

## Syntactic parameters, statistic parameters, and universals

Nicolas Meeùs

In the introduction to Part Two of *L'Unità della musica*, the Fifth Volume of the *Enciclopedia della musica*, Jean Molino and Jean-Jacques Nattiez describe «two major coexisting and opposed traditions in Europe concerning the nature of music, considered either as an abstract discipline founded on numbers, or as an affective and moral experience» [2005b, 347; 2007b, 372][1]. This description is somewhat excessive: even if Neo-Pythagoreans and Neo-Platonists are still among us, they don't form a majority any more, and few today would consider music «an abstract discipline founded on numbers». Also, no rational conception of music needs to be opposed to a conception «as an affective and moral experience»: they may as easily be complementary.

The distinction, however, is reminiscent of earlier similar ones. Curt Sachs [1943, 41] had made a comparable distinction between “logogenic” and “pathogenic” types of the earliest music of the world. Logogenic music, word-born, is «a mere vehicle for words»; one may imagine that like language it is organized into discrete, articulated and conventional units. Pathogenic music on the other hand results from «an irresistible stimulus that releases the singer's utmost possibilities»; it arises from pathos and from affect. A distinction of the same kind is made by Leonard Meyer, in a wider context, when he opposes “primary” and “secondary” parameters of music as follows:

[...] Because of the nature of the perceptual/cognitive capacities of the human nervous system, some of the material means of music can be readily segmented in constant, non-uniform, proportional ways. In most musics of the world, this is the case with those parameters that result from the organization of, and interaction between, pitches and durations: melody, rhythm, and harmony. When the relationships within such a parameter are governed by syntactic constraints, the parameter will be called *primary*. The material means of other parameters cannot be readily segmented into proportional relationships. There is, for instance, no relationship in the realm of dynamics that corresponds to a minor third or a dotted rhythm. And the same is true of tempo, sonority, timbre. In short, dynamics may become louder or softer, tempi may be faster or slower, sonorities thicker or thinner, timbres brighter or duller. But because they cannot be segmented into perceptually proportional relationships, there are no specific closural states for such *secondary* parameters. It is, then, the presence of syntactic constraints that distinguishes primary from secondary parameters [1989, 14].

Despite superficial similitudes, and despite their foundation in cognition, Meyer's primary and secondary parameters do not represent stages in the emergence of the musical text, as would be the case, for instance, with Julia Kristeva's concepts of genotext and phenotext [1964, especially 224-225]. It is true that the written score, embodying and freezing an emergent meaning, stresses primary parameters above statistic ones. But nothing suggests that Meyer's secondary parameters may be linked with generative processes, nor the primary ones with the syntax of the final written text (not to mention the final sound text resulting from a performance). Meyer's “primary” elements obviously are structural units, while “secondary” elements are connective, forming the kind of semantic continuum postulated by Lucien Tesnière [1959]; one might also suggest an analogy with action grammars [Boeckx and Fujita, 2014].

But these considerations lead us away from my main concern, the structural value of the elements of music and their possible status as universals. The terms “primary” and “secondary” are somewhat unfortunate in that they suggest an unnecessary hierarchy. Meyer later replaced them with “syntactic” and “statistic” [e.g. Meyer 1998, 8-10]. His

position is clear: the perceptual/cognitive capacities of the nervous system are universals; a general consequence is that some means of music can be made discrete and form syntactic parameters, while other means cannot and thus form statistic parameters. But neither of these can be considered to constitute universals. This idea is clearly expressed when, discussing «the problem of distinguishing those facets of human behavior that are learned and variable from those that are innate and universal», he writes:

[...] It is a mistake – albeit a common one – to conceptualize the problem as a search for “musical” universals. There are none. There are only the acoustical universals of the physical world and the bio-psychological universals of the human world [1998, 6-7].

He adds:

Our proclivity to comprehend the world in terms of classes – in music, classes of pitches, intervals, forms, genres, voices, instruments, performing groups, and so on – is a consequence of the finite capacity of the human mind and the resulting need for psychic economy. Put the other way around, were every sound or sound relationship perceived as unique, the amount of information to be processed and stored in memory would be overwhelming [1998, 10-11].

