

**KÁDÁR GYÖRGY**  
**PENTATON HANGKÖZASSZOCIÁCIÓK**  
(Magyar nyelven csak szinopszis)

**GYÖRGY KÁDÁR<sup>1</sup>**  
**PENTATONIC PATTERNS OF CONSTRUCTION**  
– a Study based on work by Gábor Lükö

Van-e valami közös az alábbi bicínium (Kodály) felső szólama harmadik és negyedik illetve az alsó szólam második és harmadik üteme között?

Lépést, ♩ = 116



A magyar zenei közéletben köztudottnak számít, hogy a magyar népdalok ősi rétege pentaton jellegű. Az azonban már kevésbé köztudott, hogy pentatónia többféle is van (ls. a Wikipédia címszava „pentatónia”). Ennek ellenére van ez így, hogy Kodály Zoltán és Bartók Béla az „anhemiton” jelzővel különböztették meg a magyar népzében gyakoribb félhangnélküli pentatóniát a félhangot tartalmazó pentatóniától. Arról is csak kevesen tudnak, hogy a pentatónia nem csak azt jelenti, hogy a nyugat-európai hétfokú zenékhez képest a pentatóniából hiányzik a „ti” és a „fá”, hanem azt is, hogy a pentatónia egy sajátos, önálló zenei hangköz-asszociációs rendszerrel bíró zenei világot jelent.

Lükö Gábor magyarságkutatónak ezek az 50-es években tett, és azóta is elhallgatott felfedezései, egészen új megvilágításba helyezik a magyarság zenei világát, beleértve ebbe a magyar népdaloktól Bartók, Kodály, Dohnányi Ernő és más nagy szerzőink műveit is.

Lükö nagy felfedezése az volt, hogy a pentatóniát nem hiányos, vagyis „ti” és „fá” nélküli hangrendszernek tekintette, hanem önálló, a hétfokú (dúr és moll) hangrendszerekkel egyenrangú hangrendszernek. Moldvai gyűjtőútjain arra figyelt fel, hogy azokban a falvakban, ahol a pentaton hangrendszer még élő volt, az e falvakba eljutott hétfokú dallamok pentatonná váltak. Vagyis ha az ottani énekesek hétfokú dallamokat hallottak, azt a maguk pentaton világában értelmezték – a „ti” és a „fá” hangok pentaton hangokká értelmeződtek át. Hasonló jelenség ez a finnugor nyelvészek által megfigyelt hangtani jelenséghez, mely szerint a finnugor nyelvek nem tűrik/nem tudják értelmezni a szókezdő mássalhangzó-torlódást: Stefan > finn Tapani, magyar István; skola > fi. koulu, m. iskola, stb.

Lükö arra jött rá, hogy a pentaton hangok egy élő hangközasszociációs rendszert alkotnak, s ez a rendszer küszöböli ki a rendszertől idegen hangokat. (Ugyanúgy, mint ahogy a hétfokú

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hangrendszeren felnőtt zenészek sem tudják a fél hangköznél kisebb hangközöket értelmezni, azokat például egyszerűen hamisnak hallják.)

Lükő e tapasztalatait szembemelve a megszokásokkal a meglepő eredmények ellenére is, tudományos következetességgel végigvitte. Ahogyan a nyugati zene a maga hangrendszerének szomszédos hangjait szekundoknak tekintette, úgy Lükő is szekundoknak tekintette a pentaton hangrendszer szomszédos hangjait. A diatonikus hangrendszerekben mint tudjuk, kétféle szekund és kétféle terc van. A pentaton hangrendszerben is kétféle szekund van, kicsi és nagy, de ezeket a hétfokú hangrendszerben nagy szekundnak és kis tercnek halljuk. Még bonyolultabb a helyzet a pentaton terceket illetően:

le2 = lesser second  
gr2 = greater second  
le3 = lesser third  
gr3 = greater third

Ebben a hangrendszerben a kis terc a hétfokú nagy tercnek, a nagy terc a hétfokú tiszta kvartnak felel meg. Ha ennek ismeretében újra megvizsgáljuk Kodály bicíniumát, akkor az felső szólam (kijelölt) dallamrészlete az alsó szólaménak szabályos tükörképe szekunddal magasabban. Gondolhatnánk ezt véletlennek is, de a tanulmány többi dallampéldáját áttekintve ez tarthatatlan. Az alábbi példa Vikár László cseremisiz gyűjtéséből való. Az ötfokú vonalrendszerben, azaz olyanban, amelyben a „ti”-nek és a „fá”-nak nincsen helye ilyen kottaképet ad:

Az itt bemutatott pentaton hangrendszer szerinti lejegyzésből kitűnik, amit a hétfokú zenére szabott vonalrendszerben nem látnánk, dallam sorszerkezete: AA<sub>2</sub>(AA<sub>2</sub>)<sub>4</sub>. A cseremisiz pentaton hangköz-asszociációs rendszer tehát úgy is mondhatjuk „él és virul”.

