

The Basics of Natural Tonetics

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First of all, it is convenient to concisely indicate what is different from Natural Tonetics, both when things are clearly too simple and banal or unnecessarily too complicated, to have any actual utility. It is also fundamental to clearly distinguish between *linguistic intonation* (or, simply, true intonation, dealt with by real tonetics) and *paralinguistic intonation* (or paratonetics).

The latter is employed spontaneously in normal *social situations*, also depending on the *physical* and *mental state* of the speakers, showing *emotions*, which are too numerous and changeable, and interwoven, to be simply listed and counted. However, each of us can easily and naturally recognise them.

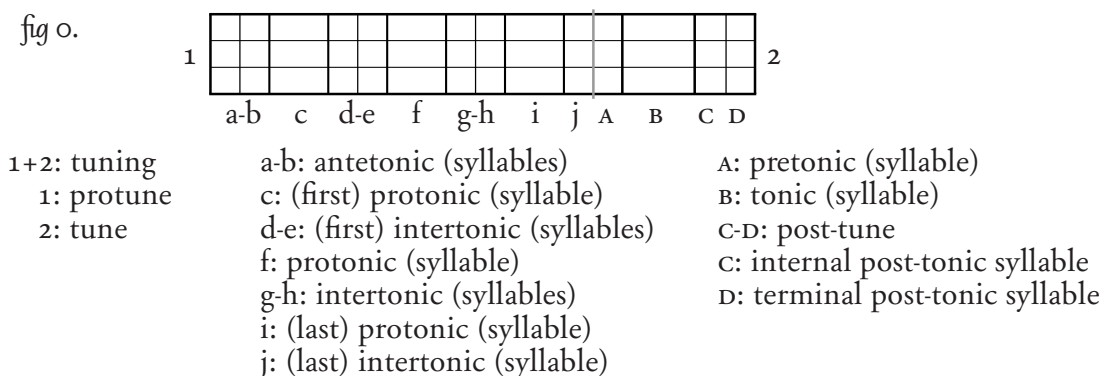
Certainly, we will concentrate on linguistic intonation, by revealing its peculiar structure, and showing its components by means of all the necessary figures, mainly *tonograms*. To start with, let us firmly state (loud and clear) that, although the intonation schemes of the British school are among the few to have some practical use, they are sometimes decidedly excessive.

Frankly, for [-.] or [-'], they give diagrams like $\bar{\Delta}$ or $\bar{\nabla}$, even when there is only one short voiced element: for example [ɪ] in *Dick* – if the tonal range were truly as extended as their diagrams show, it would rather sound like a police siren! Not even for tone languages, like Chinese or Vietnamese (as we will see), such movements would actually be real indications of what can be uttered and heard, indeed! Clearly, in normal tunings, the shape of isolated tones is modified, by compression.

Equally unsuitable are those widespread intonation patterns with just one and the same initial part, practically corresponding to a protune, even if two may be presented. The same is true when just two, or three, tunes are used. However, on the contrary, we can also find excessively complicated patterns, which present absurd combinations of too many peculiarities, often mixing linguistic and paralinguistic features, without succeeding in clearly distinguishing and identifying them.

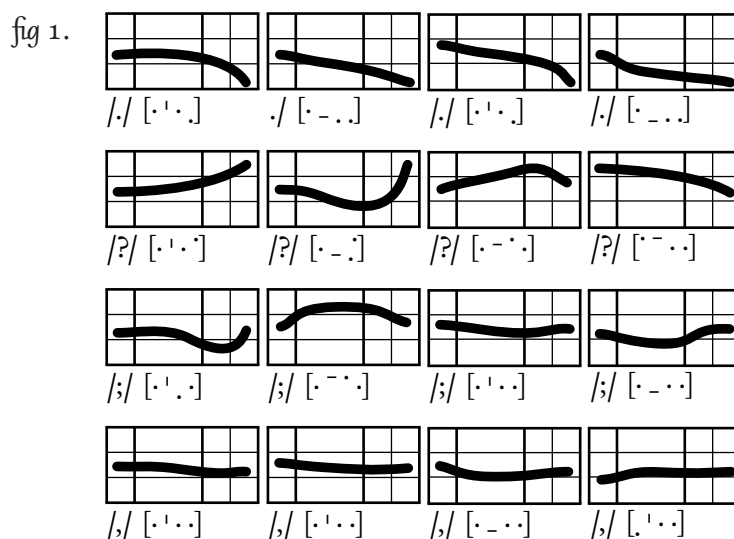
In Natural Tonetics, sentences usually have *tunings* not necessarily coinciding with written sentences and punctuation marks. Each tuning, in principle, has two parts: a *protune* followed by a *tune*. Normally, there are *four* protunes and *four* tunes. Generally, the fundamental protune, the normal one, (slightly, but significantly) changes into the interrogative, imperative and emphatic ones, by mildly anticipating on their rhythm groups the structures of their conclusive, interrogative and suspensive tunes (as we will see in some tonograms).

Now, in many languages (and accents), the four tunes have, at least, four main structures, as shown afterwards, for neutral British English. However, it might be very revealing to explore even the very tiny differences (in millimeters or less, too)



in the very many tunes presented in the descriptions of the languages, dialects and accents in our books. fig 0 shows the general pattern of an ideal *tuning*, with a *protune* and *tune*, including their parts.

For the four tunes (conclusive, interrogative, suspensive, and continuative: / . ? ; , / respectively, schematically presenting a stressed syllable and three unstressed ones). For each of them, fig 1 shows four general combinations of the more typical and different patterns, by means of thick strokes (although others, more or less similar or different, are surely possible).



In fig 2, slightly thinner strokes show the rhythm groups, occurring in protunes, in compressed shapes, derived from the actual shapes of the tunes (indicated by a stressed and two unstressed syllables).

Indeed, it is quite easy to realize that, in current utterances, speakers produce those compressed patterns in their protunes, before adding the correct tunes for each sentence. It might also seem that the four theoretically possible protunes shown in fig 3 (among others) could be used as whole structures, instead of the successions of rhythm groups given in fig 2, but practical tonetic experience proves that it is not exactly so.

However, those structures (or other possible ones) would certainly be better than an artificial one with no changes. Somehow, they will contribute to help in distinguishing actual utterances from some mechanical ones.