Yet Molino and Nattiez, in their search for musical universals, believe that typologies, classifications and inventories of what is general in music may suggest «a number of candidates to the dignity of types and of universals» [2005b, 332; 2007b, 356]. In the introduction to volume 5 as a whole, they explain that «behind the historic and cultural diversity of *musics*, there may perhaps exist, *anthropologically*, something like *music*» [2005a, XXIV; 2007a, 18]. And they later stress the intention of the typological section of the volume, which proposes «the properly typological and comparative endeavor of our project, susceptible to bring us nearer to tangible universals of music» [2005a, XXVIII; 2007a, 28]. Typologies, in other words, explicitly aim at providing tangible foundations for a conception of *The Unity of Music* (the title of the volume). Molino and Nattiez appear to believe in a direct relation between universals and typologies: «one defines a category or a parameter, considered universal, and one studies the various systems or types that correspond to them» [2007, 343].

Universals, in the metaphysical sense of the term at least, are characteristics or qualities, but neither categories nor parameters. Universals strictly speaking are strictly universal and allow for no exception. As Bruno Nettl writes, «there is a significant difference between universality and popularity» [Nettl 2000, 467]. Even more: a metaphysical universal is universal by nature, and the fact that some things may not possess it does not disqualify it as a universal. The faculty of language is a universal of mankind, but some of us are mute. “Musicality” is a universal, “music” is not. This crucially raises the problem of “the unity of music”: the musics of the world are instantiations of a common quality, musicality, but they nevertheless remain largely irreconcilable to each other. Typologies and classifications list things that share common qualities, but the things that they list cannot in themselves form universals properly speaking. *The Unity of Music* may be quite high in the world, but this does not result in music being a universal. The distinction may seem farfetched, but it deserves some consideration.

\*\*\*

Meyer writes:

Because of the innate capabilities of the human mind, some parameters of sound can be segmented into perceptually discrete, proportionally related stimuli that can serve as the basis for auditory patternings. In most musics of the world, this is the case with pitch (frequency) and duration which are the basis for melody, rhythm, meter, and (in Western music) harmony. Because the largely learned probabilities and possibilities that govern successions in these parameters can be the basis for syntax, I have called these parameters “syntactic”. [1998, 8].

That is: the innate human capability of discretization, which is a universal, results in that most musics of the world have pitch and duration as syntactic parameters. The latter, of course, are not universals, and the syntax of which they may form the basis, is *largely learned*, i.e. is definitely *not* a universal. I would like to show here that the dichotomy syntactic/statistic is not as strict as Meyer would seem to indicate: some parameters may be considered *mainly* syntactic, others *mainly* statistic, but none is entirely either of the two. The problem remains, however, that while the syntactic aspects of musical elements can be described, classified in typologies, and ultimately analyzed, statistic aspects usually escape description or can be dealt with only negatively, so to say, by contrasting them to syntactic aspects.

Let's consider pitch. The quality of "pitch", the highness or lowness of sound, may be an anthropological universal, because the human response to frequency appears psycho-physiologically universal. From this follows neither that individual pitches, nor their classification (e.g. within scales or modes) are universals, nor even that music always is formed of pitched sounds. Molino and Nattiez state that the *Enciclopedia* «proposes a [...] typology of the scales, a classification of the modes *universally used* in vocal monodies» [2005a, XXVIII; 2007a, 29; my italics], as if scales and modes necessarily existed in all musics of the world. But this may not be the case for scales and certainly not for modes [Powers, 1992]: scales and modes are used only in the musics that chose pitch as one of their syntactic parameters – and even not in all of them.

"Pitch" is a complex notion. The American Standard Association defines it as «that attribute of auditory sensation in terms of which sounds may be ordered on a scale extending from low to high. Pitch depends primarily upon the frequency of the sound stimulus, but it also depends upon the sound pressure and waveform of the stimulus» [ASA 1960, 44, def. 12.1]. There are two problems with this definition, however. First, a pitch is a point in a continuum: to assign it to a position in a scale, to view it as a degree defined by its relation with other pitches or degrees, implies a discretization of the continuum: if pitch can be accepted as a discrete, syntactic category, it is by virtue of a theory made about it. The second problem is that even if pitch is understood as a position in a scale, the scale itself does not have to be assigned a defined low or high position – pitch, as a result, may be independent from frequency, it may be relative. Pitch is defined only by its structural position within a syntactic structure. This appears to be the case particularly, for instance, with medieval notes (expressed either in alphabetic notation or in solmization syllables), which belong to the diatonic scale, but cannot be defined by their pitch level [see Meeùs, 1997].

