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Modulation as a Symbol – The ‘Highly Responsible’ Role of Semitones

If one attempts to grasp the compositional principles of Western musical practice in one term, *dynamism* might be one of the most important words coming to mind. This word that primarily means the opposite of a static position expresses an essential characteristic of Western culture having its roots in deep-seated, indeed, religion-rooted layers.

The Western concept of time, in line with the Judeo-Christian idea of history, is linear - everything has a determined beginning and end. In case of musical artworks, their purpose-oriented attitude does not become apparent only in ‘muscle strains’, in the pursuit of reaching a culmination point at any price but in the rationality of the form, a logical and designed relationship between the constituting parts and a conscious use of the means of expression. Aversion to inactivity, a non-concentric nature, using Hans Heinrich Eggebrecht’s words, the ‘curse of being locked in restlessness’ – all are attributes of the Western way of musical thinking.

Judeo-Christian tradition is not the only root of the Western concept of artworks though. A tense and concentrated concept of form present in Western thinking from almost the very beginning, derives from the ancient Greeks. Aristotle in the *Poetics* lays out the principle that in a good tragedy every element is important - removing even one part of the plot the entire tragedy will be ‘disjointed and disturbed.’ Dynamism, appearing in a linear, purpose oriented concept of time and in logical and rational connections between the constituent parts are the most fundamental characteristics of Western art music.

While the signs of a dynamic thinking had been present in Western music since the beginning of the practice of notation, it came to the surface with an increasing interest in creating cadences, preparing the way for the phenomenon of modulation. While dynamism’s marks can be found in every parameters of music: in the melody, in the rhythm, in the dynamics (volume), first I would like to concentrate on a particular aspect. From the perspective of the equal temperament system and modulation, I would like to shed light on important achievements in creating dynamic effects.

I am convinced that one of the most appropriate ways of understanding Western music’s logic is to consider human perception’s acoustic conditions and contrast it with classical music’s answer to this question. The Western way of dividing the octave into twelve parts, under

acoustically proper conditions, contains twelve uneven semitones. Intervals, which we can feel natural, scales, harmonies being frequently used by Western music have their foundations in acoustical regularities. Although, within a given pitch range, tuning striving for maximal acoustical perception - because of the instruments' technical limitations - can hardly be transposed to another domain, making tonality change problematic. These acoustical aspects slightly differ from the equally tempered system of - for instance - a modern piano. Perhaps the most obvious and traceable evidence of dynamic thinking is Western music's road to the point when equal temperament is born. Equal temperament, a system dividing the octave into twelve equal (or at the beginning relatively equal) parts, while it rests upon our natural acoustical perception, it actually overwrites it, creating an abstraction in order that modulation or change of tonality would be possible. Western music's other foundational characteristic that makes dynamism possible is *abstraction*, having its roots and most important means in the practice of literacy. In fact, in this specific sense we can claim that a strict insistence on the acoustical regularities is not the most important preference for the dynamic approach of Western music or rather that the *illusion* of a perfect insistence on these acoustical regularities is enough. This illusion can be compared to another one: piano – perhaps an instrument, which represents Western musical thinking the most powerfully – is an instrument, which is able to reproduce virtually every material, even orchestral sounds, creating an illusion similar to that of equal temperament.

In my view the element that expressed this dynamism inherent in Western musical thinking most powerfully was modulation, which might be regarded as a symbol of this effort. With the term of modulation I do not intend to refer only to the phenomenon of functional tonality, a relatively determined system of harmonic relationships which was dominant roughly between 1600 and 1900. With this term, I would like to suggest a broader horizon, associating with everything that can be related to an aspect that one could call as 'the highly responsible role of semitones.'

I would like to take a relatively distant example from a composer often regarded as an opponent of traditional Western thinking. Claude Debussy, being influenced by Eastern-European and Asian Gamelan music (being part of a long Western tradition in 'looking toward East'), was indeed an opponent of the Wagnerian German tradition having its roots in Beethoven and his predilection toward the principle of development but not European-rooted musical thinking. While using uncommon, original formal constructions and showing a squeamish attitude toward *Durchführung*, the responsible and form-determining nature of semitones does appear in Debussy's harmonic language. In his prelude, *Le vent dans la plaine* we have the possibility

to notice an interesting phenomenon. The prelude begins with mysterious arpeggios, containing only two notes: B flat and C-flat. Next, a hesitant melody joins, using further notes: E-flat, D-flat, G-flat, F and E double-flat, in the second half of the phrase suggesting wintry blows. After a 2 bar recapitulation of the first bars (with notes B-flat and C-flat) a 2x2 bars different material appears. The arpeggios stop and an enigmatical, different but not specifically contrasting material unfolds. Until this point everything was centred around B-flat, being essentially static. With a little exaggeration we can say that until this point the piece could have been written in other traditions apart from Western culture. The following two bars seem to confirm this feeling using only the beginning notes (B-flat, C-flat). Then something happens. After a crescendo and a decrescendo with the same notes, we arrive to Europe. By using the same arpeggio-texture but changing the hitherto centre-note B-flat to a B double-flat (A) together with the note C-flat, we enter another dimension. Changing the harmony (because this is what happens), opens up another world and is able to display a familiar material on a totally different level and position, liberating unbelievable dynamical energy only by changing one lonesome semitone.