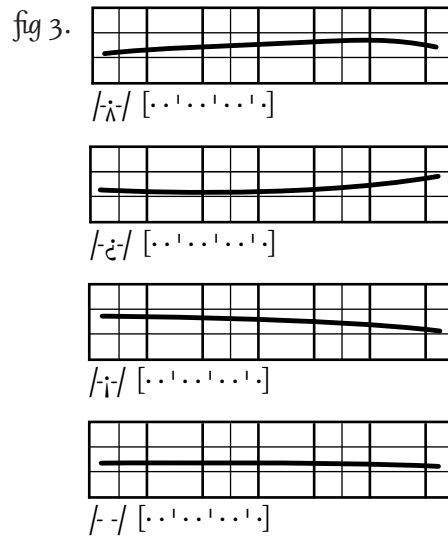
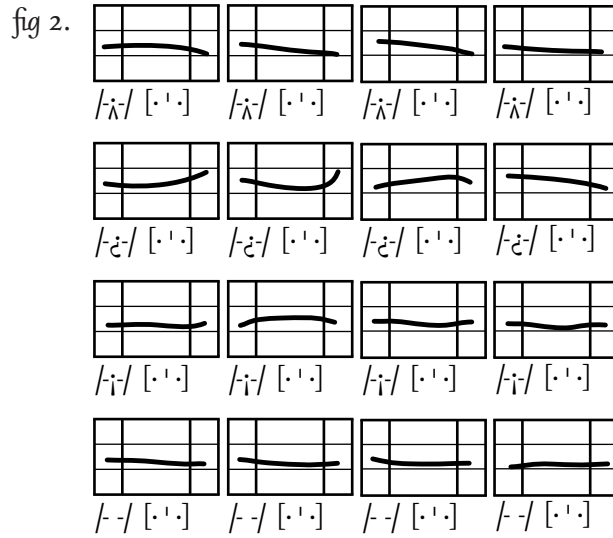
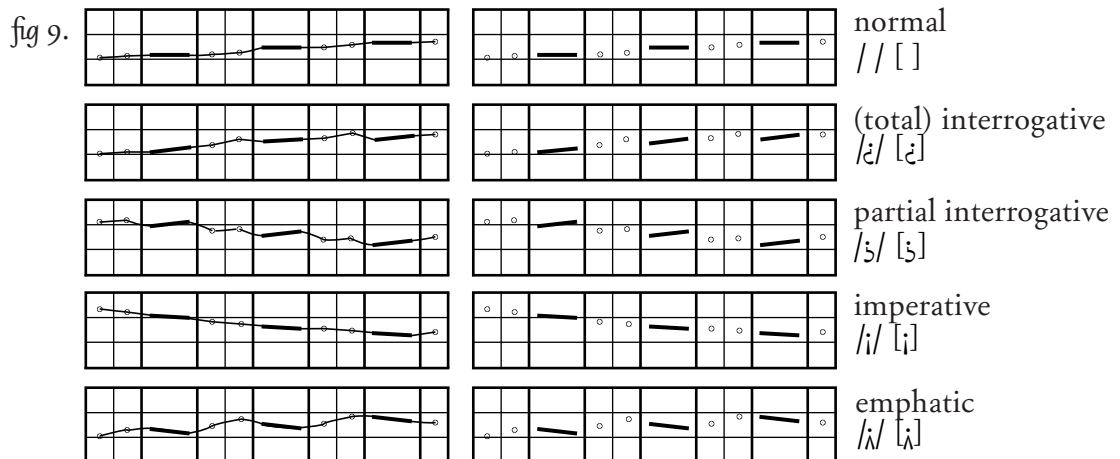
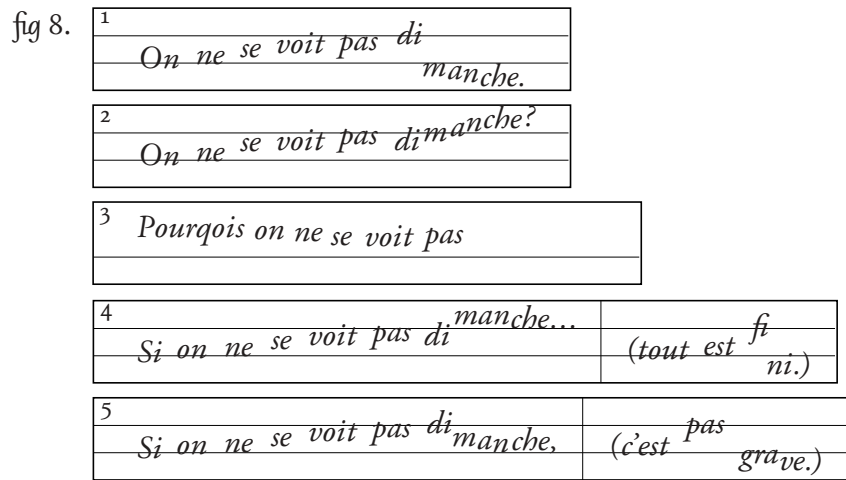
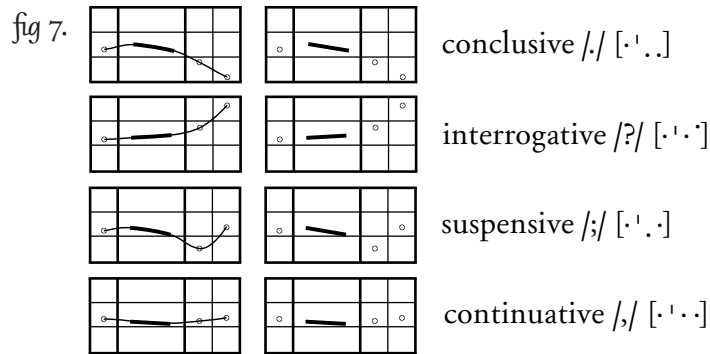
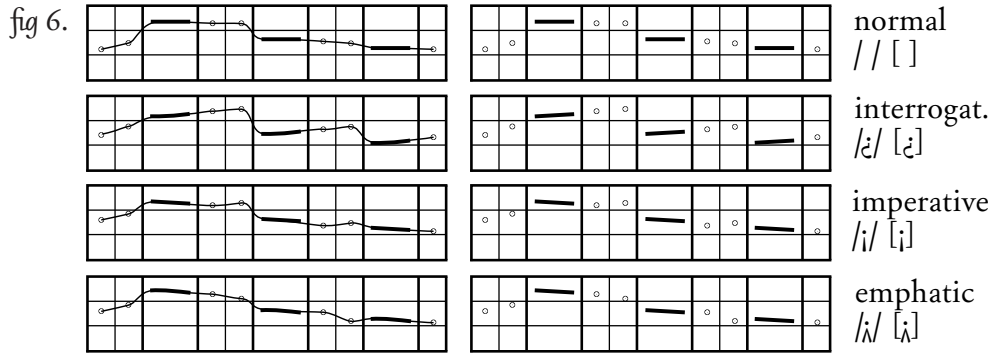


fig 4.

| | | |
|---|--|------------------------------|
| 1 | See you on Saturday. | |
| 2 | (Will they) see you on Saturday? | |
| 3 | (If they don't) see you on Saturday... | (it'll be a total disaster.) |
| 4 | (If they don't) see you on Saturday... | (don't worry about it.) |

fig 5.

| | |
|---|---------------------------------------|
| 1 | (Will they) see you on Saturday? |
| 2 | (Why won't they) see you on Saturday? |



