Someday, when the Czech contribution made so far to aesthetics, the theory of art, and semiotics is finally assessed by the world’s scientific community, the contribution of Jaroslav Volek will hold a place of honor. This Czech, whose importance extends beyond his homeland, became a follower of the pioneers of the general science of art, Max Dessoir and Emil Utitz, who had already founded the Magazine for Aesthetics and the General Science of Art (Zeitschrift für Ästhetik und allgemeine Kunstwissenschaft) before World War I. Volek, who claimed Utitz as one of his teachers, successfully continued the efforts of his predecessors, especially in his work the Foundations of the General Theory of Art (Základy obecné teorie umění, Prague, 1968), which extends the body of knowledge of this newly established science.

On the pages of Musicologica Olomucensia we will naturally concentrate on Volek’s contribution to musicology, particularly to music theory and musical semiotics. This especially involves the theory of musical bonds in general and tectonically responsible bonds in particular, the concept of flexible diatonicism, the conception of the mediant as the fourth basic function of tonal harmony, and finally the specific musical semiotic conception of music as a sign. We should point out in advance that this is no theoretical membri disiecta (in the manner of individual partial theoretical ideas), but rather an organic part of a unified conception, whose roots we already see in the author’s earliest theoretical works (Teoretické základy harmónie z hľadiska vedeckej filozofie / The Theoretical Foundations of Harmony from the Standpoint of Scientific Philosophy, Bratislava 1954; Novodobé harmonické systémy z hľadiska vedecké filozofie / Modern Harmonic Systems from the Standpoint of Scientific Philosophy, Prague 1961).

Volek formulated the methodological departure point of the empirical study of musical form, which forms the pillar of his conception of music theory, thusly: “Acoustical properties have a permanent character, independent of societal developments. The axioms of musical psychology are also more or less given biologically by the nature of man, and therefore have a more permanent character and are rather independent of societal developments. Their mutual union, musical form, however, is deeply connected to human history (as is language) and is consequently a mutable, developing quantity.” Consequently, the “progressive exploitation of acoustical pro-
properties, coherent with the needs of society, by way of musical psychology,” i. e. the “progressive mastering of sound” and its “progressive transformation into musical form,”2 becomes the subject of empirical study. Volek makes a consistent distinction between musical bonds, which are an anthropological synthesis of natural acoustical material and its psychological assimilation by man, and the compositional components of musical form, which are socially normative entities, subject to historical change. This premise leads to the following conclusions:

1. The phenomenon of music may not be explained by acoustics because only natural laws are available to it, themselves being subconscious with respect to music.3

2. Acoustical laws apply to music only to the degree defined by the qualitatively higher type of physiological and psychological laws, allowing for the comprehending mastering of a naturally occurring sound by man. Even these laws, representing the lowest and most general level of musical relevance, however, are only an anthropological precondition,4 i. e. they apply not in their abstract generality, but always only in a certain specific historical manifestation.

3. The actual laws of musical form are of a historical and societal nature, because only specific societal practice surrounding music determines according to its needs the direction and character of the psychological mastering of the acoustical world of sound by man in the given historical period.

4. J. Volek defined the largest and qualitatively the lowest (since it is only preconditional) generality as the psychological musical bond as opposed to historically very concrete components of musical form. The fundamental empirical field of music theory is the history of concrete musical forms. At the same time, it is necessary to make a strict distinction between those principles, which are valid only in one or another historically limited stylistic period, and general laws of musical forms (Riemann and others have made this error), which can be drawn only from the totality of the overall historical development of musical form.