Hasonló példa Kodály bicíniumából hétfokú és ötfokú vonalrendszerben lejegyezve:

Lassan,  $\text{♩} = 60$

Kör-té-fa, kör-té-fa, Gyön-gyö-si kör-té-fa, Sok gya-log ka-to-na meg-pi-hen a-lat ta.  
Kör-té-fa, kör-té-fa, kör-té-fa.

Kard-já-val föl-szánt-ja, vé-ré-vel bo-ro-nál-ja, Még-is a ki-rá-lyát szol-gál-ja.  
Kard-já-val föl-szánt-ja, vér-rel bo-ro-nál-ja, Még is ő Föl-sé-gét i-ga-zán szol-gál-ja

Számunkra a hétfokú zenéhez szokottak számára még meglepőbb lehet, ha megvizsgáljuk a cseremiszek vagy más népek, akár a magyarok félhangos pentaton világát. Ezekből sok és sokféle van. Itt csak a leggyakrabban előforduló „so-ti-do-re-mi”-típusú dallamokkal foglalkozunk.

Amint azt látni lehet, itt már háromféle szomszédos hang, szekund van. A hangközasszociációk ennek ellenére teljesen következetesek az alábbi cseremisiz dallamban (Vikár gyűjtése) is:

$\text{♩} = 96$

Eənda - zat kəðət - la a - yə - taniəl mu - ral - ta  
wa - ra - lə - žən čoivə - lan ku - ze tu - čes?  
jənga walem oí - zəl - nem, po - sa - namže šen - gel - nem,  
po - sa - na - mən čon - žə - lan ku - ze tu - čes?



Amint az a tanulmány dallampéldáiból kitűnik, nem valami távoli zenetörténeti érdekességről van szó, zeneszerzőinkben is éltek ezek a hangköz-asszociációk. Ezek ismerete közelebb hoz bennünket e szerzők műveinek megértéséhez.

## PENTATONIC PATTERNS OF CONSTRUCTION

– a Study based on work by Gábor Lükö

György Kádár<sup>2</sup>

A task assigned to musicology – which also can be deduced from the term in question – is to make or at least try to make us conscious of the emotional mental processes related to music. In other words: What are musical events like? What kind of effect do they have on our emotions? Very few researchers have been able to fill this gap between these two different areas of the human mind, that is to say knowing and feeling. Generally the first stage in this task is to study larger musical segments, and even this is a task which most Finno-Ugric researchers in the realm of comparative musicology are unable to cope with. In my view these difficulties are related to the way the task is approached. Although in the humanities and cultural anthropology the emphasis accorded to the study of phenomena in their cultural contexts has found general acceptance, Finno-Ugrian music has continued to be studied from the viewpoint of traditional (German) musicology, using a traditional terminology. Once having internalised this kind of musical thinking, a person is unable for example to detect any relationship between the highest and lowest voice in Kodály's bicinium (Kodály 1992. 4.):

### EXAMPLE 1

Lépest, ♩ = 116



In the majority of cases when this music is analysed there is a tendency to assume that in the highest voice there is a segment "a" which corresponds to a segment "b" in the lowest voice. But researchers should hear this music in the same way as folk singers accustomed to the typical features of pentatonism:

highest voice: "a";

lowest voice: inversion<sup>3</sup> of "a" transposed up a whole tone: "a2p".

For the sake of comparison I take the next example, a traditional Mordvinian song (Väisänen 1948. 34.) with a construction of same type i.e. "a 2p":

### EXAMPLE 2

<sup>2</sup> György Kádár M.A. is a primary school teacher in Vaasa. His special field of research is the folk music of the Finno-Ugrian peoples.

<sup>3</sup>Henceforth the symbol for inversion is: p.