Molino and Nattiez write: «It appears that the existence of scales may be one of the universals of music – that is that they are present in all musical cultures, which does not mean [...] that all types of music are based on scales» [2005b, 339; 2007b, 364]. There is an important shift in this statement with respect to what Meyer had written: the syntactic parameters, he said, melody, rhythm, meter and harmony, are based on pitch and duration, which may be universals. But Molino and Nattiez speak of scales, and later of modes, of rhythms, etc., as possible universals, while scales, modes and rhythms are only indirect results of the qualities of pitch and duration. Let's agree that even if scales may be generally present in music, this does not suffice to make them universals.

Nathalie Fernando, discussing musical scales, stresses from the outset that she will discuss theoretical formulations [2005, 924-925; 2007, 945-946]. The concept of scale, indeed, is first of all one of description: it may be more universal in music theory than in music itself. All written musical theories (from China to the West) do include a theory of pitch systems; but there exist musics which rest on scales without knowing it – if only because they have no theory – and, certainly, musics without any systematic discretization of pitch. One may in fact wonder whether this is not the case with what Nathalie Fernando describes as the "complex dynamic models" that she identifies in the music of the Bedzan and Ouldémé, «evidencing always new properties, which cannot be studied at the single level of their constitutive elements, and functioning from a coherent network of relations established in the moment. In the space formed by the sound continuum, the intervallic categories organize themselves from moment to moment and renew themselves constantly on

the basis of reciprocal constraints established by the collective norm» [2005, 953; 2007, 977]. But then the quality of pitch, filling a continuum and constantly moving, escaping classification as a syntactic parameter, can no more be defined in terms of a scale: it becomes statistic. To say that Bedzan and Ouldémé pitches «organize themselves from moment to moment in the space formed by the sound continuum» forces them into a another type of discretization, that which views the continuous flow of time as a succession of “moments” – during which the sound continuum might perhaps organize itself in distinct pitches.

Simha Arom, discussing the organization of musical time, stresses from the outset that the musics of the world can be divided in two main categories: measured and unmeasured. But his typology does not concern unmeasured time. He distinguishes «a metric organization proceeding by division» from «the asymmetric forms obtained by addition or multiplication» [Arom 2005, 1097; 2007, 937-938], but in both cases the units remain proportional to one another, even if the proportionality may be complex. The rhythmic parameter remains syntactic. It is not that Arom is not aware of truly unmeasured, statistic management of time, but that as such it remains outside any possibility of a typology.

\*\*\*

The American Standards Association defines a "note" as «a conventional sign used to indicate the pitch, or the duration, or both, of a tone. It is also the tone sensation itself or the oscillation causing the sensation» [ASA 1960, 47-48, definition 13.8]. This clearly identifies the “note” as the syntactic unit *par excellence*, indicating both pitch and duration. And these, as Meyer evidenced, characterize “most musics of the world”. There is a real danger, however, of mistaking notes for universals of music. The term itself refers to musical notation: syntactic parameters, in general, are those that can be notated, while notation usually fails to unequivocally denote statistic parameters. It would be tempting to believe that all music consists of notes, that music always is syntactic, that it is an articulated language. But many musics of the world are not notated, or are notated only *a posteriori*.

The notation of music coming from oral traditions remains a vexing problem: not that this music should not or could not be notated, but that the question of *what* is notated, of whether notation does justice to all aspects of the music, remains largely unsolved. This is because the role of statistic parameters is not sufficiently taken in account. The case is even more complex with “sound-based music”, «the art form in which the sound, that is, not the musical note, is its basic unit» [Landy, 2007a, 17; see also 2007b], principally electroacoustic music, but also many of the recent “musics of fixed sounds” (*musiques de support*).

Various devices have been imagined to represent these musics. One most remarkable example is Bartók’s system of notation, exemplified for instance in his transcription of Serbo-Croatian folk songs (Fig. 1): Bartók adds to the ordinary notation a set of specific signs denoting fluctuations in tempo or in pitch, *rubato*, *portamenti* or *glissandi*, or even the absence of defined pitch. But the most striking element of this edition is the reduction attached to the first stanza of each song, «the skeleton form of the melody (stripped of all ornamental tones)» [Bartók and Lord 1951, 90]. While Bartók’s special signs may be considered attempts at notating statistic parameters, the “skeleton forms” – the analysis – appear as reductions maintaining only syntactic aspects, stripping the melodies from all of their statistic elements: rhythm and pitches, in particular, are “normalized” [Rothstein 1990].

