

founding, this globally established festival's mission remains the same—we are steadfastly dedicated to the pursuit of the curiosity that is so deeply rooted in humankind's nature, and we continue to peer intrepidly far into the future. Our immediate objective: to once again foment a fruitful, fascinating dialog at the interface of art, technology and society." This is a praiseworthy mission statement. But *Ars Electronica's* intrepid peering into the future with *Armageddon* exhibits may have thwarted for the moment its immediate objective of fomenting dialog. The current reviewers were sometimes left at a nonplus. And Mr. Fontana's prize-winning work, understood as the focal sound statement of the 2009 festival, suggests that music, for the time being, has not yet recovered from its speechlessness and articulated a response. Or, perhaps its response is to recoil and to recollect the harmony of the spheres, reviving the atavistic human capacity to become one with the environment through hearing. One might see the visual art presented as representational (horror scenarios) and music as evocative (utopia): Big Ben and the sonic/visual projections on the AEC—both took place in the night, in the locale of wordless dreams. The skill of hearing—at the neuronal level—has always enabled man and woman to meld with their surroundings. Man and woman in their cave at night, without light and without sight, were only in touch through hearing, and through hearing, "becoming" (to borrow a notion from Gilles Deleuze), becoming human. We hope that the cultural utopia evoked by Mr. Fontana from the midst of our world's dark night is not just sentimental retrospection, rather a contribution to drawing us into a new and lighter period of becoming—humane, humanist, human.

Publications

Robert Reigle and Paul Whitehead (Editors): *Spectral World Musics: Proceedings of the Istanbul Spectral Music Conference*

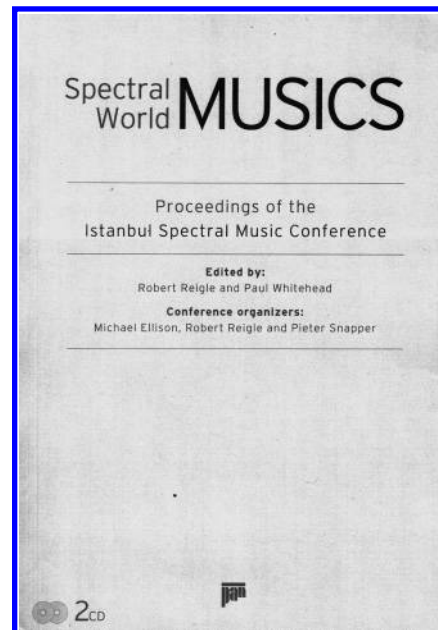
Softcover, two CD-Audio discs, 2008, ISBN 978-9944-396-27-1, 457 pages; Pan Yayıncılık, Barbaros Bulvarı, 18/4 Beşiktaş 3435 İstanbul, Turkey; telephone (+90) 212-2275675; fax (+90) 212-2275674; electronic mail pankitap@pankitap.com; Web pankitap.com/.

*Reviewed by Ian Whalley
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This collection is an outcome of the Spectral Musics Conference held at İstanbul Technical University, 18–23 November 2003, organized by Michael Ellison, Robert Reigle, and Pieter Snapper. In welcoming delegates to the University, the co-directors of the Dr. Erol Üçer Center for Advanced Research in Music, Professor Kamran Ince and Cihat Aşkın noted that hosting the first international conference on spectral music was a long-term goal of the faculty (p. xi).

A quick Internet search of the title gives the sense that proceedings have been distributed to various international music journals, but there have been few reviews to date, and, there seems to be limited additional copies of the collection now available. Without the benefit of attending the conference, this review is of the published material alone.

The proceedings open with track listings for the two audio discs included, followed by written notes of uneven length and quality about each track. The 17 tracks on CD 1 relate to the paper presentations, and are



primarily extracts rather than full works. The second disc, with eight tracks, has complete works from conference concerts.

Paper abstracts in Turkish are provided at the beginning of the text without an English translation, and no abstracts are given at the beginning of each paper. Papers are divided into sections: Introductory Talk; Interdisciplinary Panel Discussion; Spectral Ideas; Ethnomusicological Perspectives; Composers Discuss their Music; Spectral Compositions; Performance Perspectives; and Improvisation with Spectra. Transcriptions of questions and answers sometimes follow each paper presentation.

With no index apart from page references to track listings on CD 1, no signposting in the body of the text as to section divisions, and no English abstracts, the collection becomes something of a detective novel to navigate for the uninitiated.

