...New means(,) old meanings...1

Flo Menezes

Studio PANaroma de Música Eletroacústica Unesp (State University of São Paulo) flo@flomenezes.mus.br

From time to time I hear a categorical commentary about myself that makes me think about the shortness of sight of the people who make it; a very irritating situation: "Flo, take care, the tropical tempest of this afternoon will cut off the energy for many hours!" This fact implies in their vision that I cannot make my music while we have no electricity. The last time I heard such a misguided notion I did not hesitate – reaffirmed by the fact that the pianist who talked to me in that manner used glasses and needs a good light to see everything facing him – to punctuate: "My system has no break, my dear, while you will actually have to wait until the energy comes back in order to read your scores!"

In the opinion of such traditional musicians I am not a composer, but rather an *electroacoustic* composer. This annoying situation does not simply irritate me; it leads me to reflect on the essence of musical composition as well. Clearly that was not the intention of those people, but I am very grateful to them for it!

Have you, dear readers, ever wondered about the essential elements not of sounds themselves, but of *musical composition*? Many times I've asked my students of composition during our first meeting to write down on a paper sheet the concepts they consider as essential for musical composition.

^{1.} Essay firstly presented as lecture at the EMS'09 in Buenos Aires, Argentine, in May 2009. First published on the Internet: (http://www.ems-network.org/ems09/proceedings.html), thereafter developed as a chapter of my Composition Treatise *Matemática dos Afetos – Tratado de (Re)composição Musical* (Edusp, São Paulo, 2013, pp. 67-91; chapter's title: "Fundamentos da Composição"). The original version was also revised and published as a chapter of my German: *Nova Ars Subtilior – Essays zur maximalistischen Musik* (Wolke Verlag, Hofheim, 2014, pp. 171-181).



Figure 1 / List of concepts from students' notes.

Large lists of conceptual definitions, going from aesthetics to perceptual approaches, come into discussion, process which I try to reduce democratically, with the accordance of all people involved, cutting down all designed notions to a minimum of elements by either striking non-pertinent concepts or detecting strong similarities between them, as a kind of eidetic *pensée réduite*. Sometimes it takes more than one hour, with many crossovers and many cross-synthesis, until we have a consensual mind and until we can finally celebrate a victory, as Shakespeare wrote in Hamlet, "against a sea of troubles". Just arriving at this point, I risk being lapidated by potentially unhappy students after revealing them my deductive strategy: at the end of this process I patiently take a folded sheet of paper – another one – out of my pocket and, unfolding it, I show them what is printed on it: my Compositional 5-Points-Star.

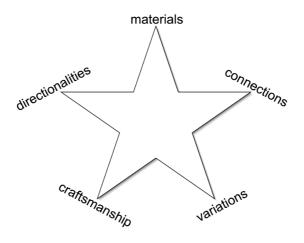


Figure 2 / Compositional 5-Points-Star.

Let's have a look at each one of these elements. At the top of our star we deal with *materials*: in its Adornian conception *material* is everything that relates things structurally and concerns minimal musical ideas traveling through formal architectures in music, establishing – by means of identities and differences – *relationships*. Traditionally composers of instrumental music placed the emphasis on the minimal structural elements of the musical architecture, since the sound palette of the instruments predetermined the constitution of sounds. Paradigm of that fact is undoubtedly the work of Beethoven. If we consider for instance the beginning of Diabelli's theme as taken by him for his monumental *Diabelli Variations* (*Veränderungen*= rather *Transformations*) op. 120 and listen carefully to its very first motive, which will be repeated once in this passage...



Figure 3 / Diabelli's theme (first part) of Beethoven's Variations op. 120 with its first motive.

...we note without any trouble how Beethoven contaminates a whole variation...



Figure 4 / Variation IX (first part) of Beethoven's Variations op. 120.

...or, as if submitting it to a time-stretching procedure, contaminates and *expands* it in another one.



Figure 5 / Variation XI (first part) of Beethoven's Variations op. 120.