4

8b,1-4

$\text{♩} = 108$

1. Pla - ni - no mo - ja sta - ri - no, le - le, -

Pla - ni - no mo - ja sta - ri - hi - no,

2. Ko - l - ko sam kroz te ho - - di - jo, hle - le, -

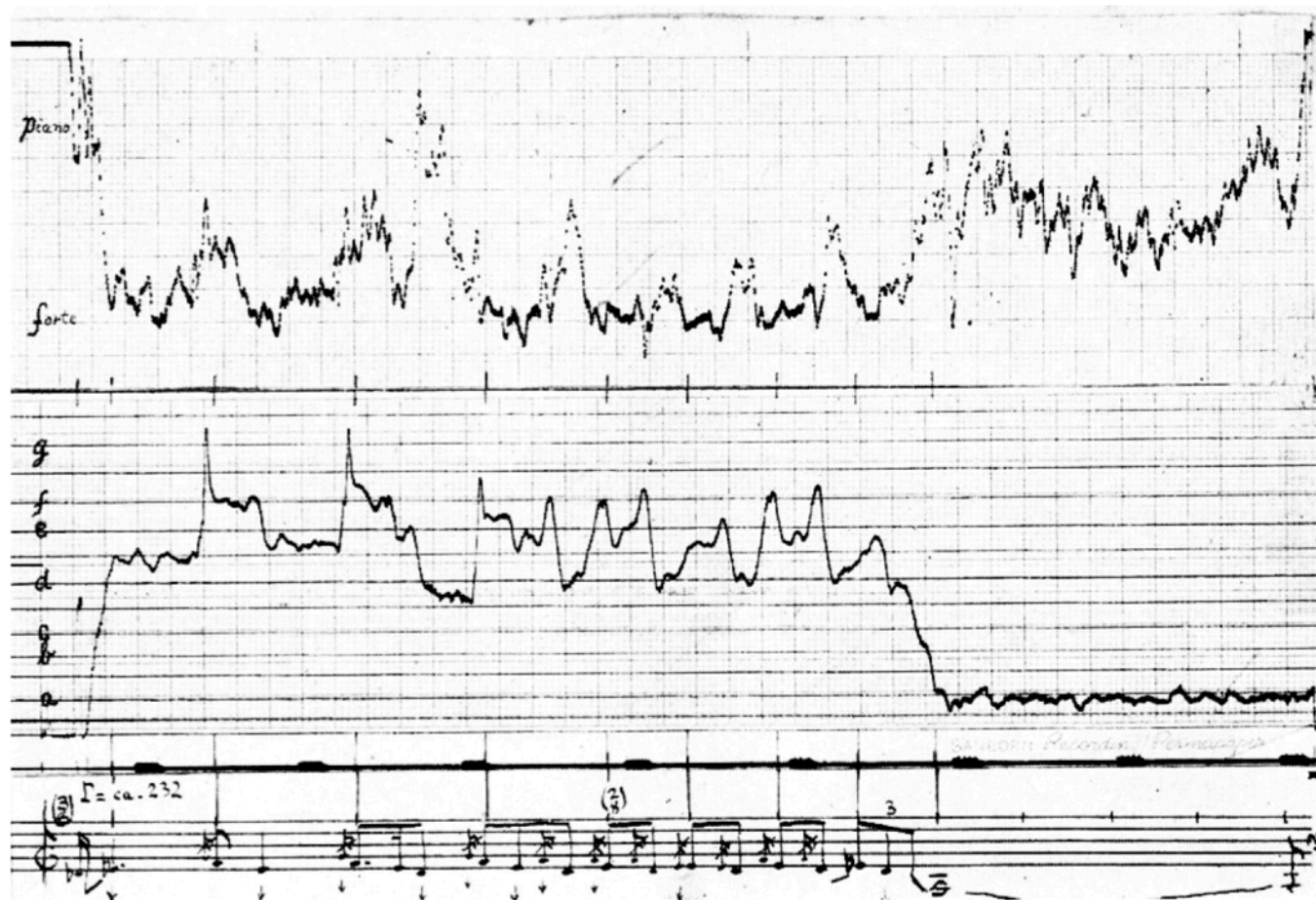
Ko - l - ko sam kroz te ho - - di - hi - jo,

**Figure 1.** R. 3586; Gacko (Hercegovina), Derviša Biberović, May 21, 1935 (Stanzas 1 and 2), Bartók and Lord [1951, 99].