$\text{♩} = 88$  (e)

T'ušlān(i) T'ušlān(i) T'ušlān [a]zoro  
T'ušlān [a]zoro iña - zoro.

The same type of construction is to be found in two cadences (bars 2. and 4.) of the following Mari folk song (Example 3)(Vikár 1971. 251.):

EXAMPLE 3

$\text{♩} = 96$

1) cā - ci - cā cel - ko - woj,  
3) cā - ci - cā cel - ko - woj,  
5) cel - ko - woj - žə ə - žä - a - yəl  
7) ä - ke - täng - žok ə - žäl.

From the viewpoint of pentatonism in the above musical examples there are adjacent tones (that is to say, there is an interval of a second, sometimes a "lesser"<sup>4</sup>, sometimes a "greater"<sup>5</sup>, second among the various kinds of seconds included in the pentatonic system). However, persons brought up in the diatonic tradition are unable to recognize this similarity of structure because at certain points they tend to hear a third instead of a second. They are hearing the pentatonic system inadequately. A "greater" second in the pentatonic tone system is heard not as a second but as a (minor) third because there is, according to Chinese terminology, an additional *pien*-tone. Yet nobody would question the similarity between a passage and its inversion in a fugue by J. S. Bach (Die Kunst der Fuge) on the grounds that one of the adjacent seconds is greater or smaller than the other (Example 4). This goes back to the fact that the above-mentioned music is heard and comprehended within its own tone system. In this system a second is treated as a second, although chromatically, also here, a second can actually be a third.

Similarly, we are not able to recognize transpositions in the pentatonic tone system. We misinterpret cadences and identify them using the wrong system (whether the analysis is done by reading or by ear).

EXAMPLE 4

<sup>4</sup>Here a term "lesser" second denotes an interval consisting of two semitones (editorial comment).

<sup>5</sup>Here a term "greater" second denotes an interval consisting of three semitones (editorial comment).

The following example (Vikár 1971. 160.) will illustrate this kind of musical mishearing:

EXAMPLE 5

♩. = 64 - 66

Musicologists have analysed the construction of cadences in this melody as follows: 4, b3, 2, VII. They have produced this kind of analysis in spite of the fact that the mode of this melody (at least in Finno-Ugrian melodies) does not include the seventh degree. The compass of the melodic line never extends under "soh" in melodies of this type.<sup>6</sup> The scale in this tone system does not include flattened tones either. Analysed from the point of view of its tone system, the pattern of the cadence will be: 4, 3, 2, 1, employing a second-shifting downwards. This cadential formula based on the hemitonic pentatonic scale is typical of Finno-Ugrian folk music. If we obtained this result (4, 3, 2, 1 instead of 4, b3, 2, VII) after analysing this scale, we would immediately see that this type of cadence is also typical of anhemitonic pentatonism. Unfortunately the last-mentioned type of pentatonic scale also has been analysed from the point of view of traditional (German) musicology. Therefore, besides being misunderstood, it becomes also more difficult to make a comparative study in the realm of pentatonic music.

In the next chapters I will consider the patterns of construction produced by musical thinking within the pentatonic tone system.

**Scales used in Finno-Ugrians music**

Various modes or scales are used in Finno-Ugrian folk songs. Which of them date from the Finno-Ugrian era? It is possible to apply a linguistic method here. The task is to seek out from among the most distant Finno-Ugrian peoples several (!) reliable variant forms of melodies using the same scale. That is to say, the melody can be assumed to date from the Finno-Ugrian era if variant forms of a certain melody not of foreign origin (e.g. containing Slavic loans) can be found from among the Finns, Lapps, Votyaks, Voguls, etc.

<sup>6</sup>As far as I know the only exception is found in Lappish music. For the sake of comparison, see Launis 1908. 710. or Travina 1987. 13. Further information may be obtained from Kádár 1990, 34.

Correspondingly, if we are able to find several melodies of the same type with variants which use the same scale, it can be assumed that this scale (mode) dates from the Finno-Ugric era, about 5000 years back.

Merely to draw a parallel between melodies and finding reliable variants is a more difficult task than the correspondences done in linguistics. Musicologists also have to take into consideration the present layers of Finno-Ugrian folk songs to find out which of these layers turn out to be of early and which of later origin. A search is then made through all the songs of supposedly early origin in order to determine the mode being used. After that the task is to find out whether this mode is used among the other Finno-Ugrian peoples.