Computer Music Journal readers will probably be aware of spectral synthesis techniques, or the process

of manipulating spectral data with physical modeling synthesis packages. More generally, for those unfamiliar with the field of spectral music, two issues of *Contemporary Music Review* (19/2 and 19/3, 2000), edited by Joshua Fineberg, are worthwhile reading as a primer. In addition, William A. Sethares's *Tuning, Timbre, Spectrum, Scale* (MIT Press, 2004) provides an interesting technical perspective.

For the benefit of lay people, spectral music is a compositional approach through which decisions are made based on the analysis of sound spectra. While acknowledging that definitions in the field seem to be partly problematic, spectral music is more an attitude to sound, rather than an aesthetic. One approach to spectral composition originated in France in the early 1970s at the Institut de Recherche et Coordination Acoustique/Musique (IRCAM) and the Ensemble l'Itinéraire, particularly through the work of Gérard Grisey and Tristan Murail. In contrast to this structural approach, the Romanian spectral tradition is more concerned with looking at sound in performance, so includes the transitory aspects of timbre and non-harmonic components—focusing on the subjective sense of sound as dynamic experience rather than grounding work in the scientific study of sound. To put the focus of the two perspectives crudely, the French approach uses spectra to make the structure of the work, extending the sound, as it were; and the Romanian approach arrives at structure through transformations of spectra.

The Spectral Musics Conference extended the term through a broader definition to include all music that foregrounds timbre as either an important element of structure or musical language, allowing aspects of world music to be in-

cluded and discussed along with “art music.”

This inclusive approach brought together a variety of perspectives that may not otherwise meet, and also engaged a range of people in an ongoing interest in continuing academic work that might otherwise be left to languish in isolated aspects of academia. The diversity of the outcomes is evident in the grouping of offerings under different sections. It is refreshing to see an event attended by composers, musicians, and theoreticians drawn from such different aesthetics, and part of the charm of the collection is the sheer juxtaposition of approaches and cultural diversity brought to bear, even if some of the offerings seem to share little interest in exploring commonality in approaches and perspectives.

Of course, the danger in this type of situation is that juxtaposition leads to little else, leaving readers to make sense out of it all in terms of commonalities. Some of the more interesting papers presented are then those that attempt to combine differing perspectives, regardless of how successful the outcomes might be.

Robert Reigle's concise introductory talk gives the intent of the inclusive nature taken by the conference organizers, placing the work not only in specialist domains but in the wider field of music making, and noting the importance of timbre as a common concern in music-making. Also noted is how the spectral schools from France and Romania as major aesthetic movements are allowed to lead dialogue, by acting as a conduit for dialogue across disciplines.

Interdisciplinary Panel transcripts on spectral music follow Mr. Reigle's introduction, including analytical, ethnomusicological, and phenomenological perspectives. Moderated by Joshua Fineberg, the conversation includes many leading exponents in the

field: Ana-Maria Avram, Iancu Dumitrescu, Cornelia Fales, and Tristan Murail. The wide-ranging discussion covers influences on composers' works, sources and perspectives drawn on, and the significance of spectral music in relationship to broad scholarly work. Despite the seeming lack of focus at times, there are keen insights here, such as practitioners' concepts of spectral music being mainly focused on how you get it rather than the outcome, and how, in a subjective sense, spectral work is grounded in a primitive force that provides a counterpoint to abstraction and artificiality in art music composition. This section is then a tantalizing taste of things to come.

The Spectral Ideas section includes six papers, beginning from a keynote address by Joshua Fineberg. “What's In a Name” is a solid introduction to some of the history, perspectives, and practices that the term now includes, and it is here that he reiterates the notion of spectral music being primarily an attitude, and also notes how a spectral element in music is something universal that all people instinctively respond to (p. 41). Bert Van Nerck follows with “Spectralism: From Historical Embedment to New Perspectives,” a short paper on Western music concerns; and Mine Doğantan-Dack delivers “Timbre as an Expressive Dimension in Music,” an insightful offering, particularly her comments on electroacoustic music (p. 68) and musical character (p. 70). John Dack's “Spectral Music and Schaefferian Methodology” will be useful for those looking for a method of analysis and composition; and the final two papers by David Gerard Matthew (“Spectral Music and High School Students”) and Tildy Bayar (“Music Inside Out: Spectral Music's Chords of Nature”) are useful examples of the application of spectral techniques in Western music.