Sometimes it is useful to discard all apparent superficialities or at least throw away all factors we can in order to keep just the indispensable, as I've done with the sketched concepts of my students, and those of mine. But by doing so, we can face unexpected situations: searching for essences, we must admit the high interest of such a striking passage, surprisingly deprived here and now from any diversity of timbres, when we listen to fragments of Stravinsky's *The Rite of Springs* in its four-hands version. Of course we could try to go deeper and deeper in listening to those fragments and try to perceive internally such a rich texture with all possible details, for instance, by expanding the sound images in our mind, but when listening to the original *orchestral* writing of those excerpts we become fully astonished at its richness!

This timbral richness of the original orchestral version was, nevertheless, sacrificed and in spite of that we did not loose our interest. What is it that keeps our enormous interest on that sound example in which the orchestra was drastically reduced to a four-hand piano writing? In this context we must remember Pierre Schaeffer's words in his *Solfège de l'objet sonore* when he speaks about the *suprématie des hauteurs*. We displace our insight on our star and notice now that timbre – that is, the inner constitution of sound spectra – in instrumental music was commonly related to *craftsmanship*, *métier*, *artesanato*, which can be defined as the meticulous elaboration of internal as well as of external appearances of sound objects in the composition.

In instrumental musical the *constitutive* aspect of materials – i.e. the elaboration of timbres – tends to be displaced to the craftsmanship axis of the star (so that timbres are not seen structurally, but rather as a question of *métier*), while we clearly notice inside the double face of materials (that is, in its structural or *relational* aspect) a given hierarchy going from harmony through rhythm to the lowest level of elaborations: dynamics.

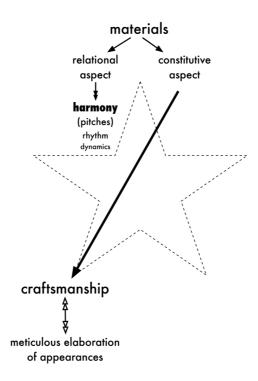


Figure 6 / Displacement of the constitutive character of materials, from the materials-axis to the craftsmanship-axis, in instrumental music.

It is not by chance that musical writing, when historically born as a sonic departure of the verbal transcription and keeping the prosodic aspects of language, firstly put its emphasis on the graphical representation of pitches and rhythmic values, and only much later began to describe, even if always in a very rudimentary manner, the dynamic levels.

When Lévi-Strauss wisely pointed out in *Le cru et le cuit* that "emotion in music consists on the fact that in every single moment the composer either takes off or adds more or less than expected by the listener", he was speaking about *memories* and *expectations*, which provide

the listeners with the capacity to establish identities and differences between musical ideas. Both terms belong to a new axis of our star, which comprises a uniquely permanent musical form along the whole history of music, including our days: theme and variations, transplanted in modern era to the couple materials/variations. Variations mean that materials are partially transformed through the persistence of some characteristics at the same time that through the metamorphosis of their complementary aspects too, by means of the introduction of new musical ideas. By introducing new aspects of the sound objects, something is necessarily left behind. Going back to the Beethoven example, the heterogeneous disparity of values given by the small appoagiatura – when related to the other rhythmic values – in the very beginning of the motive, later gives place (in Var. XI) to an extended rhythmic homogeneity, a new idea, in which the shape or profile of the figure is kept while the former diversity of values simply disappears. The second appearance of this material seems to be simpler than its initial evocation. Heterogeneity being subtly transformed into homogeneity by suppression of a single value implies, nonetheless, a high level of complexity and shows us how simplicity in art is a pure illusion, since complex formulations can be done not only by what ideas present us, but also by what they "forget" to present! Images of sounds are kept in absentia in our minds as it happens with binary oppositions between pairs of phonemes in the verbal language. Thus, we can appreciate the crass blindness of such phrases that refer to a pretentious simplicity of... Mozart's music!

Variations need to be consciously controlled and imply recurrences and an unforgettable desertion of ideas in an inexorable timeline. *Hearing* sounds is a purely physiological state. *Listening* to musical objects, nevertheless, reveals us an intentional and therefore *directional* factor of our more or less conscious perception. Listening to musical objects means hearing the *directions* of sound objects. We access then the other axis of our star, in which transformational processes are promoted to the main formal strategy in composition. A teleological perception takes place and music definitively departs from general sonic events. Music can then be defined as consciously elaborated *directionalities*. The paradigm of Beethoven claims to be evoked once more in this context: the liquidation process of motives in the sentence structure of a classical theme is a clear example of directionality, but directional processes can be heard as involving other parameters as well, such as registers – a thought which anticipates in more than a century the total serialism!