By using this kind of method musicologists have concluded that at least a part of Finno-Ugrian pentatonism and certain pentachords that are included in it date from the Finno-Ugric era. In later times most of the Finno-Ugrian peoples were influenced by early Slavonic culture. The result is that in almost all Finno-Ugrian music there are as early Slavic loan scales which are based either on *ray-*, *me-* or *soh-*tetrachords<sup>7</sup>. In addition, in the music of the Baltic-Finnish peoples there also exists a Baltic type of pentachord totally unknown to other Finno-Ugrians.

### Specifying the two kinds of pentatonic system among Finno-Ugrians

However, I will next focus only on pentatonism. Among Finno-Ugrians there exist the two kinds of pentatonic system: anhemitonic (in which, according to traditional musicological terminology, semitones are omitted and according to Chinese terminology *pien*-tones are omitted) and hemitonic (in which, according to traditional musicological terminology, as well as a third one minor second is also included).

In respect of origin, on the basis of the comparative study of variants we can say that anhemitonic pentatonism is peculiar to the earliest Finno-Ugric era. Apart from this we only know that, originating in China, anhemitonic pentatonism has spread very widely throughout the world. (Chinese loans in Finno-Ugric languages do not exist. Therefore, being non-pentatonic in origin, the only possibility is that pentatonism is a Turkish loan in Finno-Ugrian music, a theory that is not confirmed by the information we have about the oldest layers of Anyway, the information we do have about the oldest layers of Finno-Ugrian folk songs. The assumption that pentatonism is some kind of universal, a developmental stage which every people has gone through in its early history, is not provable. We can only state that pentatonism was at least very common among various peoples who never came into contact with each other. Even if it was a universal phenomenon, pentatonism would have manifestations of its own among each people and culture. The construction of the anhemitonic pentatonic scale is the following:

#### EXAMPLE 6

In addition to anhemitonic pentatonism all Finno-Ugrian peoples are familiar with hemitonic pentatonism:

#### EXAMPLE 7

This scale features in different modes<sup>8</sup>, but on the following pages I will concentrate solely on the mode illustrated in Example 7. In all probability this scale is an ancient Indo-European loan in Finno-Ugrian music. Several ancient Indo-European loans in the Finno-Ugrian languages are evidence for this statement. Common words in proto-Uralic and proto-Indo-European are for instance: *nimi* (Finnish), *näm* (Vogul), *név* (Hungarian), etc., *namo* (Gothic), *nomen* (Latin), etc.; *vesi* (Finnish) *wiüt* (Cheremiss), *víz* (Hungarian), etc., *watar* (Hittite), *wato* (Gothic), etc. Probably the following words are also Indo-Uralic loans in Finnish: *asea*, *ken*, *kuras*, *lapa*, *muru*, *pata*, *suoni*, *tuoda*, *mesi*, *jyvä*, *porsas*, etc.<sup>9</sup>

There are different kinds of anhemitonic pentatonic scales according to the set of pitches constituting the segment in question and the pitch functioning as the final in the melodic contour. We can distinguish

<sup>7</sup>Most comprehensive summary, see Lükö 1964.

<sup>8</sup>Information about the other modes is available in Lükö 1965.

<sup>9</sup>Examples taken from Häkkinen 1990.

between a wide and narrow range in anhemitonic pentatonism. Statistically, in most pentatonic scales either *lah*, *soh* or *doh* functions as the final.

The following Hungarian folk ballad represents the *lah*-pentatonic scale (Kallós 1974, 542.):

EXAMPLE 8

**Tempo giusto = 132**

„A - nyám, é - des - a - nyám,  
 Le - fe - küd - tem va - la,  
 Le - fe - küd - tem va - la  
 Csip - ke - bo - kor a - lá,

The *soh*-pentatonic melody is exemplified in the following Estonian runic tune (Launis 1930/a. 750.):

EXAMPLE 9

Läh - me poi - sid, Poot - si - le, Lu - kes La - kes Lau - ri - le.

The *doh*-pentatonic melody is shown in the following Finnish runic tune (Launis 1930/b. 680.):

EXAMPLE 10

E: Mit - kä nuo me - rel - lä ui - vat, hoi, hoi, hoi,  
 Al - lit nuo me - rel - lä ui - vat, hoi, hoi, hoi,  
 (K:) Mit - kä nuo me - ren se - läl - lä hoi, hoi, hoi,  
 Al - lit nuo me - rel - lä ui - vat, hoi, hoi, hoi.

