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## COMPOSITION AND MUSIC THEORY: CONVERGENCES AND DIVERGENCES BETWEEN TWO RELATED DISCIPLINES

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### **Summary:**

*This paper examines the relationship between actual composition and music theory under consideration of Georg Friedrich Haas' Principles for a New Music Theory. Six Thesis. Beginning with some divergences between both fields followed by a short historical contextualisation of the aspects sound/notation and analysis/perception, which were polarised in the context of spectral music and the perception-turn of the 1970's. The question of the analytic possibility/relevance of (computer aided) compositional techniques is then treated as well as the consideration of structural relationships, which have a main importance in traditional analysis but were strongly questioned in the context of sound dominated composition. The paper closes with some thesis, which try to draw consequences from the changed conditions of actual composition and music theory. A certain convergence between both fields seems indispensable for a profound musical discourse.*

**Keywords:** *Composition/Music Theory, Sound/Notation, Analysis/Perception, G. F. Haas*

The Austrian composer Georg Friedrich Haas (1953) attested in his somehow provocative text „Grundlagen für eine neue Musiktheorie. Sechs Thesen“ („Principles for a New Music Theory. Six Thesis.“) a deep discrepancy between contemporary composition and music theory. Haas' thesis focuses on a perception-based music theory and criticises traditional ways of music analysis, which, in his opinion, have no relevance to contemporary composition.

Haas' arguments are based on his specific compositional view, which combines some post-spectral consequences with a sophisticated micro-intervallic thinking and an aesthetic position, which focuses on perception and effect. Nevertheless, it can be assumed that the impression of discrepancy between music theoretical discourse and compositional praxis reflects the thinking of several contemporary composers of different aesthetic positions.

### **Divergences**

Which reasons caused this situation? The 20<sup>th</sup> and 21<sup>st</sup> century brought an enormous extension of music theoretical and musicological literature. A substantial contribution to this extension was made also by major composers such as Schoenberg, Hindemith, Messiaen or Boulez to mention only a few. For a long time, there had been, mostly, composers who took the responsibility for the academic teaching of music theory. Then, in the last quarter of the 20<sup>th</sup> century a historical turn began to dominate a major part of the music theoretical discourse and complemented or partially suppressed the former, primarily systematic approaches. This evolution contributed to a specification of music theory and increased its scientific claim but also led to a certain warding off in relation to the contemporary music caused partially through the increasing demands of specialisation by the music theoreticians. The discrepancy between music theory and composition

was further heightened through the compositional use of computer and electronic sources, which enabled an orientation “towards” the sound and “away” from the notation. Numerous compositional tendencies also claimed a conscious rejection of every kind of tradition. In this way a move in opposite directions was created through the accentuation of a “regressive” moment in music theory as a pronounced turn to music history and of a “progressive” moment in composition, which often borders on historic oblivion.

The question is if this tendency of radical distancing between the two disciplines will continue to exist and possibly lead to a dissociation in the mean that some compositional domains remain without “theory” and respectively music theory loose the contact to specific manifestations of contemporary composing.

The difficulties and complications of the relationship between composition and music theory will be discussed in this paper under consideration of the thesis of G. F. Haas.

### Sound against notation

Haas opens his paper with the thesis that the object of the music theoretical research should be the sound and not the notation and argues that it is today possible to focus directly on the sound without a “long way round” over the simplifications of the traditional notation.<sup>1</sup> This critic of notation is basically a critic of structuralism and it was formulated in the late 1960’s and 1970’s, for example in the context of spectral music. The explicit focus on sound is based on a compositional praxis, which strongly operates with acoustical and electronic sounds and their derived models. On the other hand, refined technical possibilities are available to appropriately analyse the sound phenomena.

The theory for its part has offered some approaches to a better categorisation and respectively analysis of the complex sound phenomena of the contemporary music. A significant contribution was Pierre Schaeffer’s *Traité des objets musicaux* (1966), that also worked as a basis for the theory of spectro-morphology by Dennis Smalley in the 1980’s. Helmut Lachenmann’s text *Klangtypen der Neuen Musik* (1966/1993) contributed a certain vocabulary and a theoretical tool of registration of more or less complex sound phenomena. As particularly promising appear integrative approaches, which combine notation-related analysis with spectral analysis. Christian Utz and Dieter Kleinrath demonstrate in their writing *Sound and Perception by Varèse, Scelsi and Lachenmann* (2011) how fruitful a combination of actual technologies with solid music theoretical understanding can be. Such approaches are more comprehensive and multi-layered as the one-sided replacement of the notation through sound and vice versa.