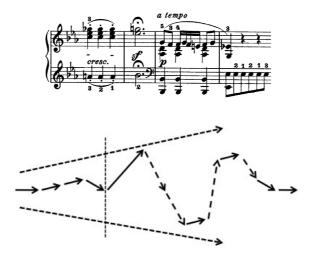


Figure 7 / Enlargement of registers as directional process in the theme of Beethoven's Sonata Op. 31, n. 3 (1).

Directionalities over larger portions of time need connecting elements: anticipations of coming ideas or resonances of former musical structures, either introducing new elements into an already existing section, or lasting desinences of a past element into a new one throughout the musical weave, interlacing musical ideas in the real time of composition. Those elements consist of intersection points and passages between musical ideas. That is what happens with the pulverization procedure of orchestral sounds in one of my pieces, *Crase* (2005-06) for large orchestra and electronics: during a directional process, in which two solos of oboe and clarinet outside the orchestra are live-transformed and spatialized, crossing the orchestral space, an *A* in the middle register interlaces all multiple events of the texture. At the end of this process, when points replace lines or curves, a trumpet enunciates the displacement of this connecting element, jumping the *A* pitch one octave upwards.

And so we have completed our 5-points star: *materials* are submitted to *variations*, through which *directionalities* are strategically projected in time; the perceptual nexus of such strategy is assured by the interlacing given by *connections*; control over all details, related internally as well as externally to musical objects in their final appearance becomes the focus of an outside, critical overview of the composer, whose *craftsmanship* will make, in this sense, his/her efforts more or less successful, carefully linking the listening back to the elaborated *materials* as elected pillars of the musical architecture. Materials stay on the top of this notwithstanding very "democratic" – I would even say quantum, almost mystic – Fibonacci-star.

A further, very instigating question concerns how far new means interfere on these old, archetypal meanings. Obviously each new musical resource will inevitably cause translations of given elements inside the star energy. In this context, the arrival of electroacoustic music is decisive in two senses: firstly the possibility to *constitute* the sounds internally transfers timbre – commonly circumscribed in the instrumental domain to the spheres of craftsmanship – to the top of that hierarchy, emancipating timbres as the constitutive aspect of materials; secondly, in the place of timbres, composers will have *spatiality* as one of the most fundamental aspects of craftsmanship, through which the relational aspects of materials become explicit.

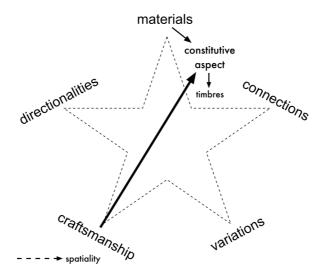


Figure 8 / Consequences over the star with the arrival of Electroacoustic Music.

In this context we feel ourselves considerably nearer to Leibniz than to Newton, for space does not exist independently of things, but on the contrary as relating objects, for as Leibniz says, while "time is the order of existing things, space is the order of co-existing things". Last but not least, spatiality functions as a multiplicative factor of the listening and assimilation of simultaneous layers, one of the most incisive traces of speculative music in its confrontation with the cultural industry and its musical sub-products.

Harmony, the most important aspect of composition throughout history, must not be forgotten! In constituting the material, electroacoustic resources offer the composer a special gift, usually either disregarded or dealt in an absolutely unconscious way by composers who work exclusively at the studio, without any previous substantial experience with instrumental writing: without leaving their relational role, pitches go towards timbres and vice versa, even if both aspects of sounds keep their autonomy. Harmony acquires, besides its relational capacities, substantial constitutive potentialities. Despite of all rearrangement of forces, the proclaimed *suprématie des hauteurs* is therefore not destroyed!

In the axis of the variations – which in instrumental music is predominantly determined by diversity of figures, enhancing the relational aspect of materials – the constitutive force of materials acquires an especial accent, through which composers tend more and more to give a certain privilege – if we consider both basic pillars of sound constitution since the emergence of the electroacoustic music in its early days: on the one hand, the *treatment* or *processing* of sounds; on the other hand, the sound *synthesis* – to the first procedure more than to the second one, which in turn is related, above all, to the constitutive aspect of materials *before* they are submitted to further variations.