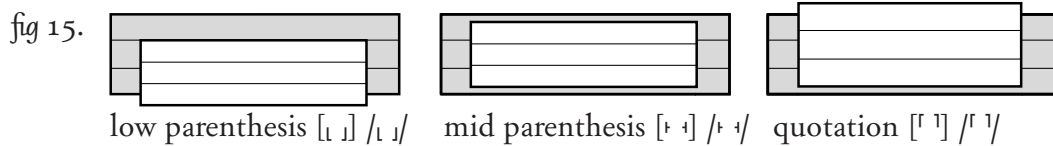
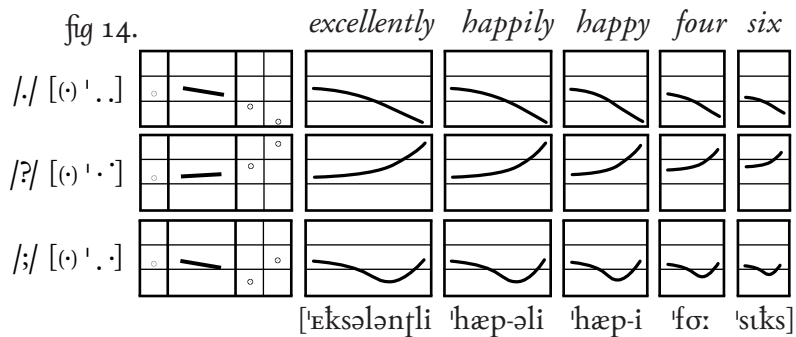
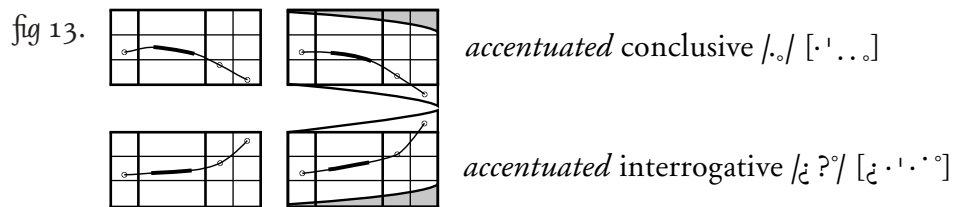
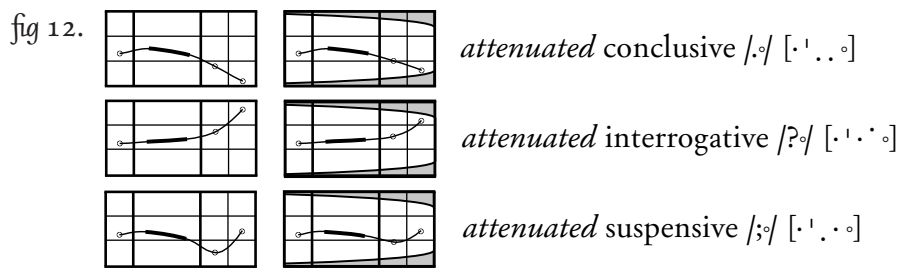
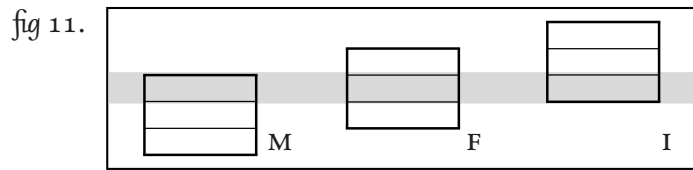
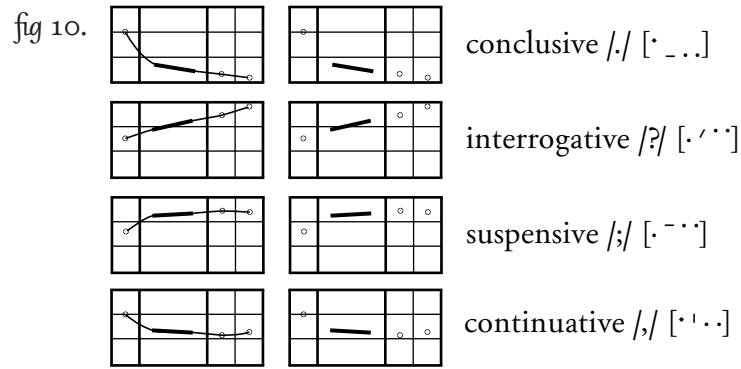


fig 16.

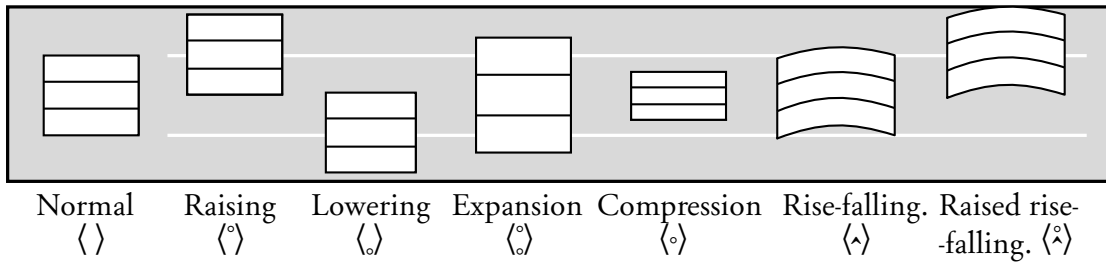


fig 17.

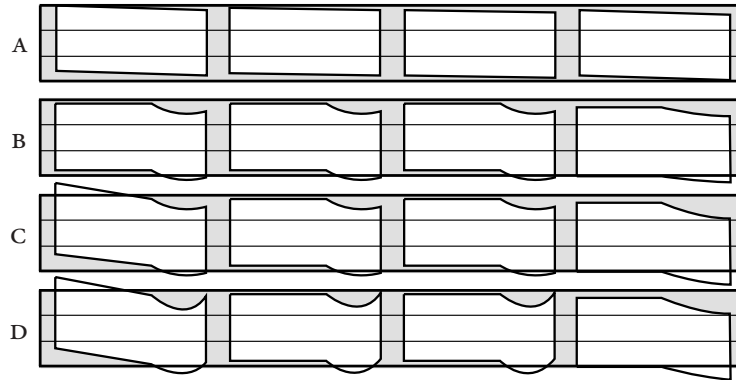


fig 18.

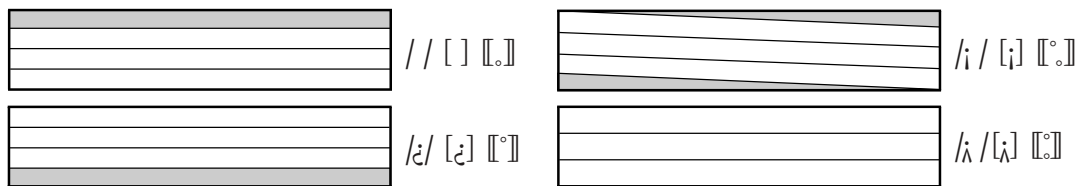


fig 19.