Although *using* several different modes, Finno-Ugrian hemitonic pentatonism is not as manifold a phenomenon as anhemitonic pentatonism. The former mainly consists of four or five (sometimes six) adjacent tones, with a monotonous ending on *soh* at a cadence. Examples of this case are the following three melodies. The first is a Mordvinian wedding song (Väisänen 1948. 13.), the second a Mari folk-song (Vikár 1971. 117) and third a Finnish runic tune (Launis 1930/b. 157.):

EXAMPLE 11a

♩ = 60 > 92 (e<sup>1</sup>)

*Sva<sup>3</sup>vinem, bo - yar ä - vinem, vasolon bo - jar avinem!*

*pilden kelmesl, kensl kayasl, mon keden kelmesit, kel kajasl*

*vasoloni tar - ka mon(i) sin, vasolon tar - ka mon molin.*

EXAMPLE 11b

♩ = 96

*Eõnda - zat kõdõt - la a - yõ - taniel mu - ral - ta*

*wa - ra - lõ - žõn õõivõ - lan ku - ze tu - ões?*

*jõnga walem õõ - zõl - nem, po - sa - namže õen - gel - nem,*

*po - sa - na - mõn õõõõ - lan ku - ze tu - ões?*

EXAMPLE 11c



E: It - se, on van - ha Vä - nä - moi ne.  
Te - kip' se tii - jol - la ve - neh - tä,



(F:) It - se on van - ha Väi - nä - moi - ne,  
Te - kip se tii - jol - la ve - neh - tä

**Pentatonic patterns of construction**

Pentatonic tone systems are not defective systems. As a major scale is not considered to be defective because it has only two minor seconds, likewise the pentatonic scale is not imperfect because it has few semitones (or other kinds of small intervals). The diatonic and pentatonic tone systems are independent. Most musicologists are of one mind about this statement, but what does this mean in practice? The easiest way to clarify this is to study the transpositions in each system.

Within a system such as the diatonic consisting of seven scale degrees, Vivaldi consistently makes transpositions in the following way: in a sequence of a type with a second-shift, the seconds remain as (adjacent) seconds irrespective of their quality (whether they are minor or major seconds) and similarly in a type with quint-shifting, fifths remain as fifths irrespective of their quality (either perfect or augmented). The next extract by A. Vivaldi is from his Concerto Grosso d-minor Op. 3, No. 11:

EXAMPLE 12

VI. I  
Solo

As a musical experience these two sequences are considered to be identical irrespective of their different patterns of construction. This is also visible from the five-line staff. On the other hand the quality differences in the intervals resulting from the transpositions will fade out. The consequence is that a listener does not experience the difference between the original and the transposed version.

The next case to view is that of a Mordvinian folk ballad (Väisänen 1948. 113.):

EXAMPLE 13a

In this example the musical information received on the basis of the notation is not the same as that which listeners who are accustomed to the musical features typical of pentatonism will receive by ear. In the notation in the beginning of the first phrase the melody ascends by a leap to the (minor) third above and it seems to have a parallel beginning in measure five where the melody ascends by a leap to the (major) second above. However, folk-singers accustomed to pentatonism hear the melody ascending by a leap to the second above at the beginning of both phrases. If we alter a staff by omitting the lines indicating the places of the *pien*-tones, the way folk-singers experience this music also becomes visible from the staff (Example 13b). By this kind of notation it is easy to observe where in this melody the transpositions made down a second are exact. (Actually, except for cadences in inverted versions the transpositions are exact throughout.)

EXAMPLE 13b

Comparing these two modes of notation it becomes evident that similar to the five-line staff generally used with music based on seven scale degrees, also in the case of three-line staff an interval of two adjacent notes can be either minor (lesser) or major (greater):

EXAMPLE 14

In the above example the indications of intervallic differentiation between minor and major seconds according to its tone system are made by the *sol-fa* syllables. (The clef sign indicates the occurrences of

minor and major seconds in a notational system based on the five-line staff generally used in diatonic music.)