We see how *materials* are immediately submitted to *variations* and, mostly in a final stage of composition, to *craftsmanship*, while in between strategies of *directionalities* and *connections* of musical ideas determine substantially *formal* elements in time. By means of such "segmentation" of our star we deal, on one hand, with constitutive, and on the other, with relational forces.

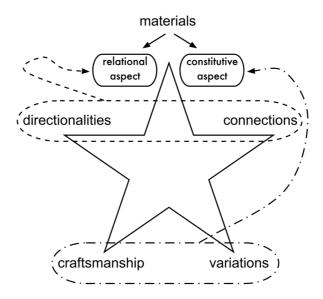


Figure 9 / Segmentation of the star into the relational and constitutive cardinal forces of the materials.

Let's illustrate the conclusion of this essay with the description of a musical passage from the domain of octophonic acousmatic music. In the very beginning of my *Motus in fine velocior – in memoriam Stockhausen* (2008) we listen to dramatic materials derived both from treatment (of a spring inside an old stove) as well as from synthesis. About 4' later the stove sounds reappear with variations, displacing in time higher and dry synthesis sounds, which will be drastically superimposed by a spatial cloud of lower sounds, which cause consequences in the synthesis layer: it acquires a resonant quality. The whole process directionally runs into heart beats evoking maybe the last moments of a dying person (actually with sounds not derived from a heart, but from a harp followed by a vowel, both transposed radically some octaves below). Then, another directionality takes place: metallic resonances emerge from those tonic periodic beats polarizing a low *C*, becoming more and more independent of them. Variations of those beats enhance the autonomy of the resonances, until varied stove sounds reappear and lead the whole texture to a new cloud of synthetic sounds, which in their turn will run into a transformed quotation of the final moments of *Kontakte* by Stockhausen.

This metalinguistic reference, even if strongly metamorphosed, is indeed anticipated by a high sound layer some seconds earlier as connecting element. But if we pay attention to that passage again, we perceive that, interlacing all these elements and directionalities, a sound layer lasts as a kind of shadow too, establishing the formal connection between these two big clouds of spectra.

What a paradox! I am labeled by traditional musicians as an *electroacoustic* composer and, among my dear "electroacoustic" colleagues, we spend so much time speaking about Beethoven, and Stravinsky, and giving examples of instrumental as well as mixed electroacoustic music... The reason for that is no longer a secret: in my opinion, any musical composition, whether dealing with instruments or electronic devices, should consider the essential elements of my star, which should be viewed not as a model or a systematic approach to composition, but rather as a quantum field of musical meanings which are of universal validity. It is a pure illusion to think that electroacoustic music can be considered apart from these problems.

Lastly, after elaborating all the elements of a musical work, even if some of them are worked on a rather unconscious way, the composer should try to reconsider all general concepts inscribed in the broad lists I mentioned at the beginning of my exposition, since a masterpiece must imply also extra-musical meanings in order to last and survive over the rigorous sieve of History. Musicians are connecting points between past and future, in both senses of connections; resonances of past and anticipation of future. What sense does it make to perform Bach after Glenn Gould? A rather difficult task for pianists, I would say - but any new performance is legitimate, since by engaging in it interpreters extend resonances of past works into the present. Composers, on the other hand, have a greater responsibility towards the future. They remain avant-garde poles, may we agree or not with this term. They carry society's locomotives looking forward. They anticipate new ideas. In this sense, composers may be "pretentious", if they wish to be *qood* composers. If not, please allow me to say: try other occupations in life! Firemen, taxi drivers, engineers and physicians are also very important for our societies! But if a taxi driver has not so many things to speculate about, in cases such as the work of a physician or of a physicist, which involves research, the lemma of Ezra Pound remains valid: "Make it new". For as Freud once pointed out so well, even if referring to the sexual speculations of a child: "Nur die Neuheit kann die Bedingung des Genusses sein", that is: "Only the Novelty can be the condition of pleasure"!

Novelty means renewed old meanings. If everyone acquires such consciousness, maybe some day I can have a good chance to come to a doctor, restore the health of my ears and become free of my perturbing tinnitus!

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