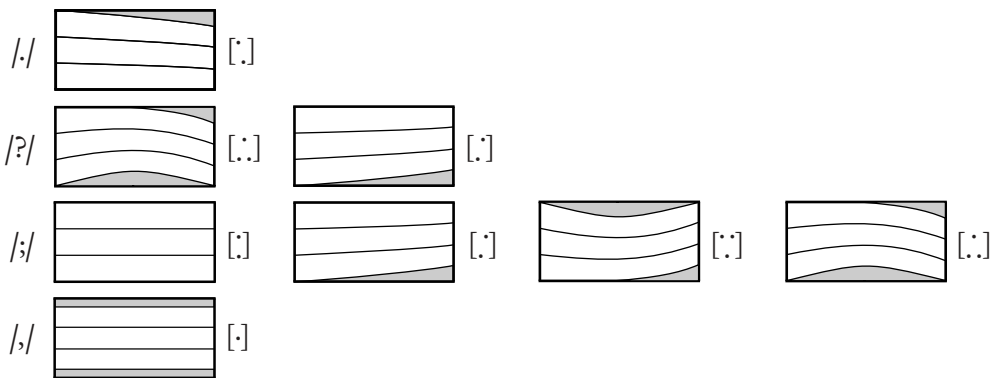
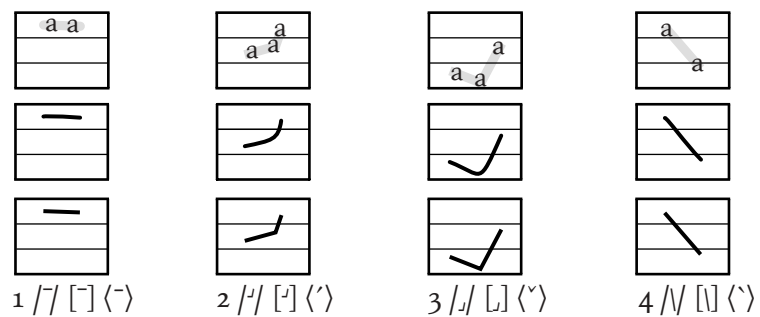


fig 20.



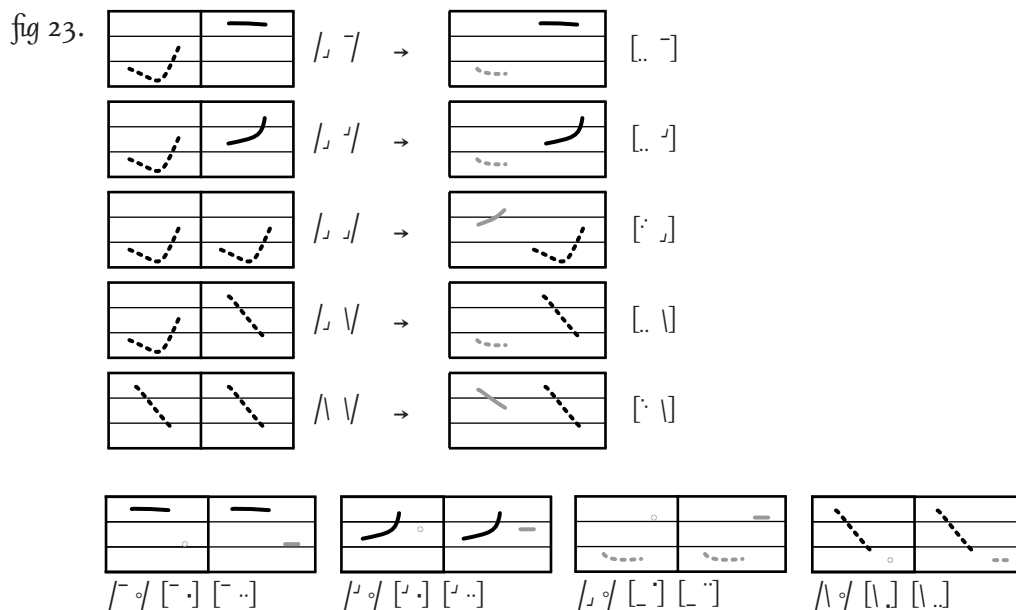
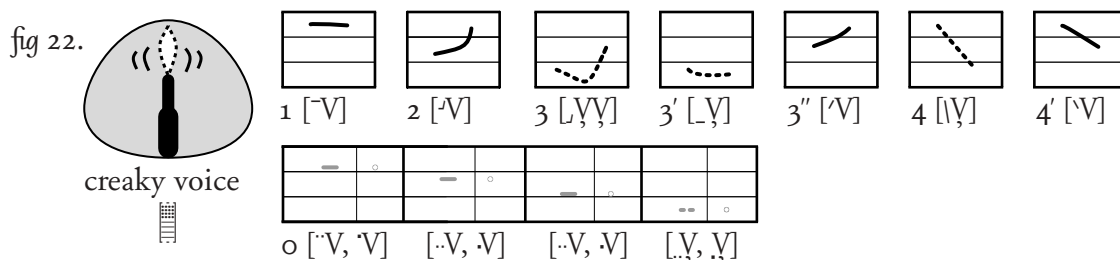
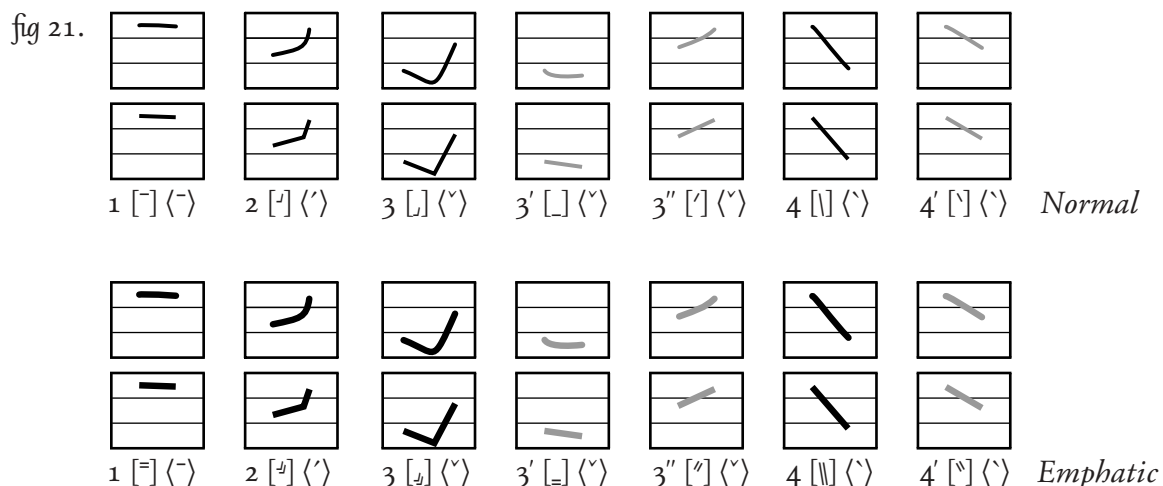


fig 4-5 show, in a grapho-schematic way, some examples in neutral British English, while fig 6-7 present their tonograms.

If four protunes and four tunes are generally and necessarily sufficient to produce and describe well acceptable intonation patterns, it must be said that certain languages may have different protunes. For instance, 'official' French (neutral, traditional, mediatic, and Parisian, cf fig 8-10), which has two different interrogative protunes: for *total questions* ($/\dot{z}/$, with Yes/No answers: *Avez-vous fait ça?*) and *partial questions* ($/\dot{z}/$, with interrogative words, and no Yes/No answers: *Pourquoi avez-vous fait ça?*).