The note *cl* before the first measure indicates the actual pitch of the final note, *g1*, of the transcription. Arrows indicate pitches slightly higher or lower than written. «Small-head notes with heads in outline are used for ‘clucking’ sounds» [1951, 91]. The second staff in the first stanza is the “skeleton” of the melody.

Charles Seeger, in his famous (and often misunderstood) article about *Prescriptive and Descriptive Music-Writing*, makes a distinction similar to Meyer’s. «On the one hand, he writes, melody may be conceived as a succession of separate sounds, on the other, as a single continuum of sound – as a chain or as a stream. Conception as a chain tends to emphasize structure and entities that move; conception as a stream, function and movement itself» [1958, 185]. He accordingly opposes two types of music writing, the first, “symbolic”, founded on an alphabet of discrete symbols representing notes as points in the musical flux, and the second, “linear”, representing evolutions of music in time. Symbolic notation, he adds, fails to convey the movement between successive points. One way out of this problem is to make use of «the objectivity of the electronic reduction of the oscillographic curve» [1958, 187], as shown in Fig. 2,

where the upper curve notes fluctuations in intensity, the lower curve fluctuations in pitch, above a conventional notation of the melody.



**Figure 2.** Oscillogram of Abatutsi Traditional Song, sung by man's voice, from *Voice of the Congo*, Riverside World Music Series, RLP 4002, recorded in Ruanda by Alan P. and Barbara W. Merrian, 1951-52. Seeger [1958], Plate III.

Oscillograms may indeed seem to describe the music they represent. Seeger, however, is cautious not to call them “scores”, or “notations”: throughout his paper, he prefers to speak of “music-writing”. The prescriptive music writing of ordinary notation “does not tell us as much about how music sounds as how to make it sound”, and reading it calls for a knowledge of an unwritten tradition [1958, 186]. Descriptive graphs, on the other hand, probably allow the music to be read, in some sense at least. But what they actually represent is the sound as pure sound, as acoustic stimulus, and not as music, as language with a structure and a semantic content. Whether an acoustic image of the sound can serve for an analysis of the music remains an open question. A consideration of Fig. 2 above indeed shows that the constantly

fluctuating line representing the variations in pitch (or, better, in frequency) is much less informative than the six or seven discrete pitches notated on the staff. The same can be said of durations: the distances in the linear graph are transformed by the notation into a limited number of proportional, distinctive units of time. Staff notation appears to neglect the statistic aspects of the music and to reduce it to its syntactic, semiotic aspects.

The so-called “aural score” is another descriptive representation of the sound of music. It differs from other graphic scores in that it is not intended to prescribe performances, but to help listening. One of the earliest of these appears to be the *Hörpartitur* of György Ligeti’s *Artikulation*, drawn by Rainer Wehinger for Schott Edition [1970]. As Richard Taruskin wrote about this score, «it could be followed while listening to the piece[2], but it served no other practical purpose – not even for analysis, since the sounds were not represented with enough specificity as to their exact frequency or duration». It may be more exact to say that, in *Artikulation*, the sounds themselves lack exact frequency or duration, and this indeed makes them difficult to analyze. Taruskin notes that the symbols and shapes in the score are reminiscent of paintings by Joan Miró which Ligeti may have had in mind while composing the piece; and he concludes that the *Hörpartitur* «was in effect a work of visual art founded on, or determined by, a piece of music» [2005, 52]. Many graphic scores have been produced since, often combining symbolic notation with acoustic representations [see for instance Fober e.a., 2015].

\*\*\*

Meyer had written that «some parameters of sound can be segmented into perceptually discrete, proportionally related stimuli» [1998, 8]; but this statement raises several problems. It appears to suggest that the parameters in question consist in a continuum that is made discrete by a perceptive act, and that the resulting discrete stimuli are proportional to each other. However, one fails to see what kind of cognitive or perceptive operation could produce such a result. Syntactic parameters do not result from a discretization, but rather from a categorization: they do not consist in segments of a continuum, but in conceptual categories; and the proportionality between them is not perceptual, but conceptual.