In many respects, tonality in terms of being a system giving a distinguished role to (equally-tempered) semitones has not stopped existing up to the present day. Nevertheless tonality as a closed system of determined harmonic relations was called into question at the beginning of the 20th century and the absence of its power in generating dynamical process had to be filled. In the following I would like to mention, not an exhaustive list but some major directions searching for new means of expression.

One way of substituting tonality can be an increased emphasis on other secondary parameters as Robert G. Hopkins calls them, such as dynamics and duration. This tendency, present since the end of the 19th century, was commenced by Gustav Mahler, whose works, while solidly rooted in a traditional treating of harmony, give increasingly broad space for secondary parameters. Thickening and rarefying, dramatic contrasts and changes of timbre play a so far unprecedentedly important role in his material. (It could hardly be accidental that the only truly relevant change in the modern orchestra has been the extended number of percussion instruments, many of them not being able to produce musical pitches).

The attitude of Arnold Schoenberg and the Second Viennese School bear some similarities with Mahler's approach but at the same time, it differs from his. While using the previously mentioned secondary parameters, their primary interest was to find another system following tonality's end that differs from it but at the same time has its structure-creating power on the

level of pitches. In this particular sense this strive can be regarded as a kind of ‘maximalization’ of tonality. This effort has its purest examples in the works of Anton Webern.

Paradoxically, the early serialism, represented by Karlheinz Stockhausen and Pierre Boulez among others, while having its roots in Webern’s ‘tonal’ thinking and thus in a very strange way being a continuation of traditional tonality, on the level of perception, the already mentioned secondary parameters play an overwhelmingly important role. In this context individual pitches literally have no role in the creating process - from the prospect of the listener, thickening and rarefying of the materials, pause and non-pause are the only means of formal articulation. On the acoustical level the similarities between total determinacy (Boulez, Stockhausen) and total indeterminacy (Cage) are widely acknowledged. In case of indeterminacy (influenced by Eastern philosophy), while using a different approach on the technical level as not being based on Webern and the dodecaphony, the sounding analogies are more than convincing. The traditional, form-creating role of semitones on the level of perception is not present, neither in total determinacy nor in indeterminacy.

Interestingly enough, a similar phenomenon can be observed in the so-called spectral compositions of Gerard Grisey and Tristan Murail. In this case, on the level of dramaturgy, their compositions can in a way be considered as Western in nature (Grisey regarded himself as an heir of the Western concept of time), a lack of traditional treating of semitones is all the more visible because in their works, notes smaller than a semitone and notes bigger than a semitone are present in a great number. Nevertheless, even if they sound wonderfully, the pitches giving a very special acoustical experience are essentially decorative in nature, not being able to create dynamic processes and thus altogether being secondary parameters. In case of their works, similarly to total serialism, and aleatorical indeterminacy, the powerful, structure-defining elements are not the pitches. The process and dynamic power lie in other factors.

As I mentioned, the second Viennese approach is also in a way intending to treat semitones as structure-defining elements. In parallel with this, other composers like Bartók and Stravinsky in the first half of the 20th century used harmonic systems in many of their compositions, which strongly had their roots in traditional tonality, keeping the distinguished and form-defining dynamic power of semitones alive. Their many 20th and 21st century fellow composers (including Alfred Schnittke and countless others), while also emphasising other parameters of music apart from semitones and their modulation-generating nature, and creating their own

individual pitch arrangements, have preserved a deeper and perhaps (for me) more meaningful relationship with the traditional means of Western dynamism.

According to my hypothesis, Western musical tradition is dynamic in its nature. This very dynamism empowered by the practice of literacy lead to the birth of equal temperament, a wonderfully sensitive balance between acoustic regularities and abstraction. Equal temperament system made modulation possible, which phenomenon I consider as the (so far) most powerful symbol of Western music's efforts. By modulation I mean more than the functional, tonal harmony system. In my understanding it is a *principle*, a specific attitude toward the pitches which treats semitones as the most important elements in creating dynamic process, giving them a 'highly responsible role'. As we have seen, after the vanishing of the traditional functional harmony system, dynamism continued, either in an approach giving secondary parameters an increasingly important role or in another, in more traditional ways preserving semitones' responsible roles as form-creator elements.

Even though the tonal, functional system of harmony has been called into question and in a certain sense it irretrievably ended, the memory of tonality is stubbornly being alive but its role as the most important means of mediating Western dynamism has been taken over or completed by other elements. Today's musical world being extremely diverse and colourful, I should be more precise as in the contemporary situation everything can be relevant, even a radical re-thinking of the tonal, functional system.

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