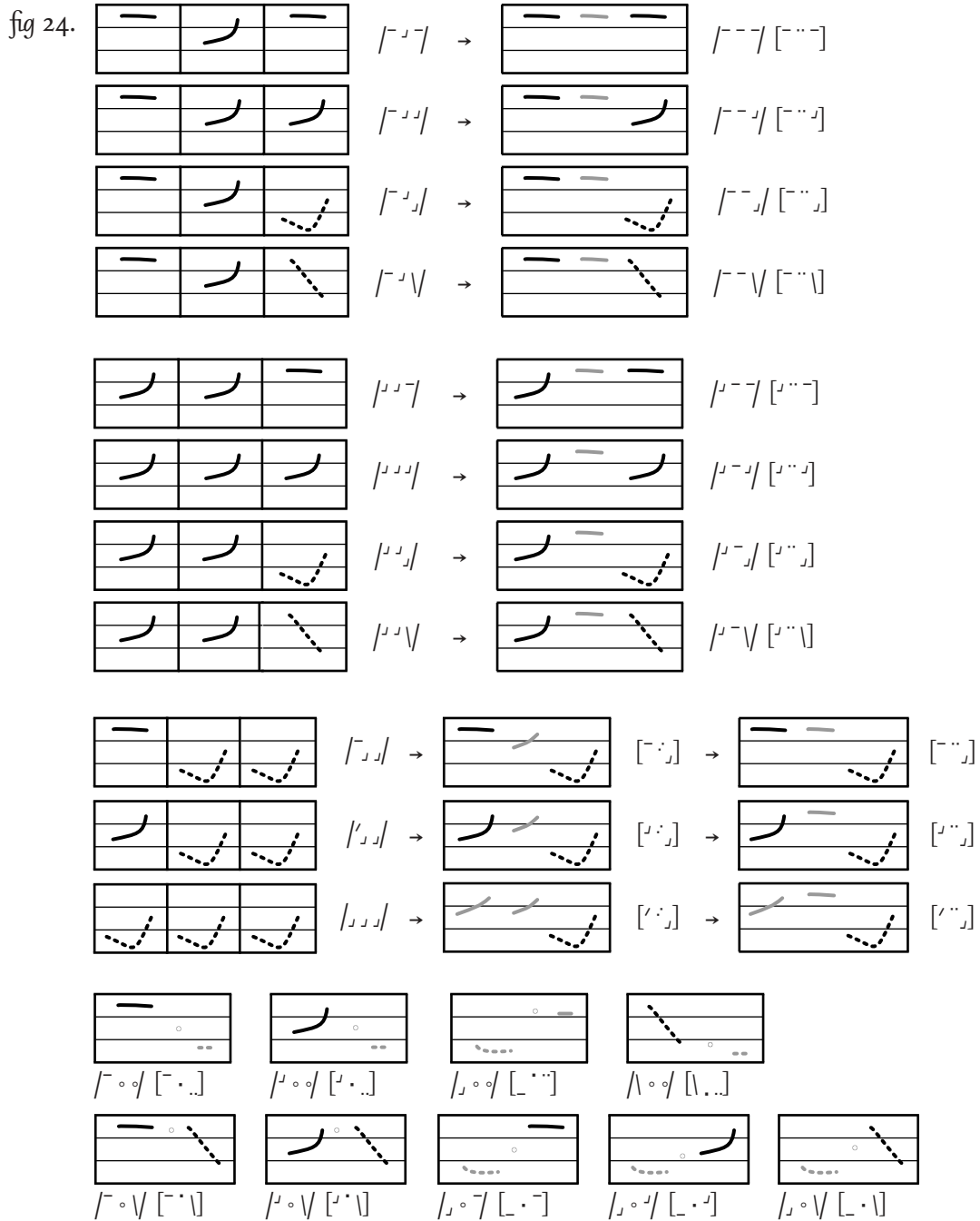


fig 11 shows the general tonetic extensions of the three typical human voices: male, female and infant, which might seem to complicate the normal study of intonation analysis and description, but it is not so, even though, in reality, each one of the three kind of voices has many different possible realizations, including male and female voices that may be exchanged, even when experts listen to them.

Of course, when doing Natural Tonetics, we encounter other practical ‘complications’ besides these ones (even if we leave aside paratonetic peculiarities). There are attenuations and accentuations, mainly of the typical tunes (as shown in fig 12-13).

In addition, fig 14 shows the shapes of the three marked British tunes in words with a different number of syllables.