Ethnomusicological Perspective, the title of the second collection of papers, is a fitting contrast in context, starting with an engrossing keynote address by Cornelia Fales titled "The Implicitness of Timbre: Attitudes Towards Timbre in Barundian and Western Art Musics." Other papers are Nilgün Dogrusöz's short but fine-grained study "The Architecture of Turkish Vocal Music: Münir Nurettin Selçuk;" Eve McPherson's "Vocal Timbre in Islamic Calls to Prayer Across Cultures;" Robert Reigles' "The Timbre of Ancestral Spirits in a New Guinean Village," which seems to beg for extension; and finally Kathryn Woodward's "Evoking Traditional Sounds through Timbral Innovations," an exploratory work well illustrated by musical examples on tracks 4 and 5 of CD 1. While of differing lengths, the papers are well written and detailed, and the insertion of questions/answers at the end of papers captures the sense of audience engagement.

In the third section, Composers Discuss Their Music, seven offerings encompass many of the most significant practitioners in the field. Although papers are again of varying lengths and quality, the range of offerings is notable. Many are also referenced to audio examples on the first CD. Papers include Ana-Maria Avam's "Sound Alchemy," Xavier Dayer's "Poetry, Painting, History and Consciousness," Iancu Dumitrescu's "The Irradiant Force of Sound," Joshua Fineberg's "Memory and Process," and Tristan Murail's "Time and Form in Spectral Music." "Notes on *Dictionary of War*" was given by Mehmet Can Özer, and last but not certainly not least, Curtis Roads presented "The Path to *Half-life*." Although the CD examples are worthwhile here, it would have been useful to hear more of the works referred to. Access to composer insights is

invaluable for those wanting to know something of the compositional techniques of spectral music, and there are many delights to be found here.

The next section collects views on practitioners' work, and fits well in terms of the sequence of proceedings. This analytical grouping includes five papers: Rozalie Hirs's "Compositional Techniques in the Music of Tristan Murail"; Tolga Tüzün with "An Analysis of Tristan Murail's *Winter Fragments*"; "The Music of Sound: An Analysis of *Partiels* by Gérard Grisey" written by Chris Arrell; "The Music of Phill Niblock" by Michele Rusconi; and "North American Spectralism: The Music of James Tenney," by Robert A. Wannamaker. Overall, the papers are carefully considered and well written, again with a good spread of material that will engage readers.

The section on Performance Perspectives includes: "Spectral Flute Techniques Workshop" by Helen Bledsoe (a transcription of a workshop); "Hyperion Ensemble Workshop" by Iancu Dumitrescu and Ana-Maria Avram, a transcription of discussions; "New Experiments in Advanced Montage: Experiences in Music Video Production" by Brian O'Reilly; a brief talk and discussion; and finally, "The Musical Mechanics of Mysticism: A performance Analysis of Messiaen's *Abîme des oiseaux*" by Tamara Raatz, an extensive paper that adds to the depth of this section.

The final section, Improvisation With Spectra, includes only two papers. "... of one sinuous spreading. . . An Exploration of Timbre, Structure, and Musical Choice" by Paula Mattusen is related to a substantial excerpt on track 15 of CD 1. "Techniques and Structures in Piano Improvisation" by Matthew Goodheart, again connects with an extended musical example on CD 1. It seems a pity that more contributions

could not have been added to this section.

A Postlude includes impressions of the event by Matthew Goodheart titled "Surreal Days in Istanbul," adapted from an on-line posting made to an improvisation discussion group on 23 November 2003 while at the conference. The Appendix has transcripts of radio interviews with Ana-Maria Avram, Iancu Dumitrescu, and Tamara Raatz, providing outtakes from the conference. Paper contributors' biographies conclude the written text.

Of the CDs, as noted, the examples on the first disc relate mainly to the illustrative talks given in the papers. Although interesting in terms of the range of genres involved, and with some standout moments, the quality of composition is not always consistent here. The second disc, compiled from concerts at the conference, has complete works that are as stylistically diverse as the paper offerings. This includes Pieter Snapper's *Wrong*, *Uzak* by Ihsan Özgen, Eray Altınbüken's *Kumdaki Kan*, Onur Türken's *Karşılama*, Dimitrie Cantemir's *Sipihri Peşrevi*, *Improvisation* by Kani Karaca and Kinan Azmeh, Michael Ellison's *Elif*, and Robert Reigle's *[Sphere]*. It is difficult to single out works here for particular mention, given the range of aesthetic and cultural approaches taken. The joy is one of appreciating both the diversity and points of commonality in the material.

