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**Hugues Dufourt, *La musique spectrale. Une révolution épistémologique* (Paris: Éditions Delatour, 2014), ISBN 978-2-7521-0206-5 (pb).**

*Laura Zattra*

Spectral music is now more than forty years old. In his preface, French composer and philosopher Hugues Dufourt defines it thus:

Spectral music basically represents a change in our ways of thinking music. It is no longer a music based on traditional and well separated categories, such as melody, counterpoint, harmony or timbre. Spectral music, on the contrary, is the music of middle categories and hybrid objects. Its objects stand at the frontier of two or more dimensions, timbre and harmony, harmonicity and inharmonicity, pitch and noise, rhythm and grain. Spectral music is the exploration of continuous transitions between traditionally heterogeneous domains; it creates mixtures and works to breach the thresholds of perception. The music of the end of the last century has irresistibly uncovered colour, as both a predominant and autonomous dimension of its language. We can define it as the art of colour modulation. (15-16)

After reading this introductory passage, coming as it does from the person who coined the term “Musique spectrale” (in 1979, Dufourt wrote the famous manifesto “Musique spectrale”),<sup>1</sup> the reader might expect a book that takes stock of the state of this compositional technique / movement, and explores its historical development and main protagonists – a sort of ultimate book on spectral music.

In fact, this volume (published in 2014 and running to 485 pages) reunites a series of essays composed by Dufourt over the course of twenty years and should be read in the light of this consideration. As a collection of old and recent articles dealing with spectral questions, it has another goal: neither musicological, nor merely historical, analytical, phenomenological or auto-biographical.

Placing himself in the dual role of editor and contributor, Dufourt introduces in the preface the underlying themes and motivations:

This book [...] deals with the structural mutations of ‘serious’ music from the 1970s. It also traces the portraits of illustrious predecessors who initiated music to the irreversible path of modernity and enabled a moulding of the new matrix of the world. The purpose of this book is to outline the history of categories of musical thought in

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<sup>1</sup> Written for the Société Nationale de Radiodiffusion, Radio France/Société internationale de musique contemporaine, SIMC, 1979, 30-32.

the course of the second half of the twentieth century, and to understand the nature of the relations, during this period, being established between art, science and technology. It has become necessary to disengage the epistemological basis of a production which, too often, confuses theoretical issues and prophecies or burdens itself with scientific myths. (11)

Predecessors, categories of musical thoughts, and the bond between art, science and technology – these are the themes discussed at length across sixteen chapters, each of which was originally an article, concert programme note, or conference speech, from the period between 1995 and 2013. All the chapters have already been published elsewhere, except for three: the long first one (almost 100 pages) which is also the most recent (written in September 2013), an article on Pierre Boulez, and the final chapter, a conference paper presented in 2010 at the Festival Milano Musica.

Although all the chapters are stand-alone pieces and seem arranged in a loosely connected and achronological sequence — a characteristic which enables the reader to read them in a different order depending on their own specific interest — the book can nevertheless be seen as a coherent whole, written from an insider's point of view. Scrolling across articles, the book opens with a long disquisition on the specificity of spectral music (*La violence de l'art*), its historical, aesthetic, technological and epistemological meanings. Terms such as the *articulation en puissance* of movement, quality and masses; sound as energy rather than number; dynamism of transitions rather than montage; form arising from its material – these form the essential vocabulary that reoccurs throughout the book [18].

The volume continues with single chapters dedicated to Stravinsky, Schoenberg, Boulez, the principles of spectral music, Bauhaus & Ircam, Pierre Schaeffer, elites and programmes, Computer Music, musical space, musical material as genetic source of movement and space, intensity and timbre as carriers of form, Gérard Grisey, Grisey and the meaning of his production, theoretical and philosophical foundations of spectral music, and finally the contradictions and fertility of the spectral model.

The long first chapter thus acts as an 'introduction' (written in 2013) to the previously written articles that follow it here. From the second chapter on, the contents are focussed on three main themes: specific composers (predecessors, and the initiator of spectral music, Gérard Grisey), compositional principles, and Dufourt's philosophical discussion of scientific knowledge and its interconnection with art, in the attempt, as seen above, 'to disengage the epistemological basis' (11).

Spectral music, therefore, is not strictly the only subject of this book. If Stravinsky has 'a certain tendency to the momentary' (118) as depicted by Dahlhaus, and discrete scales and

simultaneity are his materials, Schoenberg's theory of composition is closely related to his philosophy of religion: 'for Schoenberg, a composer is an inspired spirit, whose poetic power manifests first in the form of an instantaneous synoptic intuition' (135). 'Je compose à partir d'une vision d'ensemble', writes Schoenberg, 'm'attachant ensuite aux détails' – an idea that Dufourt summarises as one in which 'the organized elements of musical writing are wholly integrated in a hierarchy of functions where the whole dominates the parts'. (135) Dufourt's chapter concludes with Adorno's interpretation of Schoenberg's music and Schoenberg's own ideas on Debussy (one of the pivotal figures in the prehistory of spectral music), whose fourth chords and whole-tone scale were responsible for 'softening the expressive power and, in the long term, eliminating all characterization', according to the harsh words of the Austrian composer's harmony treatise (157).

