

## I. Book Reviews

*Review Panel: Kent Devaraux, Nick Dilkosky, Richard Friedman, Miguel Frasconi, Anthony J. Grasso, Jim Horton, Vance Maurerik, Tim Partis, Larry Polansky, Carter Scholz, Peter Yablonsky, Richard Zornar.*

**MANTRA**

by Karlheinz Stockhausen. New Albion Records NA025, 1990.

**CONVERSATIONS WITH STOCKHAUSEN**

by Mya Tannenbaum. David Butchart, trans. Oxford Univ. Press, Oxford, U.K., 1987. 112 pp. Trade, \$24.95.

**TOWARDS A COSMIC MUSIC: TEXTS BY KARLHEINZ STOCKHAUSEN**

Tim Neill, ed. and trans. Element Books, London, U.K., 1989. Paper, \$9.95. ISBN: 1-85236-084-1.

**THE WORKS OF KARLHEINZ****STOCKHAUSEN, 2nd Ed.**

by Robin Maconie. Oxford Univ. Press, Oxford, U.K., 1990. 480 pp., illus. Trade, \$49.95. ISBN: 0-7145-2887-0.

**STOCKHAUSEN ON MUSIC**

compiled by Robin Maconie. Marion Boyars, London, U.K., 1989. 224 pp. Trade, \$25.00. ISBN: 0-7145-2887-0.

*Reviewed by Richard Friedman, P. O. Box 9584, Berkeley, CA 94709, U.S.A.*

Stockhausen's *Mantra* has been recorded only once before (DGG 2530208), in 1971. That recording, by Aloys and Alfons Kontarsky, quickly disappeared, like most of the 100 or so pre-compact-disc (CD) era vinyl disks of 'Stockhausensmusik' on Deutsche Grammaphon that were realized under the composer's obsessive supervision. It is not clear why there have been no digital reissues, for there are treasures in DGG's vaults—everything from *Gesang der Junglinge* (1955), through *Momente* (1964) and *Hymnen* (1967), to *Sirius* (1977). Perhaps Stockhausen's preoccupation with his mammoth seven-opera cycle

*Licht*, begun in 1977, is partly to blame.

However, some of the smaller works have been recorded recently by a new generation of performers outside the Group Stockhausen. Their effort to reintroduce this composer's pre-*Licht* legacy to a new audience should be applauded. Already there are multiple releases of his early piano pieces (*Klavierstücke I–XI*, 1954–56), as well as selections from *Aus den sieben Tagen* (1968) and *Tierkreis* (1976). And a few of his percussion pieces, including *Kontakte* (1960), have been recorded on CD by various groups. New Albion's 1990 release of a spectacular performance of *Mantra* by pianists Yvar Mikhaeff and Rosalind Bevan (recorded in 1986 in Oslo) is a valuable addition to the list.

*Mantra* (1970), for two pianists who also must play antique cymbals, wood blocks, a tape recorder and ring modulators, is truly a Stockhausen masterpiece that clearly concentrates much of his thinking and experimentation of the 1960s. It also represents a new compositional practice, the 'sound-formula', developed from ideas found in some earlier works (especially *Momente*), which now dominates his work.

What does Stockhausen mean by 'formula', and how does it function in *Mantra*? Unfortunately, the notes included in the New Albion CD are of no real help. Stockhausen's own brief explanation on the old DGG record jacket was excellent, and a more complete discussion can be found in Jonathan Cori's book of conversations with the composer, published in 1973. Stockhausen's formula technique is a way of composing self-similar structures out of a generating form. This generating form is 'the mantra'—a 13-note sequence of pitches and durations arranged into four mirrored sections ('limbs') that is heard at the very start of the piece (measures 3–8) in the first piano.

Superimposed on the mantra-formula are 13 'characteristics' or

figurations that are attached to each note of the sequence. With 12 ways to expand the material in the sequence and 13 × 12 pitch transpositions, a large number of formal cycles are possible, all based on the generating function of the mantra.

Stockhausen cautions that *Mantra* (the piece) is *not* a theme with variations. Rather, the mantra (the formula) "is not varied; not a single note is added, nothing is 'accompanied', ornamented, etc. The 'Mantra' always stays itself, and appears in its twelfoldness, with its 13 characteristics".