The Czech musicology community should take an interest in the fact that Jaroslav Volek used as a starting point for his theory of musical bonds Janáček’s idea of so-called ‘tangling’ or ‘twining’ (translator’s note: Janáček himself coined the word ‘spletna,’ which is derived from a root meaning to plait, twist, weave, or tangle). Janáček’s explanation for the cause of the strong psychological effect of harmonic connections is the mutual bond of remembered tones, meaning previous tones, continuing to sound only in the memory, and felt tones, i. e. tones of the present harmony, sounding and heard at the moment.5 It is in Janáček’s connection of ‘feeling’ that is only the perception of something that, “like a thousand other realities,” exists objectively, with remembered feeling that Volek sees the qualitative leap from the world of sound to the sphere of humanized sound we call musical form (translator’s note: Janáček again coins a word – ‘pacit’ – meaning ‘remembered feelings’ and also gives the word an adjectival form, which is consistently translated here as ‘remembered’). Twining is, as the joining of ‘remembered feeling’ with ‘feeling’, a “purely musical psychological category and a subjective reality, because twining of tones or chords at a given moment does not exist anywhere outside of our consciousness.”6
Under the influence of Wundt, Janáček wavered between the correct psychological conception of ‘remembered feeling’ as an imprint on the memory and as the real physical reverberation of a tone measured in seconds. Volek freed Janáček’s idea of ‘spletna’ or ‘twining’ from this dated imprecision. Furthermore, from a partial definition, limited to the definition of the effect of harmonic connections, Volek deduced a general conclusion for all possible tonal connections both sounding and marked by remembered context. Moreover, to Janáček’s idea of the twining that joins the present (feeling) with the past (remembered feeling), Volek added the principle of the inference of the future (the expectation of certain tones or their configuration on the basis of normative experience). Thereby he arrived at his theory of the musical bond as a specific kind of hearing that “condenses time,” i.e. that connects ‘feeling’ of the presently heard with ‘remembered feeling’ of what has already sounded (i.e. the immediate past) and with the expectation of what is to come as informed by experience (i.e. the normative inference of the immediate future). He depicted this on the table shown below:

Resting on the empirical study of the history of European and non-European music, Volek drew the conclusion that “the fundamental melodic interval is and has been in all periods until the present the second.” (NHS, p. 279) As opposed to widespread theoretical tradition, placing fundamental importance on the extra-musical, purely acoustical phenomenon of aliquot tones and stubbornly holding on to that idea since the days of Pythagoras until to the present, Volek takes an entirely different view. “The existence of aliquot tones in objective sound had for the trained musical ear and for primitive musical feeling, as it has for the trained hearing of today’s musicians, nearly no effect. Of far greater importance for the birth of music
and of fundamental musical relations, especially for man’s musical memory (a pre-condition for twining either retrospectively or by ‘inference’) is and has always been the physiological act of moving the vocal chords, because that is something primitive people controlled not only by ear, when their ears had not been musically trained, but almost certainly by a more developed sense of the movement of their own muscles, their own physiologically active organs.” (NHS, 278)

According to Volek, the second became the fundamental melodic structural element as a temporally developed distance of the height of pitch of sounds because it requires neither a small, subtle motion of the voice, which would be too difficult to perceive and hard to remember, nor too great a movement, which would be with respect to certainty and degree of change difficult to control. (NHS, 279) The fact that the second is physiologically the most natural interval is demonstrated by such pedagogical tools for singing as solfège. In view of the cognitive principle of hierarchization, the second is of fundamental importance for building of melodies with its duality of the major and minor second, although their dimensions are fundamentally different, because their sufficient contrasting differentiation within the common class makes possible the hierarchical qualities of diatonic melodies (as opposed to chromatic or whole-tone melodies).

When building chords as the meaningful layering of sounds of various pitches synchronously (in a particular moment of presentation), the third, with its major /minor duality, has played a similar role as a foundation stone. Without that duality, only formations lacking hierarchy would arise: augmented chords built on major thirds or diminished chords built on minor thirds. According to melodic principles, the next nearest intervals are the perfect fourth together with the perfect fifth as its octave inversion, and the augmented fourth as the fundamental tones of the main functional relations of tonal harmony. In the following table Volek depicted his idea of the ‘colonization’ of relative pitches in the development of European music through the gradually crystallized psychological musical bonds (NHS, p. 299):

<table>
<thead>
<tr>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>minor</td>
<td>major</td>
<td>minor</td>
</tr>
<tr>
<td>melodic</td>
<td>chordal</td>
<td>perfect</td>
</tr>
<tr>
<td>(linear)</td>
<td>(vertical)</td>
<td>(linear)</td>
</tr>
</tbody>
</table>

