

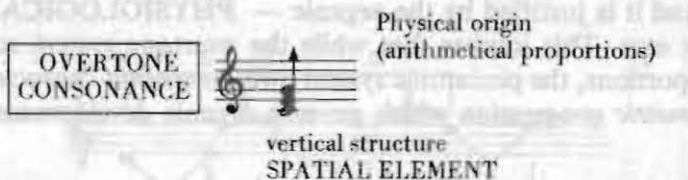
# INTRODUCTION\*

If I were to be asked what role Bartók and Kodály played in the art of our century, I should say: they achieved something that no-one had before their time, the *organic synthesis* of the music of East and West: the “bridge-building” between Orient and Occident.

Bartók’s tonal system is DUAL. In my analytical studies, I have used the terms “Bartókean chromaticism” and “Bartókean diatony” to describe the two characteristic aspects of his music. I refer to the former as the PENTATONIC, the latter as the ACOUSTIC (OVERTONE) system. They represent the two sides of the same coin: presuppose and exclude each other — constituting contrast in unity.

Pentatony has its source in Eastern folk-music, accordingly it is of *melodic* origin — whereas the overtone system is rooted in Western traditional music and is therefore of *harmonic* origin. (Classical Western music does not know melody beyond harmony and function; a Mozart theme, however “melodic” and self-dependent it may seem, always presupposes a harmonic background.)

The overtone system is controlled by the laws of *physical* consonance. Harmony is perfect when the closest overtones are merged in it: in this way the major triad became the starting point of European functional thinking; in the consonance of the perfect fifth and major third our ears register the most simple arithmetical relations. By multiplying the fundamental note’s vibration by 2, 4, 8 we get the octaves; by 3, 6, 12 the fifths; by 5, 10 the major thirds, etc., which define the relationship between the root and its overtones. Harmony represents an order based on the *simultaneous* sounding of notes — thus it is vertical in construction: it has a *spatial* extension:



\*If the reader is unfamiliar with the principles of the axis system, alpha and subminor chords, 1:2, 1:3, 1:5 models, acoustic scale, or Kodály’s relative solmization method, he is recommended to turn straight to the appendix of this book: Terminology — p.757.

The most characteristic formation of Bartók and Kodály's ACOUSTIC system is the overtone chord and overtone scale: major triad (do-mi-so) with natural seventh (ta), augmented fourth (acoustic fourth: fi), and major sixth (pastoral sixth: la), i.e. do-re-mi-fi-so-la-ta-do scale:<sup>1</sup>



The vital condition of the acoustic system is musical "space". Time plays a secondary role in it (a major triad remains a major triad, regardless of the length of its duration).

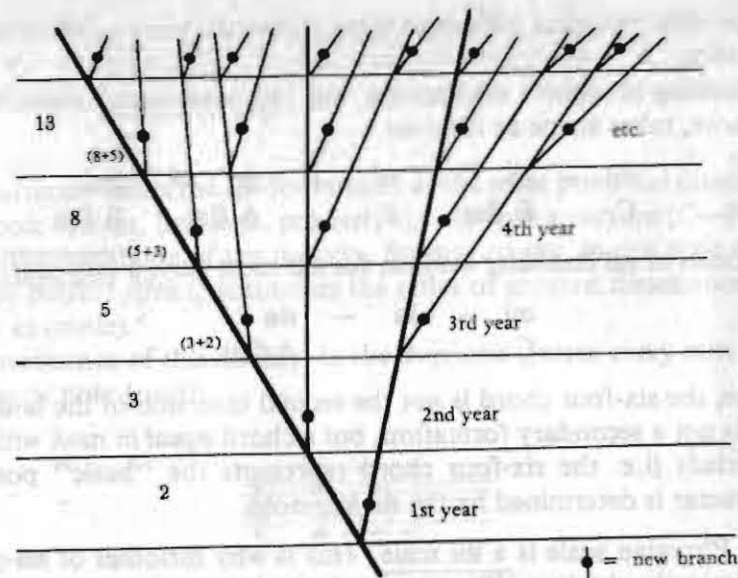
PENTATONY, on the other hand, is of melodic origin.<sup>2</sup> And since melody presupposes tones following each other in "time", it has a horizontal, linear extension:



According to Kodály, the primary distinguishing mark of pentatonic cultures is the descending minor-third motif: so—mi. The derivation of the so—mi cannot be traced back to the laws of PHYSICAL consonance. Just the opposite: pentatony reflects a peculiar "tension" (which could well be termed "life-tension") and it is justified by the organic — PHYSIOLOGICAL — disposition of our ears. This implies that while the overtone system suggests arithmetical proportions, the pentatonic system owes its tension-character to the most simple geometric progression which governs organic development of natural growth.