Yet another overlay in the process results from the use of ring modulators to generate new harmonic relationships out of the pitches of the formula. Each pianist controls electronics that alter the amplified sound of the piano in predictable but complex ways. The transformations of the sound are centered on each of the 13 notes of the mantra.

The score is impressive. Every note is written out in traditional notation, indicating a return from the graphical and verbal scores of his earlier 'intuitive' music. The formal operations can be analyzed, but in listening, few are apparent, at least to my ears. Of course, this is not a concern of Stockhausen's, who said somewhere that the formal procedures are for the composer and remain unknown to the listener. But to Stockhausen, the mantra "is a musical miniature of the unified macro-structure of the cosmos, just as it is a magnification into the acoustic time-field of the unified micro-structure of the harmonic vibrations in the notes themselves".

Stockhausen has described working on *Mantra* as "the happiest composition time I have ever spent in my life", and the work literally bubbles over with good humor and excitement. This mysterious hour-long unfolding of the mantra through all of

*Section Editor: Carter Scholz*

its transformations is extremely compelling. Ring-modulation produces a sound that is at times reminiscent of Cage's prepared pianos. The effect is stunning. The piano writing is at times athletic, dramatic and humorous, and always interesting. This is truly an amazing piece.

I must admit I did not always think so. My initial response to the 1971 DCG recording was so negative I traded in the recording. But this new CD recording is another world altogether. The modulated pianos have incredible depth and are completely undistorted. I only wish there were a greater separation between them, one thing the DCG recording did have. The performance by Mikhashoff and Bevan is masterly. *Mantra* is not an easy piece. Both pianists have impeccable reputations around the world for the performance of new music. This recording proves it.

Suddenly, a number of books on and about Stockhausen and his music have appeared in English. Stockhausen remains a subject for books in Europe, but few reach us through translation. Mya Tannenbaum, an Italian journalist, conducted his interviews with Stockhausen between 1979 and 1981. This thin volume (93 pages of text) has some interesting (and humorous) anecdotes about Stockhausen's performance problems, particularly as relating to the La Scala performance of *Donnerstag* from *Licht*. But Tannenbaum's leading questions are pedestrian and heavy with meaning, one example being "Maestro, tell me about your moments of joy." (Why he insists on 'Maestro', I do not know—could it be sarcasm?)

Tim Nevill's collection of Stockhausen's lectures and writings is a better resource. Nevill has selected texts from the late 1960s right up to 1988, with a good dose of the mysticism and magic that other books leave out. Remember, Stockhausen did say in 1978 that an inner revelation told him he was "educated on Sirius, that I come from Sirius, but people laugh at this and don't understand it, so it really doesn't make much sense to talk about it." The composer-as-space-cadet may seem a bit dated for the 1990s, but I, for one, hope that he was not kidding and still believes it. Regardless, this book substantiates the mysticism that is at the center of Stockhausen's work. Too bad there is no index, however.

Kobin Macconie's two books present some grave problems. Macconie, a New Zealand writer and composer living in England, has been one of the better 'explainers' of Stockhausen since the 1970s. His first edition of *The Works* appeared in 1976. It was a gold mine to anyone trying to comprehend the awesome body of Stockhausen's work. The first edition was organized in chronological order, from *Chöre für Doms* (1950), opus 1, to *Tierkreis* (1975), opus 41. Its detailed information, including graphic examples from scores, wiring diagrams, seating plans and recording data made this single work indispensable for anyone both serious about Stockhausen and, as in my case, required to say something intelligible for radio presentations.

I have waited years for an updated edition, expecting similar revelations about the works since 1975, especially *Licht*. But this second edition is a disappointment. The book has been totally reorganized into major overview chapters with titles such as "The Path to Electronic Music" and "Fables and Incarnations". Each work is mentioned in passing but not necessarily in chronological order. Nearly every sentence has been altered in some way, sometimes quite trivially. A great deal of material, both anecdotal and informative, has been deleted. A typical example is a quotation from Stockhausen's program note for a 1971 performance of *Mantra* that describes vibrations that are beyond ideas: "And if the true vibration is not there, all his magic crumbles, as that of the Vedic priest who has badly pronounced the mantra of the sacrifice." In the first edition, Macconie added,

"This is the point . . . no more a striving for the unknown, instead a striving for precision, for 'right saying'." In the second edition, both comments have been replaced by some weak musings on *Mantra*'s similarity to Boulez's *Structures for Two Pianos*:

Why? Macconie claims in the preface that a "windfall of information from other sources has been provoked, much as anticipated, by the first edition's speculative and factual errors". But so much has been left out and changed . . . was it *all* wrong? Or is it just the result of the stodginess of middle-age 'correcting' the exuberant excesses of youth? One certainly will not learn about Stockhausen's secret life on Sirius here!