Historically, the oldest musical psychological bond is the linear bond between tones in time – the *melodic bond*. According to Volek that is also the most fundamental of all bonds, as is borne out by the history of European and non-European music, since it is the bond that has never been absent from the dawning of history. In European music it foreshadowed the long epoch of the chant of the Christian liturgy, in Western Europe the Gregorian chant. Another bond, which developed together with the historical development of European music, specifically during the epoch of
vocal polyphony, is the synchronized bond between tones in “tonal space,” i. e. the vertical chordal bond. It crystallized from the original technical rules of polyphonic voice leading (the strict requirement of only perfect intervals of the octave, fifth, and fourth on strong beats for the ensemble of all voices, moving in relative melodic independence), as the so-called ’imperfect’ consonances, thirds and sixths, gradually became emancipated, awakening awareness of the chord as a musically authentic vertical unit, built from thirds. During the so-called seconda prattica of the renaissance and especially during the baroque period, there arose the linear bond of chords in time, the harmonic bond, which is already a bond of the second degree (a bond of linear melodic bonds with vertical harmonic bonds). Volek in fact considers melismatic chant to have been a bond of the second degree (melody of melodies) as the “combination of melismas, i. e. of already complete melodic formations into large cascades of plainsong.” He further lists bonds on higher levels that have arisen in modern times: the vertical bond of the second degree between chords (chords of chords) manifesting themselves as ‘chordal polyphony,’ the impressionistic vertical bond of the third degree between melody (a bond of the first degree) and harmony (a bond of the second degree) allowing for the creation of auditory splashes of color, and finally the pointillistic linear bond of the fourth degree between those vertical units of the third degree as so-called tone-color melodies (Klangfarbenmelodie). According to Volek this achieves the limit of given possibilities, because further higher types of bonds would lead to the liquidation of the lower bonds that are the basis for the real existence of all higher bonds.

Volek also already crystallizes other theories in NHS. While dealing with the problem of the expansion of tonality in the romantic period by the introduction of chromatic synthetic leading tones (altered chords), Volek pointed out the frequent modulations by way of chromatic mediants (in Šín’s terminology, third-relation chords). Soon, such modulations became commonplace, so that gradually the modulatory transition of a chord common to both tonalities was left out. In this way, however, the progression lost the character of modulation and the chromatic mediant lost its chromatic, extra-tonal quality. Since the use of the chromatic mediants ceased to be perceived as an abandonment of the tonality, they became the bearers of another, fourth tonal function – the mediant (M) – together with the already existing functions of the tonic (T), dominant (D), and subdominant (S).14

The author of the theory of the mediant as a harmonic function pushed the border between integral and non-integral elements, essential for every hierarchical system, further in the direction of diatonicism, without denying the existence of the necessarily contrasting sphere of chromaticism. This mode of thought, applied to harmony, already then opened up to him the path to the possible generalizations for other musical bonds as well, especially melodic: “…the shift of ’diatonic’ significance onto other, originally non-diatonic tones, compared to which then the others have the character of derived, altered, or chromatic tones, is a positive contribution to the development of melody, because it fully maintains the musical meaningful layering of melodic elements (tones and intervals); thereby it firmly determines the tonic and
the tonality of the composition as a main symptom and proof of the existence of melodic and harmonic musical bonds. At the same time it *enriches* musical form with new, unusual, and original expressive possibilities, brought about by this very aberration, this shifting of 'diatonic' meaning to chromatic tones and vice versa. It appears in fact that this line of development is older (historically) than the principle of alteration itself, because it appears frequently in folk music in intonations (translator's note: a term used by B. V. Assafiev, J. Jiránek, and other musical semioticians, coined for specific musical signs) which are demonstrably (by the text) older than alteration.” (NHS, p. 308) This maintains the still needed contrast between the diatonic sphere – albeit expanded – and the chromatic sphere, which has been reduced but not negated. Volek pointed out at the same time the danger of the considerable impoverishment of the expressive potential of European music posed by taking an opposite, one-sided approach of the boundless quantification of chromatic alteration leading to the leveling of all melodic and intervical relations to undifferentiated atonality.16

Volek continued systematically along the theoretical path he had started, replacing the inadequately exact formulation “shifting diatonic meaning to non-diatonic tones” with the term ‘flexible diatonicism,’ which he worked into a unified theory, by which it is possible to ‘colonize’ all 12 tones of the octave by alternating substitute tones for all seven degrees of the seven-note diatonic scale in various modal and tonal contexts.17