In the following melody (Vikár 1971. 269) used in examples 15, the transposition is made exactly, note by note. I have also here used two different notational systems for this melody, a system based on a five-line staff and a system based on a three-line staff. As can be seen from the above example, using a notational system based on a five-line staff gives us musical information which again is misleading. Listeners adapted to the typical features of diatonic music will never judge an interval of a sixth and a fifth as the same, either on the ground of notation or by ear. Using a notational system based on a three-line staff the manner in which a Mari folk-singer structures intervallic relations in melody becomes apparent at first sight. It will be revealed from this type of notation that Mari folk-singers never make mistakes in comprehending music based on a tone system they have thoroughly and profoundly internalized. The precision shown by Mari folk-singers in their treatment of the intervallic relations in melody is astonishing, as can be seen from the preceding example. The tune in question consists of four phrases so that every phrase begins with an exact transposition of the two opening bars of the first phrase. When this melody is written on a five-line staff it looks as if at the beginning of every phrase the melody is ascending once by a leap to the sixth and once to the fifth above. In reality it turns out regularly to be the interval of a fourth (though different in quality; likewise the quint-shifting structures generally used by Vivaldi!).

If the tune shown in Example 15 is rewritten so that every phrase (consisting of four bars) is placed on its own line, it becomes obvious that the third and fourth line are exact transpositions of the first and second line. This is done consistently with respect to the tone system in use:

EXAMPLE 15

The image shows four staves of musical notation for Example 15. The first staff is a five-line staff with a key signature of one sharp (F#) and a common time signature (C). The notes are: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4. The second staff is a three-line staff with a key signature of one sharp and a common time signature. The notes are: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4. The third staff is a three-line staff with a key signature of one sharp and a common time signature. The notes are: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4. The fourth staff is a three-line staff with a key signature of one sharp and a common time signature. The notes are: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4. Each staff ends with a double bar line and a repeat sign.

The form in which this tune is constructed will thus be: AA2m(AA2m)4. This is also the way a Mari folk-singer will hear this tune. Or, alternatively, identifying the tune as consisting of two (eight-bar) phrases, it will take the form AA4. When written on a five-line staff we are unable to perceive these possibilities concerning the form of this melody. The form would be either AB or, if the similarity between the first and second half is noticed, AAm. Neither is correct as we can see from above. We would make a similar mistake were the transpositions made by Vivaldi to be notated using a seven-line staff and analysed within the chromatic tone system for which this mode of notation was intended:

EXAMPLE 16

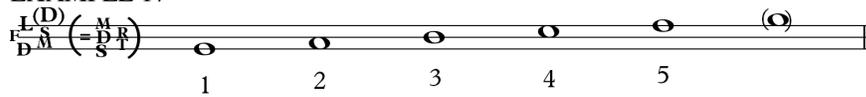
The image shows a single staff of musical notation for Example 16. The staff has seven lines. The notes are: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4. The staff ends with a double bar line and a repeat sign.

Using a notation intended for music based on a different tone system, it is to be kept in mind that in this music by Vivaldi the second segment is not equivalent to the first.

Some researchers are of the opinion that no matter how we notate tunes, instead of giving us any new information the use of a three-line staff will cause confusion among people strongly accustomed to a five-line staff. From this, it follows that the Mari folk songs will be further analysed on the basis of a diatonic scale consisting of seven scale degrees. Due to this misleading notation such researchers will not discover the way of musical thinking typical of Mari folk singers.

The musical patterning in hemitonic pentatonism is of the same kind as in anhemitonic pentatonism, although the former includes more seconds of different types<sup>10</sup>:

EXAMPLE 17



In the following I have notated a Mari folk song (shown earlier in Example 11b) on the basis of its tone system by omitting all the *pien*-tones that are included in it. Notated in this way the musical thinking of a folk singer concerning the construction of melody becomes obvious: the third phrase is an exact equivalent of the first phrase transposed down a third. (Naturally the quality of this third must be in accordance with the tone system in question). Other transpositions are also to be found, subject to

EXAMPLE 18



certain qualifications. Here I am referring to another basic rule of Mari folk song. According to this rule the final tone of a melody is *soh* and the melodic line never lies below this final tone. (This rule also holds true for most cases of other Finno-Ugrian songs). This rule is based on a fact that the seventh scale degree is not included in the anhemitonic pentatonic tone system of the Maris. (In addition to the stylistic device of repeating the final tone, the tone upon which melodies end.)