On the downside, for the uninitiated, the lack of standard ways to navigate the proceedings might hinder finding a wider audience for the work. In addition, writing quality throughout is uneven, and some of the "Facebook"-type dialogues lack focus. The labyrinth of formal offerings and captured conversation may give the impression of entering a combination of a bric-a-brac shop

and a general store, or a type of non-linear story with plots and subplots that are both intentional and reveal themselves by happening to be in the same space. Without the benefit of some sort of background in the field then, the proceedings seem more suited to specialists at first blush, but will also be able to engage musically intelligent lay readers who have time to explore and dwell on the material presented.

For the initiated, the collection is a treasure chest that juxtaposes the old and new, the superfluous and essential, structured and spontaneous, East and West, popular and academic, exotic and familiar, sacred and profane, refined and crude, casual and formal, usual and extraordinary, theoretical and pragmatic. Given the range of aesthetic and academic interests, and the similarities and differences, lines of enquiry are then best left to readers to decide. For those who persevere, there are many delights to be had in the sheer diversity and quality of material that is presented, and the collection is well worth tracking down.

The conference organizers and hosts are to be commended on this courageous venture, providing a platform for further exploration of the broad approach taken. And it was very fitting to hold the event in a city that stands at the gateway of East and West.

Multimedia

Barry Truax: Acoustic Communication and Compositional Techniques

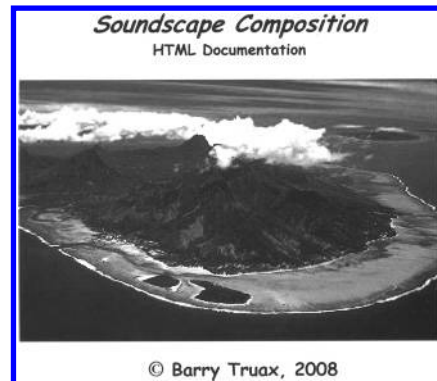
DVD-ROMs (2), 2008/2009, CSR-DVD 0801/CSR-DVD 0901; Cambridge Street Records, 4346 Cambridge Street, Burnaby, British Columbia V5C 1H4, Canada;

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A newly released interactive double DVD-ROM *Acoustic Communication & Compositional Techniques* by Barry Truax is a compelling teaching tool for computer music theory and composition that uses text, images, and sound examples to explore micro-level sound. The juxtaposition of mixed media imparts a glimmer into the theoretical, compositional, and stunning influences that inspire Truax's formidable work. The first DVD-ROM is organized into sections: Microsound and Granular Synthesis, Granulation of Sampled Sound, Karplus-Strong Resonators and Comb Filters, Convolution, and Analysis of Specific Pieces including *Riverrun* (1986/2004) and *The Shaman Ascending* (2004–05). The second DVD-ROM includes sections on Soundscape Composition and Acoustic Space and additional analyses of compositions by Mr. Truax including *Pendlerdrom* (1997), *Island* (2000), *Temple* (2002), *Dominion* (1991), and *Chalice Well* (2009). Complementary Web sites hint at the content included on the DVD-ROMs (www.sfu.ca/~truax/riverdvd.html and www.sfu.ca/~truax/scompdvd.html). These DVD-ROMs succeed Mr. Truax's CD-ROM entitled *Handbook for Acoustic Ecology* (1999).

The section on micro-level sound design begins with a diagram that relates the time domain and frequency domain with the Fourier transform and inverse Fourier transform connecting each domain. Mr. Truax states that at the level of micro-sound, time and frequency are interdependent and



linked by an Uncertainty Principle defined as:

$$\Delta t \geq 1/\Delta f$$

He relates this Uncertainty Principle to the Heisenberg Uncertainty Principle that states that certain pairs of physical properties, like position and momentum, cannot simultaneously both be precisely known; the more precisely one property is known, the less precisely the other can be known. Mr. Truax creates the analogy with the Heisenberg Uncertainty Principle to make the point that a change in the time domain results in a change in the resultant spectrum. A lecture or supplementary reading that clearly explains the concepts should support the potent content of these slides.

Mr. Truax juxtaposes the extremes of frequency and time pictorially, explaining that discrete frequency assumes that the Fourier analysis is performed on a signal that lasts forever, e.g., infinite time. An impulse in time can be precisely measured, but a Fourier analysis may result in a multitude of frequencies (e.g., infinite bandwidth). Following the graphic relationship of time and frequency, he provides a diagram from Dennis Gabor's landmark 1947 article, "Acoustical Quanta and the Theory of Hearing." The diagram, without citation, depicts a Gaussian