number of means to denote prosodic features: the musical notation(J.Fonagy and I.Magdics), interlinear staves with dots, dashes and arrows (L.Armstrong and I. Ward, D. Jones), the head and nucleus system (H.Palmer), the tonetic stress-mark system (R.Kingdon), the intonation-mark system (G.Trager and H.Smith, M. Halliday).

Musical Notation

Scholars as far back as the 19th century used musical symbols to indicate the pitch changes in the voice, i.e. to transcribe what they considered to be intonation.



The next important development in the system of denoting prosodic phenomena was a notation within the line. The tonic symbols H.Palmer used were :



the falling nucleus,

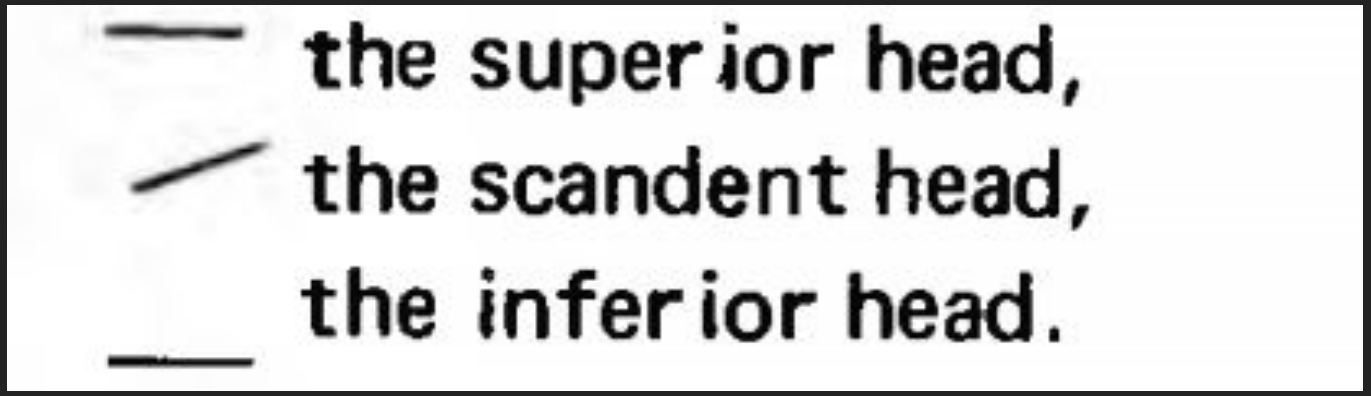
the falling nucleus with intensification,

the high rising nucleus,

the falling–rising nucleus,

the low rising nucleus.

Besides those tonetic indications H.Palmer used special symbols to indicate the pitch of the syllables that precede the nucleus, i.e. those of the head. He marked the head thus:



A rather accurate system was developed by R.Kingdon. It is known as the tonetic stress — mark system. R.Kingdon considers stress to be a very important factor in giving prominence and associates it with pitch.

He distinguishes stressed syllables of two kinds: those in which the vocal cords remain at a given tension, producing a note of constant pitch (Static Tones); and those in which their tension changes, thus producing a sound of varying pitch (Kinetic Tones).

Static Tones:

the High Level Tone : It's ˈnow or ˈnever.

the Low Level Tone: Now,, how did you ˌmanage ˌthat?

Kinetic Tones:

Tone IH – the High Rising Tone: Shall I ˊcome?

Tone IL – the Low Rising Tone: I, can't ˌdo it, now.

Tone IIH – the High Falling Tone: I ˈwant it ˋnow.

Tone IIL – the Low Falling Tone: ˈWhere's it ˏnow?

Tone III Undivided – the Falling–Rising Tone: It'll be easier ˇnow.

Tone III Divided – ˋI can ˏgo.

Tone IV – the Rising–Falling Tone: ˆNow.

Tone V – the Rising–Falling–Rising Tone: ˜Now.

Besides those interlinear systems, i.e. systems that indicate prosodic features within the line of the text, there exist interlinear systems in which the pitch of every syllable is represented by a dot, or a line, or an arrow.

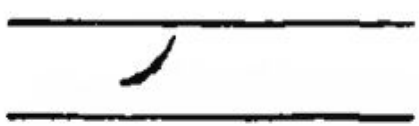
An interlinear system is a comparatively delicate description system of pitch change, pitch level and pitch range, as it represents the pitch of every syllable.

It enables the investigator to distinguish between stressed and unstressed syllables in an utterance by either changing the size of the dots, or using dashes to indicate stressed syllables and dots for the unstressed ones.

Yes=That is so.

Yes=Of course it is so.

Yes=Is that really so?



Yes=That may be so.

Yes=Yes I understand that, please continue!

Notation systems of D.Crystal include to mark various degrees of pitch variation, pitch range, pause, loudness, speed, rhythmicality and tension.

Those symbols can be grouped into

- (a) features noted in the text and
- (b) features in the margin.