The chapter on Boulez (published here for the first time, though written back in 1996) is a discussion of serialist music and its failure: this music, 'on the assumption of the simultaneous validity of rules all equally restrictive [...] failed to conciliate orders of representation that have become irreducibles' (175). But here comes the innovative idea embodied in serialism: the abolition of verticality and horizontality, which brings with it interferences, ambiguities, and sensible transitions between distinct orders (179), all concepts very dear to spectral composers. The next chapter is also about serial music, viewed both as a technique and a doctrine. A small endnote acknowledges Fabien Lévy for his suggestions on the sections dealing with the relation between music and mathematics.<sup>2</sup> The article titled 'Le Bauhaus et l'Ircam: deux maisons de la Construction au XX<sup>e</sup> siècle' (published in 1998 in the book *Einseigner la composition: de Schoenberg au multimedia*, edited by Peter Szendy) is divided in two parts: the first is about Bauhaus, the second is devoted to Ircam, its parallels and differences with the German art school, and the relationship between art, science and technology more generally. A chapter analysing Pierre Schaeffer, is an effort to read the *Traité des objets musicaux* as a philosophical system. Dufourt outlines the dignity of contemplation, the religious vocation of art, the perpetuity of Pythagorism, and the idea of music as a space of ecstasy supposing the exceeding of the rational activity of thought (227). The next chapter (*Elites et programmes*) addresses Adorno's theories on avant-garde music after 1945, crafted as a symbolic solidary adventure in the mission of social change, culminating in the computer research developed by John Chowning and Jean-Claude Risset (252-3).

In relation to Leibniz, the chapter 'La musique sur ordinateur: une sémantique sans sujet?' discusses the implications of the encounter between computers and music, proceeding to debate the work of perception psychologists James J. Gibson, Shepard, and Bregman, and dedicates six pages

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<sup>2</sup> Fabien Lévy is the author of the seminal work *Le compositeur, son oreille et ses machines à écrire. Déconstruire les grammatologies du musical pour mieux les composer*, Vrin, 2013.

to Jean-Claude Risset's important contribution in this area. Computer music, writes Dufourt, 'imposes a code over materials of information. [...] Its originality [...] enhances the nominalist attitude which consists in resorbing the object within its facture, or its mode of constitution [...] Computer music operates, at the present time [1997], as a semantics without subject.' (272) This is also the only chapter completed by a list of bibliographical references divided according to the different domains of computer music: signal processing, computer synthesis, automated composition, etc.

With the tenth chapter, dedicated to the idea of acoustic space and written in 1998, the book finally introduces the main theme – spectral music – halfway through the book. It does so transversely, through the introduction of crucial compositional categories. Acoustic space is one of these, as it was already investigated by Berlioz, Debussy and Ravel (279) and then in avant-garde music after 1945. *Mutations* by Risset (1969) is a pivotal work in this exploration (282), followed by Tristan Murail, Gérard Grisey, Michaël Lévinas and Dufourt's own work: the 'quartet' is mentioned here for the second time, 250 pages after the beginning of the book (283). Dufourt finally describes here the five principles of spectral music: 1) computer makes it possible to compose/decompose sound; 2) harmony transforms in timbre; 3) form and material become one; 4) synthesis and sound processing cannot be separated from research on listening-perception; 5) form has a deep bond with structure (284-289). The next chapter (written in 2005) seems to be a seamless continuation of the previous one, and introduces musical material as a genetic dynamic source of sound and space. 'L'action spatialisante en musique' is seen here as a direct consequence of the musical research from the first half of the twentieth century (Debussy, in the first instance) and the 'genetic dynamism of material' typified by Cubism and Russian Constructivism, later by Stockhausen and his *Gesang der Jünglinge* and Gérard Grisey. The concepts of *continuum* and (physical) space as a simulation of the physical area are introduced.

The following two chapters (written respectively in 2010 and 2004) represent a change in Dufourt's style of writing (or perhaps simply the intervention of editors at that time), with chapters now organized by headings and subheadings. The first assesses the concepts of timbre and intensity. Dufourt examines the implications of (musical) science and the modelization of timbre; Mathews, Risset, Chowning, Pierce, Wessel, Bregman, McAdams, Moorer, Moog, Arfib are all mentioned quickly here, as well as Varèse, Messiaen, Xenakis, and Ligeti, to stress the broad evolution of this investigation. The next chapter is dedicated solely to Gérard Grisey (first published in the journal *Musicae Scientiae* in 2004) and offers a chain of interpretations (each section is one or two pages long) of Grisey's Bergsonism, controversy with serialism, timbre, structure and musical writing, 'énergétique musicale', time and synthesis (with acoustic instruments), sounds and shadow-sounds.