Volek’s concept of *thickened chords* also fits into this context of ideas. He also first formulated this idea in NHS, again taking inspiration from Janáček’s original discovery.18 Volek put Janáček’s still imprecise theoretical definition of ‘thickening’ into order by clarifying the stabilizing (not dissonant and dynamic) role of thickening non-chord tones, supporting this with specific examples from the creations of composers who, rather than allowing the unlimited increase of chromaticism to lead to atonality, strove to discover new modal paths to diatonicism (Martinů, Stravinsky). 19

One of Volek’s most important theoretical ideas is the *theory of tectonically responsible bonds*, which he himself defined as follows: “…it is generally so that the closest relation to the tectonics of a composition always belongs to the component, which is the bearer of that general, schematic burden in the particular composition; with the generality of that component then grows together the generality of tectonics in general. We call such a component the component responsible for the tectonics of the composition and the bond it creates we call the responsible bond. We should not understand this term in the sense of some priority of that component (since in reality a component, which is not responsible for the tectonics of a composition, is in the end also responsible, but for something else and very important – for the individual wealth and content of form)...” (NHS, p. 313). He named the function of harmony as the responsible compositional component for European tonally harmonic music, because in an advanced formal musical structure consisting of several bonds (melodic, chordal, harmonic), the most complex of the bonds may take on the general tectonically responsible function, while the others are released to the needs of individual expression. He rightly pointed out, however, that the individual bonds themselves and
the compositional components integrate both a necessarily general pole, and a potentially individual pole (melody individualizes its scalar basis, rhythm individualizes meter, harmony individualizes the cadence as the most general outline of harmonic movement, etc.). He illustrates this by pointing to Gregorian chant and vocal polyphony, where there are also generally schematized beginnings and endings of phrases (less commonly for climaxes) and their actual occurrences are regulated loosely, leaving some room for an individual stamp.

In conclusion, it is necessary give credit to Jaroslav Volek for his contribution to the development of musical semiotics. Semiotics in this country, the home of Jan Mukařovský and the Prague Linguistic Circle, and preceded by Roman Jacobson, has received worldwide recognition. Unlike Antonín Sychra, who shared with Mukařovský a structuralist outlook similar to Saussure’s, Volek was more oriented toward Anglo-Saxon thinkers (Pierce, Morris) as well as Wittgenstein and others, and, resting on the Ogden-Richards principle of the triangle of reference, he sketched out a system of semiotics specific to music (Hudební struktura jako znak a hudba jako znakový systém / Musical Structure as a Sign and Music as a System of Signs, Opus Musicum, 1981, nos. 5, 6, and 10). Mention should also be made of Volek’s contribution to the taxonomy of art and of music in particular, whereby he helped considerably in clarifying musicological nomenclature.

The work that Jaroslav Volek left behind is not imposingly extensive, but its intensely thought-provoking theoretical ideas cry out for further critical elaboration.

ENDNOTES

2. See NHS, footnote no. 1 on p. 225.
3. The first of Volek’s works cited above, Teoretické základy harmónie s hladiska vedecké filozofie (hereinafter TZH), published by Vydavateľstvo Slovenskej akadémie vied, Bratislava 1954 is dedicated to the broad, systematic proof of this claim.
4. In his early work, Volek himself does not use this term. The author of this article attempted to shed light on the polarity of the preconditional nature of anthropological constants and their concrete realization in his book Hudební sémantika a sémiotika / Musical Semantics and Semiotics, pub. Vydavatelství University Palackého, Olomouc 1966.
5. “That is the cement, the powerful twining of tones that binds both harmonies; their unraveling, i. e. the releasing of the second harmony from the remembered tones of the first one, gives the joining of harmonies its radiant beauty and its character.” L. Janáček, Úplná nauka o harmonii / Complete Theory of Harmony, Brno, 1920, p. 15.
7. Similar to the imprecision that Volek corrected is Janáček’s reduction of the chord to an accumulation of vertical connections of intervals. Like Skuherský before him, Janáček was also unable to grasp the chord as an authentically integrated vertical form.
8. Not even Paul Hindemith avoided this pitfall. See E. Hradecký, Paul Hindemith, Svá tøeøie s praxí / Paul Hindemith, Conflict of Theory and Practice, Prague 1974.
9. It is neither possible to create a hierarchy for a set of completely identical (homogeneous) elements nor for a set of completely unlike elements. It is possible only with a set of partially similar and dissimilar elements.