(a) Features Noted in the Text

Tone–unit boundary: |

Nuclear syllable: CAPITALS

Head: |ʰ – higher than normal; |ˌ – lower than normal

Pitch–range, stressed syllables

step–down: ↓

step–up higher than preceding syllable: ↑

Nuclear syllable pitch–range

narrow: ˭ ; wide: ˷

Pause	Silent	Voiced
unit:	—	ə:(m)
double:	— —	ə: ə:
treble:	— — —	ə: ə: ə:
brief:		ə (m)

(b) Features in the Margin

Pitch–range: narrow, wide, monot (one), high, low, ascend (ing), descend (ing)

Loudness: forte, fortiss (imo), piano, pianiss (imo), cresc (endo), dimin (uendo)

Speed: alleg (ro), allegriss (imo), lento, lentiss (imo), accel (erando), rall (entando)

Rhythmicality: rhythmic, arythmic, spiky, gliss (ando), stoc (cato), leg (ato)

Tension: tense, lax, precise, slurred

Paralinguistic features: whisper, breathy, husky, creak, fals (etto), reson (ant), spread, laugh, giggle, trem (ulounsness), sob, cry.

The phoneticians of the Moscow State University have worked out a less complicated notation system which they called a prosodic transcription.

Pauses

| a one–unit pause, which is equivalent to one beat or cycle of a person's normal rhythm of speech;

|| a two–unit pause, which is approximately twice as long as the one–unit pause;

||| a three–unit pause, which is about three times as long as the one–unit pause;

§ a pause which is too short to be able to say with certainty whether phonation has actually ceased;

+ a potential pause which remains unrealized;

[əm] a voiced pause (the symbols above the vertical line denote the 'parasitic' sounds the pause is filled up with).

Tone (Pitch Movement)

↘↓↗ pitch movements on a high level (ˋnow ˈnow ˊnow);

↘↓↗ pitch movements on a mid level (↘now ↓now ↗now);

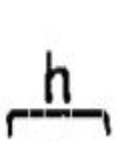
↘↓↗ pitch movements on a low level (ˌnow ˌnow ˌnow);

↘ a falling pitch (↘now);

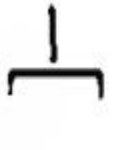
↘↗↘ complex tones (↘now↗now↘now)

˙. tones intervening between the initial and nuclear ones (The ˈwheels had˙not be˙gun to˙turn)

Range



abnormally high range (h now)



abnormally low range (l now)

range wider than the speaker's normal range (W now)

range narrower than the speaker's normal range (n now)

Tempo

allegro allegro, or tempo that is faster than normal

allegrissimo allegrissimo, or tempo that is very fast

lento lento, or slow tempo

lentissimo lentissimo, or very slow tempo

Loudness

~~~~~~~~ forte, or louder than usual

~~~~ fortissimo, or shouting at the top of one's voice

_ _ _ _ _ piano, or speaking in a soft voice

..... pianissimo, when a person speaks very softly indeed.

K. Pike was the first to point out the 4 contrastive pitch levels, which, as he writes, serve as the basic building blocks for intonation contours.

1 ——————————— extra–high

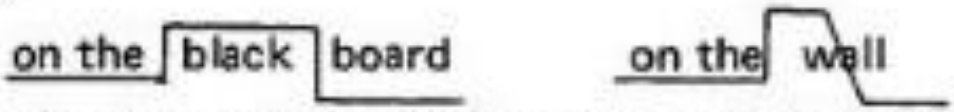
2 ——————————— high

3 ——————————— mid

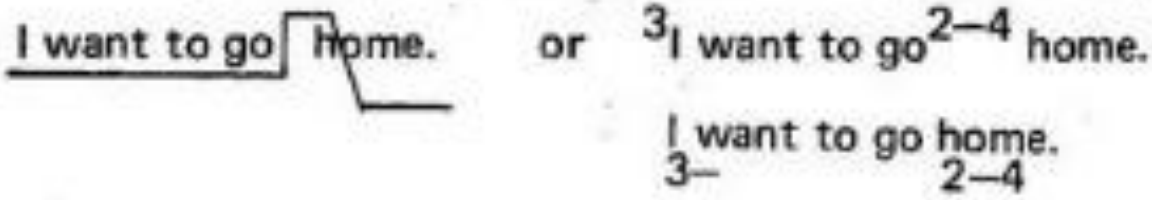
4 ——————————— low

American linguists

American linguists note that the size of the interval between the four levels is not significant linguistically, nor is the absolute pitch of any of the levels. These levels are relative matters and depend on the voice of the speaker. For some speakers the intervals are wide, for others the intervals are narrow. It is the pattern formed by the sequence of pitch phonemes (or intonation contour) that really matters. That is why the supporters of this viewpoint use a special system of notation: lines within the text to indicate intonation contours. They do not mark the pitch-level of every syllable, they mark the level at the most 'crucial' points for the intonation contour, the so-called 'contour points'.



Sometimes the levels are indicated by means of figures over the text: from 1 for the highest to 4 for the lowest (K. Pike [103]), or vice versa [G.Trager and H.Smith [108]). Such a notation system represents the intonation contours as sequences of any of the four levels. It is referred to as the numerical system. The numbers are placed above or below the words of the text to represent the pitches on which the words are pronounced.



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I want to go home. or ^{3}I want to go$^{2-4}$ home.

I want to go home.
3– 2–4

K. Pike and other American linguists consider that there does not exist a simple correlation between intonation contours and the chief communicative types of sentence (statements, commands, etc.). Yet intonation contours are a part of the signalling system of English structure, and they signal different structural meanings.

I'm going home. (3–2–4 signals finality)

I was going home, but it rained. (3–2–3 signals continuation)

D. Bolinger considers that the[4] configurations of pitches are linguistically relevant and he indicates them graphically in the following manner:

He wouldn't believe you.

or

He wouldn't be lieve you. [57]