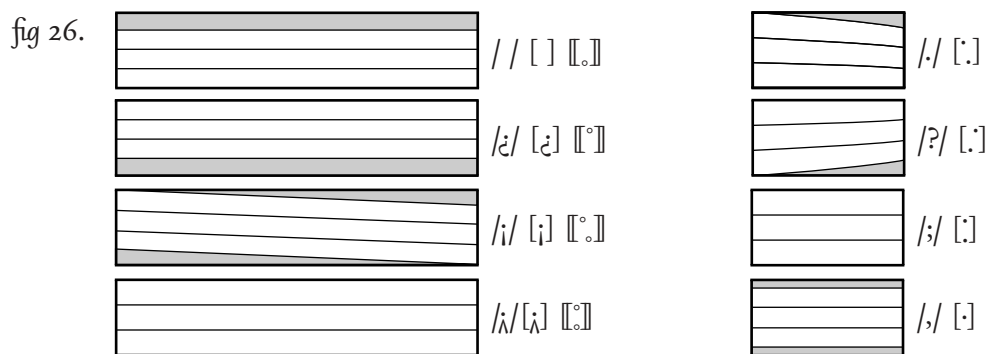
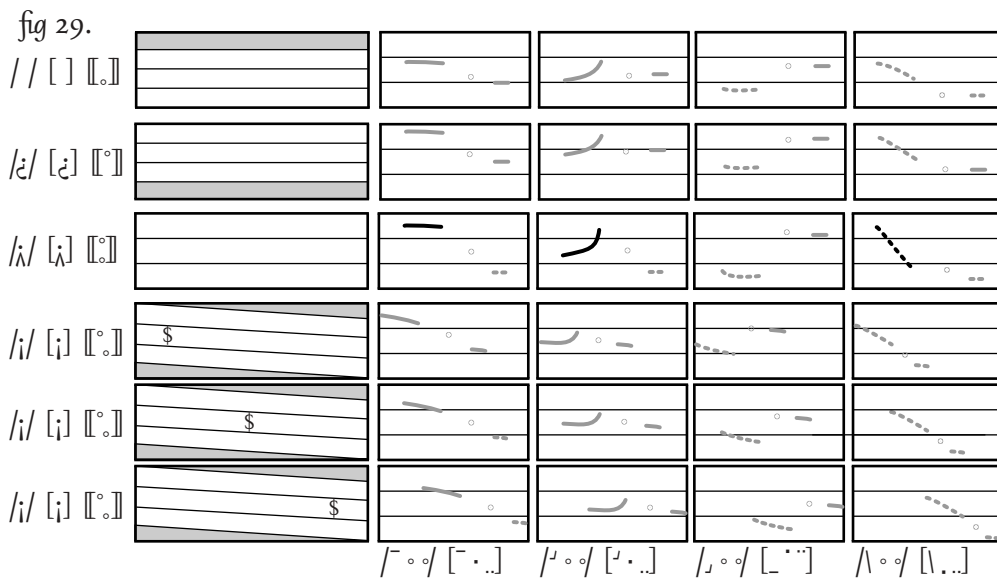
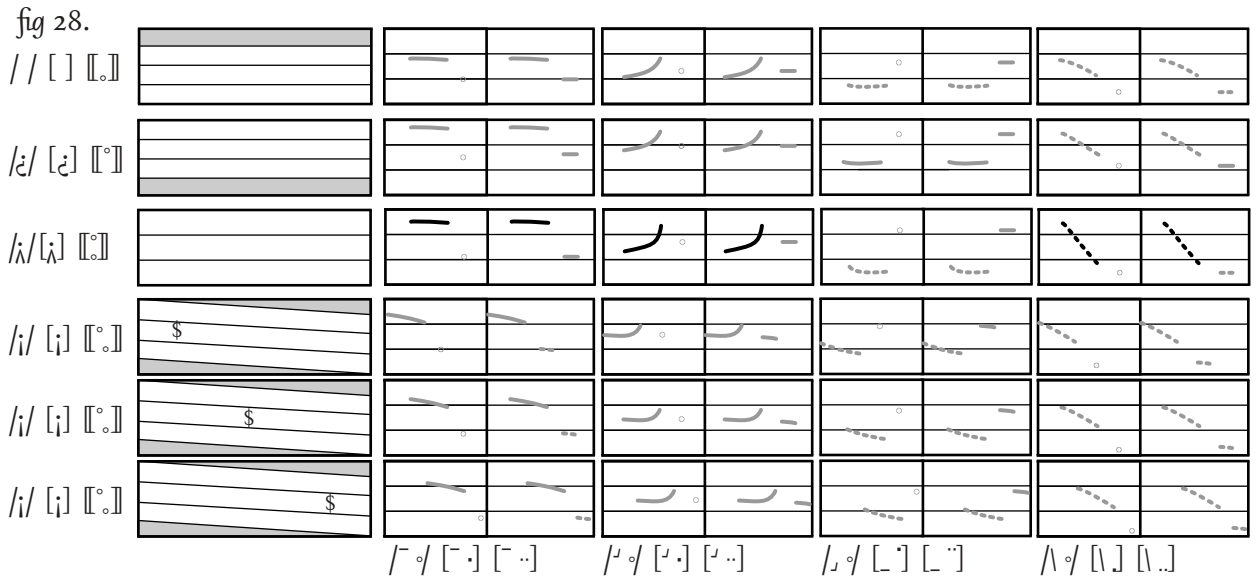
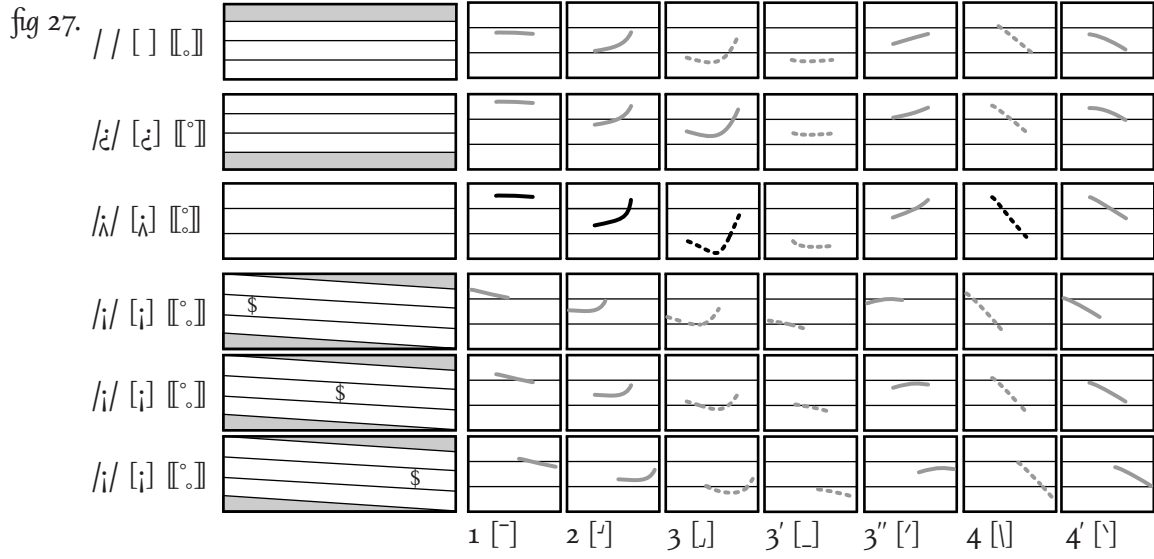
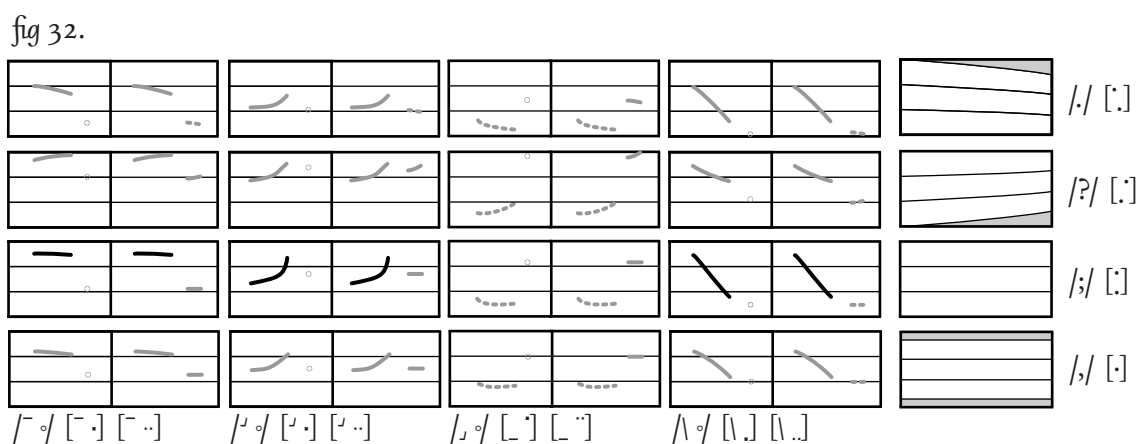
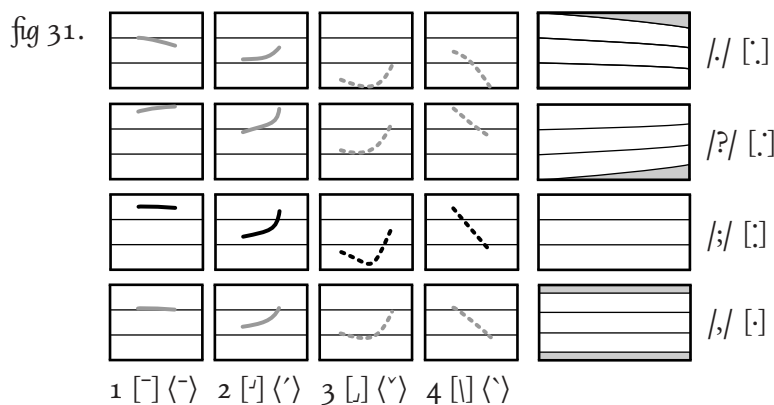
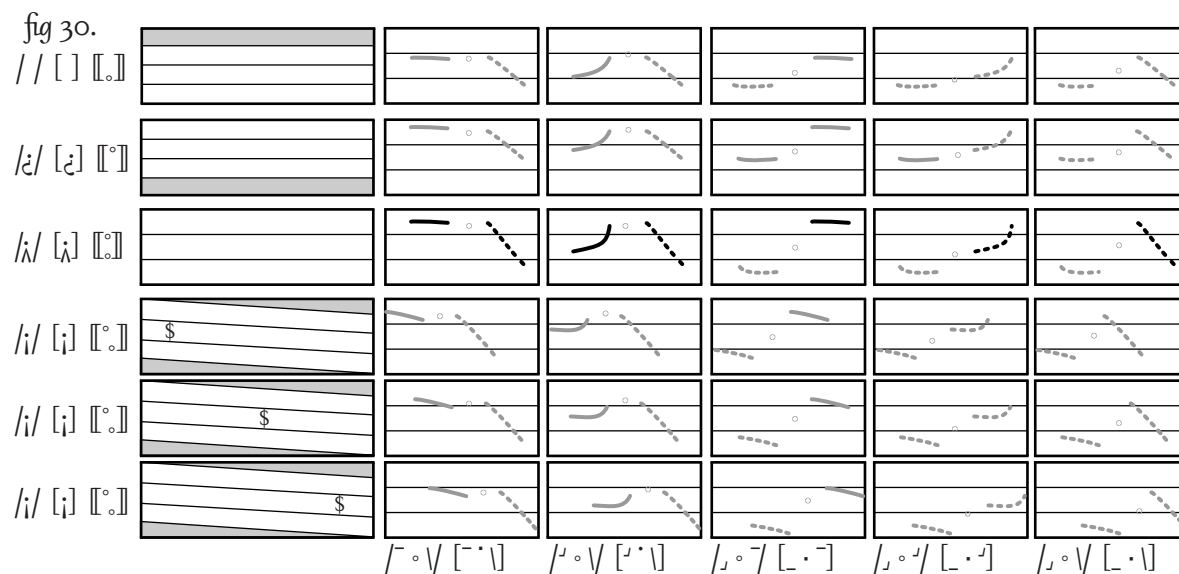