The signs of staff notation, which are notations of the syntactic parameters, describe neither points on a curve, nor segments of a curve, but structural categories – that is, categories defined by mutual exclusion in a structural system. Neither pitch nor duration need to be defined absolutely, nor quantified, and the proportions between them are merely conceptual and need not be verified in the facts. This is characteristic of a semiotic system. One may say, paraphrasing Hjelmslev [1969, 52], that pitch and duration «are unanalyzed, amorphous continuums, on which boundaries are laid by the formative action of the musical languages». The proportionality between categories is conceptual only and therefore needs not be exact: an eighth note may or may not be exactly half a quarter note, a tone may or may not be exactly two semitones. The efficiency of our traditional notation arises from the fact that it records syntactic parameters as categories, leaving their precise instantiations to the situations of performances and to the responsibility of performers.

The pieces notated in Figures 1 and 2 above are musics of notes – i.e., they are semiotic. The problem of writing them down does not reside in the notation itself, but in the relation between the notation and its instantiation in performance – or, in the case of *a posteriori* music writing, in the relation between the actual performance and its abstraction in notation. It is the relation between notes-as-written and notes-as-sound, as Stephen Davies [2003] described them, and this may well be one of the main problems of music analysis today. Our traditional methods of analysis are aimed at describing abstract structures of music, without consideration of their instantiation in performance: they can deal with notated, but much less with performed music. But a musical work cannot be reduced to a notated composition: its complete definition also involves an instantiation in performances.

\*\*\*

Ontologies of music usually view musical works either as abstract objects, ideas, embodied in the composer’s

intentions as they can be read in the score, or as collections of particular instantiations in the potentially infinite number of both the “authentic” copies of the score and their “authentic” performances. Without entering the details of this debate, it must be admitted that musical works in general, depending on their particular kind, exist at some point within a span from the most strictly platonic view that identifies the work with its score and the most strictly nominalist one that identifies it with its performances. Musical works, in other terms, reside somewhere between the most ideal, immanent, timeless, and the most concrete, contingent, in time; but all of them, to a varying extent, share both dimensions. It is because they always share at least a minimal contingent dimension – music as sound – that musical works cannot count as universals. And for this reason, music itself also cannot be universal.

## References

- Arom S. (2005), *L'organizzazione del tempo musicale. Saggio di una tipologia*, in *Enciclopedia della musica*, vol. 5 (*L'unità della musica*), Torino, Einaudi, pp. 1087-1103.
- (2007), *L'organisation du temps musical. Essai de typologie*, in *Musiques. Une encyclopédie pour le xxi<sup>e</sup> siècle*, vol. 5 (*L'Unité de la musique*), s. l., Actes Sud / Cité de la Musique, pp. 927-944.
- ASA (1960), *American Standard Acoustical Terminology*, <http://babel.hathitrust.org/cgi/pt?id=uc1.31822012085551;view=1up;seq=3> (accessed 4 January 2016).
- Bartók B. - Lord A. B. (1951), *Serbo-Croatian Folk Songs. Texts and Transcriptions of Seventy-Five Folk Songs from the Milman Parry Collection and a Morphology of Serbo-Croatian Folk Melodies*, foreword by G. Herzog, New York, Columbia University Press.
- Boeckx C. A. - Fujita K. (2014), *Syntax, action, comparative cognitive science, and Darwinian thinking*, «Frontiers in Psychology», <http://journal.frontiersin.org/article/10.3389/fpsyg.2014.00627/full> (accessed 4 January 2016).
- Davies S. (2003), *Themes in the Philosophy of Music*, Oxford, Oxford University Press.
- Fernando N. (2005), *Scale e modi. Verso una tipologia dei sistemi scalari*, in *Enciclopedia della musica*, vol. 5 (*L'unità della musica*), Torino, Einaudi, pp. 924-956.
- (2007), *Échelles et modes: vers une typologie des systèmes scalaires*, in *Musiques. Une encyclopédie pour le xxi<sup>e</sup> siècle*, vol. 5 (*L'Unité de la musique*), s. l., Actes Sud/Cité de la Musique, pp. 945-979.
- Fober D. - Bresson J. - Couprie P. - Geslin Y. (2015), *Les nouveaux espaces de la notation musicale*, in *Journées d'informatique musicale*, Montréal, OICRM, 2015, [http://jim2015.oicrm.org/actes/JIM15\\_Fober\\_D\\_et\\_al.pdf](http://jim2015.oicrm.org/actes/JIM15_Fober_D_et_al.pdf) (accessed 4 January 2016).
- Hjelmslev L. (1969), *Prolegomena to a Theory of Language*, transl. by F. J. Whitfield, Madison, The University of Wisconsin Press.
- Kristeva J. (1969), *L'engendrement de la formule*, in *Séméiotikè: Recherches pour une sémanalyse*, Paris, Seuil, 1969, pp. 216-310.
- Landy L. (2007a), *Understanding the Art of Sound Organization*, Cambridge, Mass., MIT Press.
- (2007b), *La musique des sons / The Music of Sounds*, Université Paris-Sorbonne, MINT.
- Ligeti G. - R. Wehinger (1970), *Artikulation, Hörpartitur*, Mainz, Schott. See [http://www.schott-music.com/shop/Sheet\\_Music/Chamber\\_Music/Special\\_Avant-Garde\\_Forms/show,36578.s.html](http://www.schott-music.com/shop/Sheet_Music/Chamber_Music/Special_Avant-Garde_Forms/show,36578.s.html) (accessed 4 January 2016).
- Meeùs N. (1997), *Mode et système. Conceptions ancienne et moderne de la modalité*, «Musurgia», IV/3, p. 67-80.
- Meyer L. B. (1989), *Style and Music. Theory, History, and Ideology*, Chicago-London, The University of Chicago Press.
- (1998), *A Universe of Universals*, «The Journal of Musicology», 16/1, pp. 3-25.
- Molino J. - Nattiez J.-J. (2005a), *Frammentazione o unità della musica?*, in *Enciclopedia della musica*, vol. 5 (*L'unità della musica*), Torino, Einaudi, pp. xxiii-xliv. — (2005b), *Tipologie e universali*, in *Enciclopedia della musica*, vol. 5