10. Volek correctly points out that this does not merely involve “mechanical adjacency in the arrangement of the spacing of intervals (since that would mean that the major second – minor third also form a dual pair).” (NHS, p. 282)

11. While Volek does not deny the importance of the acoustical principle of consonances for the building of chords, he points out that in the musical separating of intervals from the natural nebula of sound, the third is the closest further link according to melodic principles. According to purely acoustical principles the perfect fifth and fourth would have to be given priority, as was originally the case according to the rules of medieval and renaissance vocal polyphony. The fact that this did not happen was caused by the circumstance that the fifth is divisible into the smaller units of the major and minor third, which took over this role of building blocks, and as musical form developed over time the fourth, which cannot be reduced to a content of thirds, changed into a dissonance moving toward the major third (NHS, p. 286, footnote 6).

12. The assumed duality of the perfect and the augmented fourth rather than the harmonic duality of the perfect fourth (as the fundamental tone of the subdominant) and the perfect fifth (as the fundamental tone of the dominant), called forth by the logical needs of Volek’s system, is, of course, debatable (the augmented fourth or diminished fifth is a characteristic part of the internal construction of the dominant and of altered chords, and not a characteristic distance of *fundamental tones of primary functional connection with relation to the tonic*).

13. The historical arguments used by Volek may also be supplemented with later theoretical arguments of Jaroslav Zich (Kapitoly a studie z hudební estetiky/Chapters and Studies on Musical Aesthetics, Prague 1987) that in music, as an auditory art in time, the height of pitch of sounds and their progression in time are so-called localities, i.e. in view of the anthropological abilities of man, the most distinct parameters of the acoustical world of sound.


15. See footnote no. 9 above and the text cited there.


20. Among the effects left behind by A. Sychra was found a manuscript of more than one thousand pages entitled *Hudba a skutečnost (Music and Reality), divided into 5 books*.

Zusammenfassung


MUZIKOLOGICKÝ PŘÍNOS JAROSLAVA VOLKA.
K DESÁTÉMU VÝROČÍ JEHO ÚMRTÍ

Shrnutí

Hudebně teoretický přínos Jaroslava Volka zahrnuje jeho teorii hudebně psychologické vazby, teorém tektonicky zodpovědné vazby, pojetí mediant jako čtvrté základní harmonické funkce a v neposlední řadě teorém flexibilní diatoniky. Tvoří navzájem ucelený myšlenkový systém, jehož jádro vykrystalizovalo již v rané autorské práci Novodobé harmonické systémy (1961).

Východiskem jeho teoretického přínosu se stala potřeba prověřit vlastní sféru hudebně teoretické empirie. Tou nejsou zákonitosti přírodovědné (matematické, akustické, fyziologické apod.), jak se dlouho mělo za to, ale vlastní konkrétní dějiny hudebně formotvorného procesu (konkrétní hudební tvorba a její formy), zprostředkované historickospolečenskými potřebami člověka. Ony přírodovědné zákonitosti se přitom rovněž uplatňují, ale nikoli bezprostředně, nýbrž zprostředkované antropologicemi hudebně psychologickými vazbami, které zakládají možnost postupné krytizace smysluplných hudebně formových postupů. Lineární vazba tónů v čase ozřejmila výrazové možnosti vzniku melodie, vertikální vazba tónů v „tónovém prostoru“ možnost vzniku akordiky, lineárně vertikální vazba druhého stupně (vazba vazeb) umožnila vznik harmonie atd. Teorém tektonicky zodpovědné vazby zjišťuje „dělbu práce“ mezi složkami hudební formy, které odpovídají za její tektonickou (stavební) soudržnost, a složkami zaměřenými přednostně na potřeby výrazové. Teorém flexibilní diatoniky vede ostrou hranicič čáru mezi dvanáctitónovostí chromatického původu a dvanáctitónovostí, k níž lze dospět postupnými smysluplnými flexemi jednotlivých tónů diatonické heptatoniky. Zásadního významu je Volkova hudebně sémiotická koncepce, jejímž ústředním pojmem je nikoli pojem znaku, ale znakové situace. V hudbě (jaké ostatně v umění vůbec) je mu pól prezentace znaku (jak je to uděláno, provedeno) neměně důležitý než pól reprezentace znaku (jeho významové poselství, mající charakter otevřeného systému).

© Jaroslav Jiránek, 2000
AUPO, Fac. Phil., Musicologica Olomucensia V, 89–99