This pointed polarisation *Notation versus Sound* is historically comprehensible.

The Aristotelian primate of theory in comparison with the praxis was valid in the western music at least until the 15<sup>th</sup> century. The supremacy of the intellectual aspects of the composition compared to its materiality was manifest until the time of Hugo Riemann. As Dahlhaus notated, the acoustics were excluded from the music theory, because Riemann took the ‘musical logic’ (and not the physical perception of sound events) as a basis for the theory of music.<sup>2</sup> In this context one may consider the “liberation” of the sound and the “perception-turn” on the 1970’s as a kind of “sexual revolution” in the music. On the other hand, it would be one-sided and impoverishing to reduce the complex aesthetic phenomenon of music to a series of acoustic stimulus and of their perceptive impressions. It is the multi-layered, “shimmering” relationship between musical notation and real sound, which cannot be ultimately free of discrepancies and contradictions but at the same time stimulates intellectual projections and interpretation that is essential for the deepness of expression and the richness of meanings in music.

<sup>1</sup> Haas 2012, 16.

<sup>2</sup> Dahlhaus 2002, 240.

### Compositional technique

A further point of Haas' paper concerns the possibility of analysis of specific works, which are created with the aid of computer programs. With the example of a piece composed with the software Open Music, Haas postulates that it is impossible to decode the compositional work without knowing the corresponding data. And even if someone knows this data the only exciting thing is to find out the possible mistakes of the transmission.<sup>3</sup> The problems mentioned here are central for the music theoretical work by computer-aided compositions. Different than in traditional compositions where it is feasible to analyse several compositional aspects with the naked eye, it is hardly possible by works with complex computer operations to discover the mechanisms of generation of pitches, rhythms etc.

Although, it is not impossible to gather this data from the composer. Rozalie Hirs demonstrates with regard to the composition *Le lac* of Tristan Murail the various compositional steps of the work with Open Music.<sup>4</sup> If the only benefit of such analysis lies in the "criminological" discovery of eventual mistakes, this could remain an open question.

At another point in his paper Haas declares that the use of computer programs as the basis of compositional technique means delegating the technique to a machine and this technique is then uncommitted and neutral ("wertneutral").<sup>5</sup>

I find this aspect of delegating by Haas somehow overestimated. Of course it is the computer that realises the operations. But the choice of *specific* operations, the input of the basic elements and the handling of the results demand a compositional thinking about form and sound which uses the computer data to form musical gestures and put them in relation to each other. Otherwise, it is also possible to analyse some aspects of a piece without knowledge of the exact mechanisms of generation of musical material: at the layer of musical figures or sound objects and their interaction within a compositional dramaturgy a "phenomenological" analysis could offer fruitful results.

Haas further radicalises his thesis when he writes that analysis of new music has not to be concerned with the way a piece is composed; only the question about why something has a specific effect ("Wirkung") and which musical effects the composer aim to achieve in a specific piece are relevant.<sup>6</sup>

It is evident that questions about how a composition is written cannot be the exclusive topic of analysis. But on the other hand, if we totally neglect the compositional process it is not possible to achieve a deeper understanding of basic elements of the composition. In the above mentioned analysis of *Le lac* it is illuminating to see how some poetic ideas are gradually formed through decisions of the composer and operations of the computer. Through the insight into this process of forming it is possible to follow the transformation of the original ideas to a concrete musical composition. The consideration of the dialectic between idea and technique is one of the most exciting things of the theoretical inquiry and also a basis for serious criticism. Otherwise, a one-sided focussing on perception and effect-categories is in so far problematic as it essentially reduces the reflexion of a musical art piece. This reflexion should try to identify the key elements of a piece, their relationship to each other, the mechanisms of evolution including also imaginary evolutions, which were not realised within a specific composition. All this belongs to the intellectual dimension of the art experience; this intellectual dimension needs not to suppress the sensorial perception but should also not be excluded by it.

<sup>3</sup> Haas 2012, 19-20.

<sup>4</sup> Hirs 2011, 119-164.

<sup>5</sup> Haas 2012, 19.

<sup>6</sup> Ibid.