fig 15 adds three actual and usual patterns, easily identifiable when listening to people talking, in everyday conversations. They are: low and mid *parentheses*, /_l _l/ and /_h _h/, and *quotation*, /^l ^h/.

fig 16 presents seven common and frequent paratonetic patterns, still belonging to peculiar linguistic practices, which may certainly improve the transcriptions of particular sections of actual conversations.

We add fig 17, which illustrates four typical everyday role patterns: 1) conver-

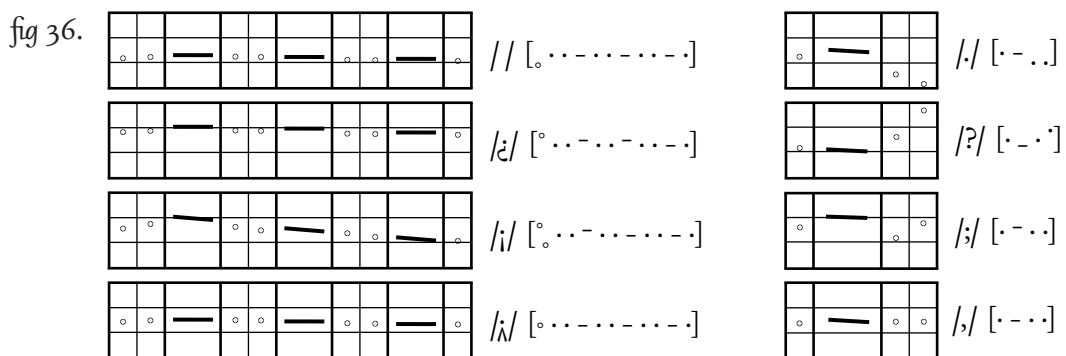
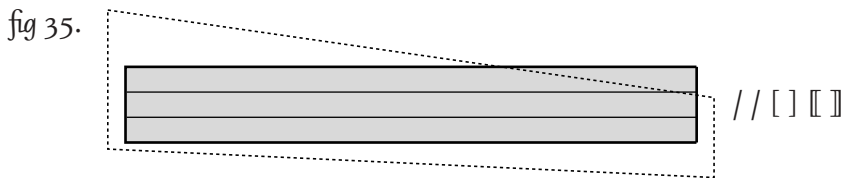
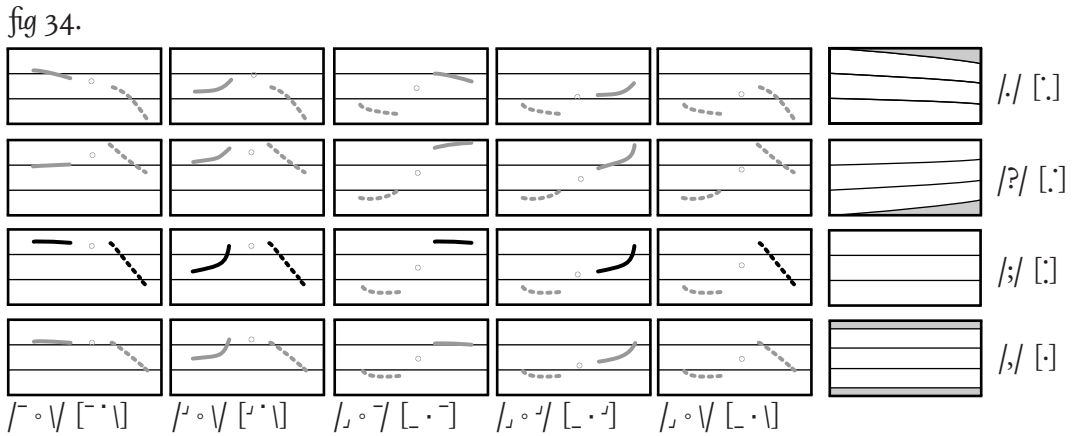
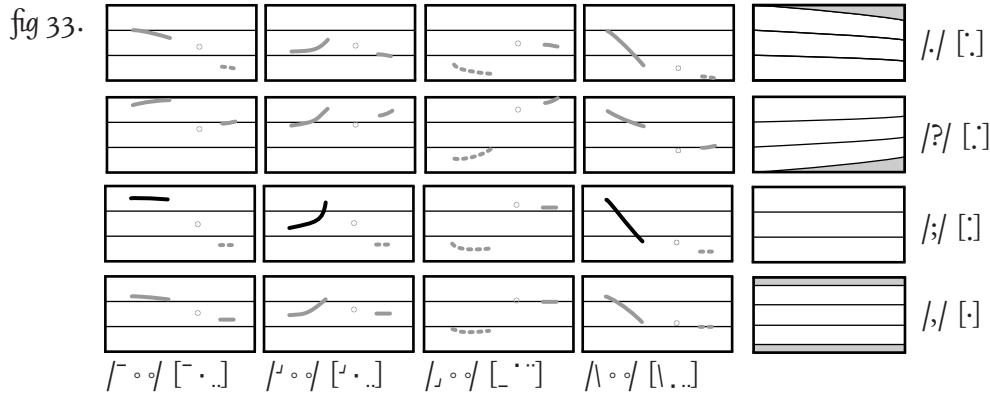




sation, 2) exposition, 3) tv news, and 4) boring bookish intonation.

Of course, also tone languages do use intonation, in order to communicate effectively, in addition to their tonemes and (taxo)tones. fig 18-19 show their more typical protunes and tunes, respectively.