Finally I would like to bring Example 11c up for discussion once more. I have rewritten this Finnish runic tune in a simplified version in Example 19a. For the sake of comparison I have placed next to this Finnish runic tune an Estonian runic tune (Launis 1930/a. 988.) with a version written on a three-line staff (Examples 19b and 19c):

EXAMPLE 19a



EXAMPLE 19b



EXAMPLE 19c



It is the latter mode of notation that self-evidently gives rise to the correct analysis of melodic structure. That is to say the beginning of the second phrase is identical with the latter part of first phrase, repeated a second lower. This way of beginning a phrase is also very typical of other Finno-Ugrian peoples.

### Melodic patterning in pentatonic music by folk singers and Finno-Ugrian composers

<sup>10</sup>The anhemitonic pentatonic scale is represented in Example 6.

During their collecting tours some researchers have spent a longer time with folk singers accustomed to a pentatonic system. In this way these researchers were able to become aware of melodic patterning peculiar to folk singers. When these folk singers were wanted to learn other songs collected by the researchers in other regions, it was interesting to discover that the variants they produced were based on their own tone system.

For instance, if a collector presented a foreign melody having *pien*-tones unknown to the listeners, during the learning-process these *pien*-tones were replaced by other tones that featured in their own pentatonic tone system. That is to say, they "revised" the melody according to their own musical language.<sup>11</sup>

In the early sixties in Budapest the Gabor Lükö's thesis on pentatonic patterns of construction was presented to a special colloquium in the presence, among others, of Zoltan Kodály<sup>12</sup>. Until this date Kodály and Bartók had not of Lükö's theory. However, on the basis of their previous composition it is obvious that after having learned a large number of pentatonic tunes from folk singers, the patterns of construction peculiar to this musical system became a conscious part of their musical thinking and practice of composing. It is this phenomenon that I will finally illustrate. (Those transpositions, for instance many of the fourth-shifting structures in pentatonism, which are exact, although notated on a five-line staff, are intentionally excluded. The fact is that they have been identifiable up to now.)

Composing a melody is one of the instances in which the patterns of construction in pentatonic tone system are manifested. The following example is taken from the bicinium by Kodály (Kodály 1992. 14.). It can be clearly seen from Example 20b that this melody is based on transpositions of a pentatonic melodic figure consisting of the first two bars. According to the pentatonic tone system the antecedent phrase comprising

#### EXAMPLE 20a

Lassan, ♩ = 60

Kör-té-fa, kör-té-fa, Gyön-gyö-si kör-té-fa, Sok gya-log ka-to-na meg-pi-hen a-lat ta.  
Kör-té-fa, kör-té-fa, kör-té-fa.

Kard-já-val föl-szánt-ja, vé-ré-vel bo-ro-nál-ja, Még-is a ki-rá-lyát szol-gál-ja.  
Kard-já-val föl-szánt-ja, vér-rel bo-ro-nál-ja, Még is ő Föl-sé-gét i-ga-zán szol-gál-ja.

<sup>11</sup>For instance, see Lükö 1962.

<sup>12</sup>For instance, see Lükö 1962.

EXAMPLE 20b



the first eight bars is exactly transposed down a fourth in the consequent phrase.

The next example originates in studies by Lükö. This music by Bartók, named "Hungarian sketches", was originally written for piano. What we see here is an arrangement for symphony orchestra made by Bartók himself:

EXAMPLE 21

The image shows two staves of musical notation. The top staff is labeled 'Fl. 1.2' and the bottom staff is labeled 'Fl. 2'. Both staves contain a sequence of notes, primarily eighth and sixteenth notes, with some rests. The notes in the two staves are transposed up a third from each other. The top staff has a dynamic marking 'p' and the bottom staff has a dynamic marking 'mp'.

A melodic figure in the flute part is transposed up a third, and is also here an exact transposition from a pentatonic point of view.

Parallel motion peculiar to pentatonism can be found in many works by Finno-Ugrian composers. A composition by Veljo Tormis entitled "Käku kukub" (Tormis 1986) will serve as an example of this:

EXAMPLE 22

Flute

*cresc.*

kuk - ku kuk - ku kuk - ku kuk - ku

*cresc.*

Bartók has written a methodologically very well-considered introduction to piano playing entitled "Mikrokosmos". This work is intended for children and careful attention has been paid to the genre in choosing the musical materials for it. The next example is tune number 82 from Mikrokosmos which has a parallel motion by thirds (according to the pentatonic tone system):

EXAMPLE 23

*Allegretto scherzando*

*cresc.*

The same kind of parallel motion is found also in the following example (Bartók 1946 IV/38):

EXAMPLE 24

*Lento*, ♩ = ca. 60-66

*mp, dolce*

*(sempre mp ed egualmente)*

*f, molto, espr., sonoro, poco rubato*

Next, the Chanti song arranged by Veljo Tormis (Tormis 1994) is also an example of parallel motion by thirds peculiar to pentatonism:

EXAMPLE 25

öz (le) pa - ti kâr - si kor - ti - jew  
Kuk-ku - lal - la se on kor - ke - al - la.