(*L'unità della musica*), Torino, Einaudi, pp. 331-366.

— (2007a), *Éclatement ou unité de la musique?*, in *Musiques. Une encyclopédie pour le xxie siècle*, vol. 5 (*L'Unité de la musique*), s.l., Actes Sud / Cité de la Musique, pp. 17-32 (This French adaptation of 2005a is published under the name of Nattiez alone.)

— (2007b), *Typologies et universaux*, in *Musiques. Une encyclopédie pour le xxie siècle*, vol. 5 (*L'Unité de la musique*), s.l., Actes Sud / Cité de la Musique, pp. 337-396.

Nettl B. (2000), *An Ethnomusicologist Contemplates Universals in Musical Sounds and Musical Culture*, in N. Wallin - B. Merker - S. Brown (eds.), *The Origins of Music*, Cambridge, MIT Press.

Powers H. (1992), *Is mode real? Pietro Aron, the octenary system, and polyphony*, «Basler Jahrbuch für Historische Musikpraxis», 16, pp. 9-52.

Rothstein W. (1990), *Rhythmic Displacement and Rhythmic Normalization*, in A. Cadwallader (ed.), *Trends in Schenkerian Research*, New York, Schirmer, pp. 87-113.

Sachs C. (1943), *The Rise of Music in the Ancient World*, New York, Norton.

Seeger Ch. (1958), *Prescriptive and Descriptive Music-Writing*, «The Musical Quarterly», XLIV/2, pp. 184-195.

Taruskin R. (2005), *Music in the Late Twentieth Century*, in *The Oxford History of Western Music*, Oxford, Oxford University Press.

Tesnière L. (1959), *Éléments de syntaxe structurale*, Paris, Klincksieck.

---

[1] The *Enciclopedia della musica*, under the direction of Jean-Jacques Nattiez with the collaboration of Margaret Bent, Rossana Dalmonte and Mario Baroni, was first published in Italian by Giulio Einaudi, Torino, 2001-2005, and almost simultaneously in French, under the title *Musiques. Une encyclopédie pour le XXI e siècle*, by Actes Sud / Cité de la Musique, 2003-2007. Both versions are in five volumes, with some differences in internal organization and content. The fifth volume is titled *L'Unità della musica, L'Unité de la musique*. The present article originated from a communication read during the days organized by the Société Française d'Analyse Musicale on 7 and 8 November, 2008, in the Conservatoire National de Musique et de Danse in Paris, to hail the completion of the work. I had been asked to comment particularly on Part Three, "Typologies et comparaisons", in the Fifth Volume of the French edition, roughly corresponding to Section Four, "Tipologie", of Part Two, "Confronti", in the Fifth Volume of the Italian version.

[2] For a synchronized version, see [https://www.youtube.com/watch?v=71hNI\\_sKTZQ](https://www.youtube.com/watch?v=71hNI_sKTZQ).