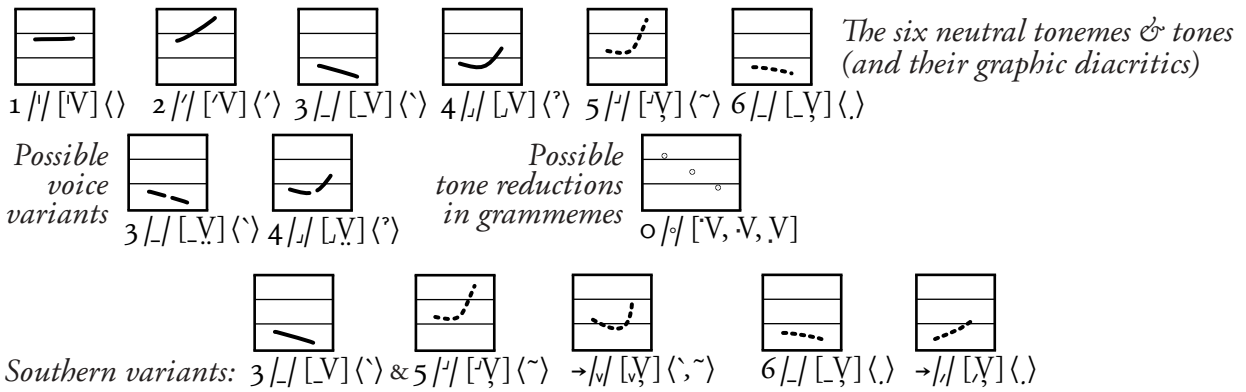
There is a difference, though. For non-tonemic languages, the tonograms (of protunes and tunes) show the tonal contour of the utterances. For tonemic languages, instead, the (empty) tonograms show how the tonemes (associated with syl-



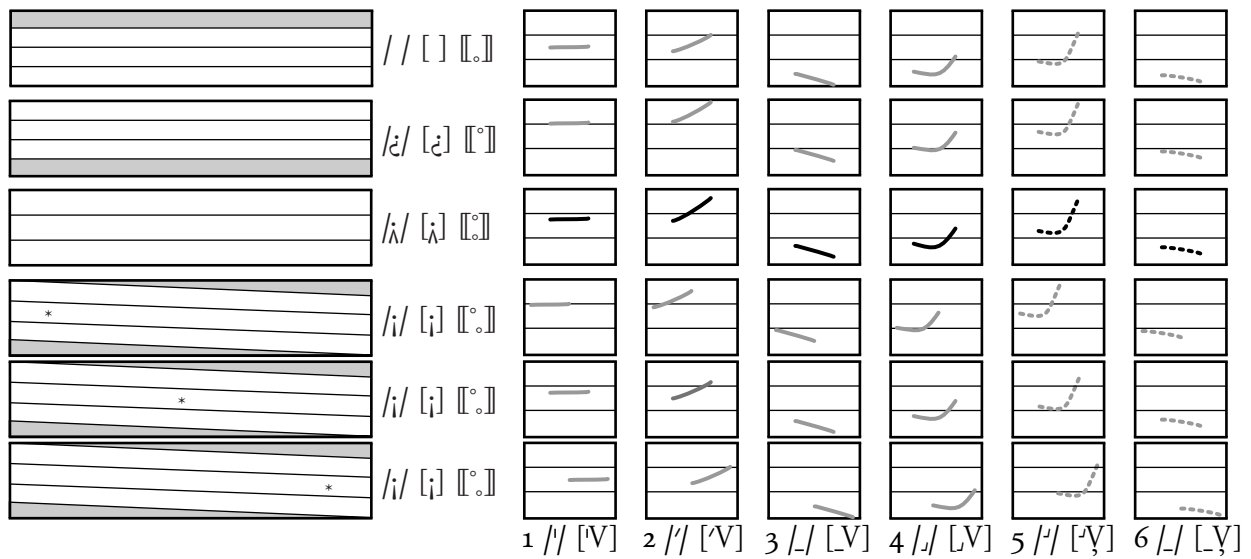
lables and words) are transformed (shifted ϵ_{or} stretched) by the super-imposed into-
nation.

fig 20 shows (in iconic, realistic and schematic ways) the four basic tonemes of neutral Mandarin Chinese. fig 21 present their tones and taxotones, in normal and emphatic utterances. In addition, for completeness, fig 22 presents the necessary elements with creaky voice (dotted strokes).

fig 37.



The four protunes (and the taxotones of the six neutral tonemes, when combined together)



The four tunes (and the taxotones of the six tonemes, when combined together). The first row shows the tones as said in isolation, in an unmodified tonetic situation, //°// [:], with no tune adaptations.

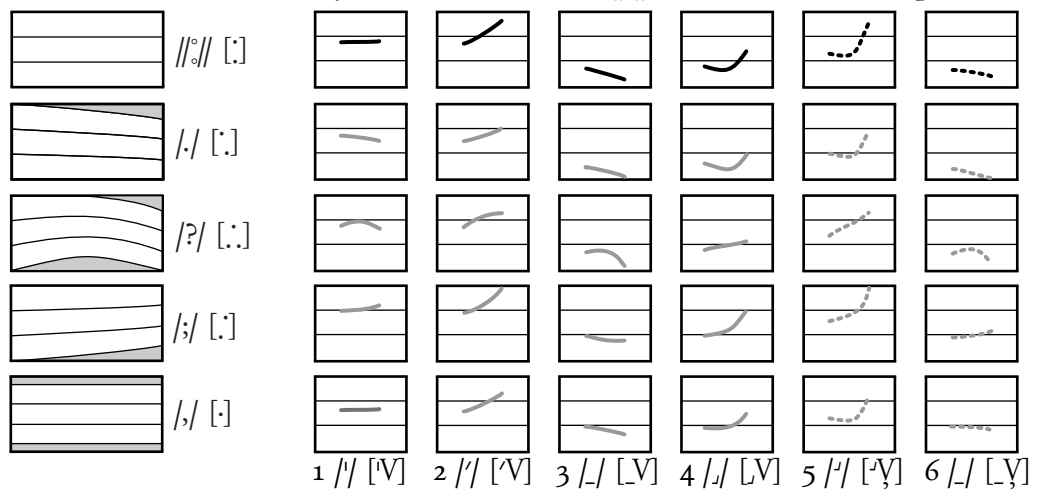


fig 23 shows the fundamental taxotones in different disyllabic sequences, while fig 24-25 present the taxotones in different trisyllabic sequences.

fig 26 shows the protunes and tunes of Mandarin Chinese. fig 27-30 present the taxotones in protunes (in words of 1 to 3 syllables), while fig 31-34 show the taxotones in tunes (for similar words).

fig 35 shows the difference between the *auditory* Natural Tonetic tonogram (normalized in order to more clearly show only the linguistic variations) and its *acoustic* depiction (dotted line, with many non-objective differences, depending on the specific voices of different speakers).

Lastly, fig 36 presents the tonograms used by Mandarin people when speaking foreign languages.

Let us end with Vietnamese, with fig 37 presenting, on top, the six ton(em)es and its three marked tunes. The rest of the figure provides further useful tonetic information.