In the following Manysi song arranged by Tormis (Tormis 1994/b) there is a parallel motion by thirds between the highest and lowest voices throughout the melodic line:

EXAMPLE 26

**Giusto, ♩ = 120**

1. sow sa - paj	jö - lej - läm,	sow när so - paj	(o)mo - näm.
2. sujt uj ken - zem,	jö - lej - läm	sujt ho - zes kä - jam	zaj - täm,
1. Met - sä - mai - ta	va - el - tan	met - sän - riis - taa	saa - tis - tan.
2. Jär - ven ran - taan	sei - sah - dan	ja - en peik - ki	laik - kaan.

Next I will exemplify the use of contrary motion in pentatonic music. The first example is from Mikrokosmos by Bartók (Bartók 1985. 110.):

EXAMPLE 27



The following piece of piano music is also from Mikrokosmos (Bartók 1985. 70.). Here, we find two simultaneous melodic lines based on the pentatonic scale at a different pitch. Contrary motion is used in the left hand part:

EXAMPLE 28

Adagio, ♩ = 66  
*f, espr.*  
 1  
*sopra*

*p* 2  
 4 *sotto*

A. O. Väisänen, a Finnish musicologist who specialised in folk song research, has also arranged folk songs<sup>13</sup>. The next example is a Mordvinian folk song from a series of folk songs arranged for mixed choir by Väisänen (Väisänen 1929. 1.). According to the rules of the pentatonic system a contrary motion exists between soprano and alto at a cadence:

<sup>13</sup> It would be interesting to know whether there exist any other compositions by Väisänen.

EXAMPLE 29

kar - ma - kaj, vi - di - tsat...

e - mo kul - ta, e - hoi - tit?

The very same device is to be found between the tenor and the two upper voices at a cadence in the following Votyak folk song taken from the series of folk songs mentioned above:

EXAMPLE 30

pi - len mil - kid nil vi - lin

nuk - ku - vat, nuk - ku - vat.

In the following piece from Mikrokosmos (Bartók 1985. 44.) a contrary motion is used throughout the first four bars of its opening phrase:

EXAMPLE 31

**Vivace**, ♩ = 112

In his lectures Kodály repeatedly offered a suggestion that teaching children the piano should be based on a method according to which the playing starts on the black keys only. The following example by Bartók (Bartók 1985. 51.) is meant to be played on the black keys. The lowest voice of this piece is a repetition of the highest voice transposed to the fourth below, according to the rules of the pentatonic system. In fact it is a pentatonic canon at the lower fourth in miniature.

EXAMPLE 32

**Andante**, ♩ = 69

**Conclusions**

Carrying out a study on layers of Finno-Ugrian folk music in accordance with the methodological principles suggested by Lükö gives us a possibility to understand in all its beauty and completeness a musical phenomenon fully different from western music. However, to attain this goal is no easy task. We need to re-evaluate the education we have reached in music and remodel our ability to enjoy this kind of music in character with the original essence of these tunes. We should learn to listen to these tunes like the folk singers from among whom these tunes have been collected. If we listen to and analyse them according to rules of a foreign tone system the musical world of these tunes will evade our reach.

During a process of listening it is very difficult, especially for adults, to eliminate the rules dominating the pattern of construction of a melodic line, that is to say, the rules originating in the diatonic tone system. Sequences occurring frequently in the music by Bach and Vivaldi are typical of this kind of patterning. An adult is slow to learn a new musical language. However nobody has the right to misinterpret music foreign to their experience under the pretext of slowness. Children are much quicker at learning new things. Therefore these songs, since they are of Finno-Ugrian origin, should be included in teaching materials at school – provided that the music teacher is receptive to this new musical language. Thus we could enable children to receive a Finnish and Finno-Ugrian alternative to the commonly taught musical heritage, especially in the very beginning of music instruction. Aksel Törnudd, one of the Finnish pioneers in the domain of music education, has in 1920 in his songbook for schools expressed basically the very same idea.

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