### Analogy, Variation, New Identity

Haas discusses furthermore some abstract relationships and analogies that are suggested by our notation (and are still used in the traditional music theoretical thinking) and questions their validity in regard to the analysis of new music. To these phenomena belong the relationship between events that are played in different octaves. Haas postulates that in non-tonal music the moving of an event in a different octave should be seen as a transposition.<sup>7</sup> He means with this term that such phenomena should be considered as a creation of a somehow new identity rather than as a (varied) identity of equal value. This is a critic of the octave equivalence (as it appears for example in set theory) and it is quite comprehensible from the perspective of the art of composing which is conceived with sound structures, given that events that are transposed in an other octave have different spectral characteristics, attacks and decays, masking effects etc. These differences are in such a composing art essentially relevant and it is absolutely right, that the assumption of identities and analogies, which don't further function as such, increases the discrepancy between analysis and perception. Otherwise a contextual differentiation is necessary: according to the compositional context one should differentiate between *analogy*, *variety* and *new identity*. It should be obvious, that in the context of spectral music these phenomena have another validity and compositional essence, as for example, in free atonal or twelve note music of the Viennese school. A similar problem is to be seen in the relationship of horizontal and vertical dimensions. Haas postulates that an affinity between horizontal and vertical events does not exist.<sup>8</sup> To demonstrate that, he uses the example of a complex chord with intervals of sixth tones which is transformed into a melody. He argues that the notation suggest an affinity although it is not possible to perceive any logical connection. Haas' position is comprehensible when one understands that these elements (chord/melody) are in this case principally different and also have a different effect. This fact can otherwise not exclude, that one can (consciously or unconsciously) perceive a kind of affinity. This always depends on the art of composing and cannot be regulated outside of context with a principle of general validity.

### Conclusions

Through the discussion of some points of the paper of Georg Friedrich Haas, which considers central problems of the actual relationship between music theory and composition, some conclusions seem to be obvious:

- 1) The sound reality of a musical composition should gain a more important place in music analysis. Through the insights of this consideration one has to question traditional ways of thinking which are not more consistent and try to replace them with new concepts.
- 2) The *score* possess a series of important properties such as:
  - a.) a coding medium of compositional thoughts, that is transformed through interpretation into musical actions
  - b.) a storage medium of structural entities, which can be reflected in their relationship to each other and in their mechanisms of evolution
  - c.) a basis which enables the fruitful dialectic between abstract and concrete, between idea and realisation.

In these essential properties remains the score a primary field of the analytic investigation and has not to be rejected in favour of an one-sided focussing on the sound.

- 2) *Integrative analytic approaches*, which combine score *and* sound analysis, can be an appropriate medium to fulfil the complex aims. The requirements for this procedure are a technical know-how and a solid music theoretical understanding to formulate the adequate questions and to take the corresponding conclusions.

<sup>7</sup> Ibid., 17.

<sup>8</sup> Ibid.

- 3) The *compositional process*, which has been made by some computer-aided compositions more ‘invisible’, should not be totally neglected. Working with sketches and respectively with data, which the composer makes available, can help to illuminate the forming process of the compositional ideas. This ‘illumination’ increases the intellectual understanding but also the sensorial pleasure. The understanding of the dialectic between idea and technique is equally fundamental for the compositional critics.
- 4) The analytical investigation nevertheless can be also fruitful without a knowledge of the mechanisms of the generation of pitches. A “*phenomenological*” *analysis* of the compositional elements, their construction and interaction could be illuminating.
- 5) The *whole* cares! The materiality of sound was in some regard for a long time subordinated. This should not lead to the opposite situation that sound and perception exclusively dominates the discourse and as a consequence, reflexion and respectively understanding of musical art works are seen as obsolete. Especially the pluralism of approaches can be a considerable enrichment for the music-aesthetic experience.

### Convergences

The application of music theoretical reflexion in actual composition is in my opinion, just as indispensable as it always was. It is a matter of communicating and intellectual understanding/interpreting of works of art. Changed conditions demand nevertheless new approaches and tools. That is a big challenge, in connection with the historical aim of modern music theory, even immense. The question is, if music theory can and should achieve that. In my opinion, we have to approve this question in the affirmative: a music theory, which has hermetically ‘sealed’ its field will be closer to its own end. And the counter-argument of marginal existence of (some) new music is not tenable: the autonomy of the (aesthetic) thought/idea is a precious commodity for composition, as well as for music theory.

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