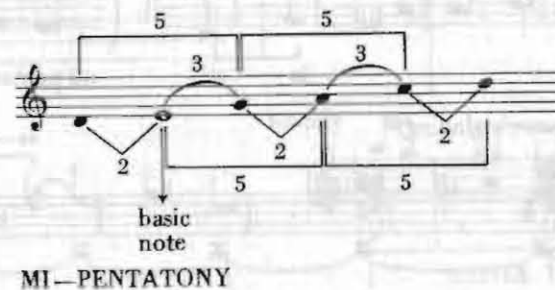
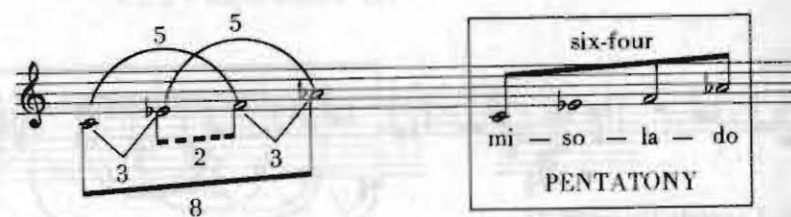
E.g., if every branch on a tree shoots in the next year a new branch — but the new branches are capable of shooting a fresh branch only from the second year on, then the number of branches display an annual increase as follows:

2, 3, 5, 8, 13, 21, 34, 55, 89 ...



These numbers result in the so-called Fibonacci sequence (advancing in the sequence, we approximate more and more the proportion of the geometric mean, i.e. the golden section).<sup>3</sup>

Pentatony is no less than the musical realization of the Fibonacci-series. By adapting the Fibonacci numbers to the intervals, measured in semi-tones: 2 means a major second, 3 a minor third, 5 a perfect fourth, and 8 a minor sixth:



To begin with, we must introduce three technical terms — all of them hide a common idea:

(1) According to relative solmization, the **mi-pentatonic** scale, based on C as a key-note, takes shape as follows:

mi — so — la — do — (re)  
 C E flat F A flat B flat

(2) Melodies of **mi** character assume, for the most part, a **six-four** structure:

mi — la — do  
 C F A flat

in this case, the six-four chord is *not* the second inversion of the **la-do-mi** triad — i.e., it is not a secondary formation, but a chord *equal in rank* with the root-position triads (i.e. the six-four chord represents the “basic” position). Its tonal character is determined by the **mi** key-note.

(3) The Phrygian scale is a **mi** scale. This is why melodies of **mi-pentatonic** origin, frequently obtain a **Phrygian** colouration.

Peasant songs belonging to the deepest layer of folk-music have a **mi-pentatonic** character and, at the same time, a six-four structure — with a typical **la—mi** cadence. This implies that the tonal meaning of these melodies is determined *not* by the “F minor” or “F seventh” chord as in traditional music (see Fig. above) — but by the C **mi-pentatonic** scale: **mi-so-la-do** sequence based on C as root.

In anticipation, we give three short examples (note the plagal **la—mi** cadence!):

folksong

Bartók: Concerto (beginning)

Kodály: Háry János (beginning)

Classical harmony treats the six-four chord as the most powerful dissonance. In the pentatonic system, however, precisely the *six-four* structure (C—F—A flat) constitutes the backbone of the melody. Strange to say, in this style of expression it is the *perfect fifth* that touches the point of greatest dissonance (see Fig. above, last example).<sup>4</sup>

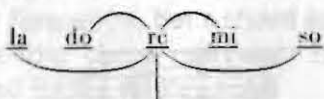
As a consequence of this duality, in the overtone system every note relates to a *fundamental* note (root):

whereas in the pentatonic system *every* note bears a relation to *every* note. In the type most characteristic of Bartók and Kodály's music — the so called “alpha”<sup>5</sup> harmonies — this principle has virtually become a rule: the pentatonic 8, 5, 3, 2 intervals (or their octaves) intertwine with every note of the chord:

- = minor sixth (8)
- ∪ = fourth (5)
- ∨ = minor third (3)
- ┌.....┐ = major second (2)

and — as opposed to the classical practice — the intervals are irreversible (e.g. in a **mi**-pentatonic melody, the **re** above the root and below it have quite different meanings).

The essence of Bartók and Kodály's achievement is that the two systems are not only diametrically opposed to each other but at the same time constitute a *coherent whole*. The symmetry centre of our tonal system (the symmetry centre of pentatony and that of the major and minor scales) is the **re** degree — from which up and down every note is symmetrically arranged. In the pentatonic scale for example:



Perhaps nothing demonstrates better the relationship between Western and Eastern thinking than the fact that — in relation to the **re** symmetry centre — the basic cadence of the pentatonic system, the plagal

**la** → **mi** closure

(cf. Fig. 5), and the dominant-tonic, V—I cadence of classical music, the

**so** → **do** closure

are precise mirror images of each other:<sup>6</sup>