The subsequent piece is significantly titled 'The sense of Grisey's work', a *hommage* presented by Dufourt in Milan in 2008. Considering Grisey's refusal of patronage and to exploring his repertoire (375), Dufourt sets out to analyse his colleague's music, returning to some of the notions touched on in the previous chapter, and separating the first phase from the period after *Espaces acoustiques*.

In the penultimate chapter (written in 2003) Dufourt debates the theoretical and philosophical bases of spectral music, also entering into questions of technical, mathematical and computer information; he offers for the first time a personal interpretation of Grisey's and Murail's approaches to spectral music as opposed to that of Lévinas' (418-9), writing '[t]he philosophy of *continuum* shared by Grisey, Murail, Lévinas and I, expresses a refusal of any metaphysical theories of music, counting among them the combinatory approach, the contrapuntal spirit, and all varieties of formalism'. (422) Terms such as mixture and ambiguity return repeatedly, as do the names of Chowning and Risset. The final chapter (written in 2010), an unpublished paper given at a symposium dedicated to spectral music organized by Gianmario Borio and Alessandro Melchiorre, is titled 'contradictions and fecundity of spectral music' and is the most personal account found within the book, written in the first person singular. Here Dufourt narrates the history of the term, presented by him in a document for the Société Nationale de Radiodiffusion Radio/France, in 1979 (457-8). He reconstructs the early steps he and his colleagues had made, and cites several works. 'To me, spectral music would not have been possible without the mutation introduced by sound synthesis, with the studies of Mathews, Pierce, Risset, Chowning, Moorer, Grey and many others. With computers, music has changed its scale altogether.' (461). And again: 'spectral music is a discipline of writing, not of applied logic.' (464) 'Our references inside *Itinéraire* were neither linguistic nor biological.' (468). This chapter thus provides the most appropriate way of closing to the remarkable amount of information displayed in the book.

At this point, the reader might wonder why Dufourt has not decided to include his groundbreaking article/manifesto 'Musique spectrale' (1979), republished so many times, in which he devised the term and launched the new movement. The reasons remain mysterious, even though the essay would have helped in tracing a further perspective of spectral music.

As set out above, Hugues Dufourt the editor prefers not to dictate how to read Dufourt the contributor. The reader however has other options at his/her disposal: the final index of names. To this extent, the index (although occasionally imprecise) may drive the reader forward to find out much more about the 'content' of the book, serving as a 'fil rouge' and guide. It is certainly useful to cast a glance at it. Philosophers such as Adorno and Leibnitz leave their mark throughout the entire book (30 and 14 entries respectively). Arnold Schoenberg, Pierre Boulez and Tristan Murail, and of course the tutelary composer Gérard Grisey are all important references, as can be expected. Among

composers cited throughout the entire book, Pierre Schaeffer, Karlheinz Stockhausen and Iannis Xenakis stand out most prominently.

The index also underlines the importance of the research work of John Chowning (46 entries) and Jean Claude Risset (77 entries), whose ambiguity of the short-circuit “harmony-timbre-harmony” is strikingly demonstrated in pieces such *Stria* or *Mutations*), as also of Jean-Baptiste Joseph Fourier, Hermann von Helmholtz, Max Mathews, Stephen McAdams, John Pierce, and David Wessel. It is with names such as these that the reader can follow the special liaisons spectral music has with technology and psychoacoustic research. This is the basis of the true epistemological revolution to which Dufourt refers in the book’s title. As Dufourt said during an interview for the Italian public Broadcasting Company RAI in 2016, thanks to the use of computer, ‘changing scale, music has changed its language. Timbral objects, found for example by Risset, are essentially models of knowledge of certain acoustic phenomena. These are artifices of synthesis that break the frame of perception and overthrow classical categories of music. We must control the internal structure of sound, by means of procedures of sound micro-surgery’.<sup>3</sup>

Hugues Dufourt’s stylistic dictate may at times appear to be convoluted but it is also ravishing. The reader is asked to circumscribe philosophical passages, jumps from poetic, evocative and vivid sentences to mere suggestions, to follow strings of references and quotations only sometimes tied down (when cited, authors are seldom referenced through specific writings), and to abandon him or herself to Dufourt’s erudition as well as a prose style that often flows but, from time to time, can also be redundant.

In the end, it must be re-emphasized that the title of this book (*La musique spectrale. Une révolution épistémologique*) is somewhat misleading. Dufourt’s book is a journey through his very personal vision and an effort to read the entire contemporary art scene through his own ‘spectral’ spectacles. For that reason, the book should be read in terms of its emic retrospective focus (an insider’s account) and very much as an individual *engagement* (compositional, philosophical, autobiographical, theoretical) with the community of spectral music composers within the larger scene of avant-garde music.

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<sup>3</sup> Translated from Italian. Hugues Dufourt, interviewed by Francesco Antonioni intervista, Radio3 Suite, RAI, November 13th 2016.