There is, of course, a detailed bibliography and discography, and the most complete chronological listing of Stockhausen's works available. The newer works, including *Licht* (through *Montag aus Licht*, 1988), are described, if all too briefly. But these final 33 pages are about all we have on *Licht* in any detail anywhere in English so far. Still, I am keeping my first edition.

Macconie's collection of Stockhausen lectures, which took place in Britain in 1971, and interviews, which were conducted 10 years later, was published by Marion Boyars in 1989 and is now available in softcover. Unfortunately, this collection reads like a public-relations sheet. The earlier lectures in this book depict Stockhausen as being mysterious and speculative. There is a useful discussion of *Momenta*, and his important lecture "Four Criteria of Electronic Music" is included. However, some reviewers have already taken Macconie to task for editing out material from the lectures. He has replied that his reasons for "editing them for publication in 1989 was that a younger, more technically astute generation might find Stockhausen's ideas of no more than sentimentally value" (*Tempo*, 1990). Apparently the Vedic priest imagery was too 'sentimental' for the 1990s.

Regardless, I am glad that Stockhausen is still very much with us. We need more performances and recordings of the earlier music. We need the vaults of DCG to be flung open. We need more composers from Sirius. As the voice in *Hymnen* said: "Wir können noch eine Dimension tiefer gehen" (We can go one dimension deeper still).

## 20TH CENTURY

### MICROTONAL NOTATION

by Gardner Read. Greenwood Press, Westport, CT, U.S.A., 1990. 198 pp. Trade, \$39.95. ISBN: 0-313-27398-7.

*Reviewed by Larry Polansky, Department of Music, Dartmouth College, Hanover, NH 03755, U.S.A.*

The writings of Gardner Read, which include the ubiquitously referenced *Music Notation* and the wonderfully original *Thesaurus of Orchestral Devices*, form an interesting and unique corpus. Read is an indefatigable and meticulous cataloguer and collector but also an unusually aggressive and

imaginative one. His work stands out from other academically oriented research of this type in that it seeks out the unheard and the experimental and attempts, I believe, to bring the study of whatever it is he is collecting up-to-date. He goes further than most in his search for sources: while many authors seem content simply to collect that which is readily available, Read goes after unpublished (but still important) manuscripts and musical ideas that are in contemporary use but for some reason escape the attention of most journalists, theorists and contemporary musicologists (who often do not seem to want to actually talk to the composers on the next block!). Read has the ideal research attitude: if he overlooks something, he blames himself (and works even harder), not his local library!

This is what made *Musical Notation* such an important book: it actually gave ideas to students: it was not simply a record of things everyone already knew. Several of my composition students over the years were actually inspired by his polyrhythm charts, and this is perhaps the highest compliment one could pay to a work of contemporary musicology. Read's recent *20th Century Microtonal Notation* will probably have the same effect. Most of the works discussed, along with their notational practices, will be unfamiliar and suggestive to composition students and composers, simply because Read has done his homework and done it well.

The book is organized more or less according to the way that scales divide the octave, with chapters devoted to the notation of "Quarter- and Three-Quarter-Tones", "Eighth- and Sixteenth-Tones", "Third-, Sixth-, and Twelfth-Tones", "Fifth-Tones and the 31-Tone Scale", and finally "Extended and Compressed Microtonal Scales". Read is careful to distinguish clearly that his work is about notation, not about the music itself, but it would be hard for any composer or theorist to read this book and not benefit from its broad survey of the musical ideas conveyed by the diversity of scales discussed. Because the book concentrates on the semiotic aspect of microtonal notation, readers are allowed to unearth the meaning beneath the signs for themselves. The sheer number of scores and composers included, along with the copious musical examples, make this book tremendously valuable.

One aspect of this book that intrigues me is a kind of subtext—Read's highly organized personality is at odds with the musical and notational chaos he so diligently describes in all of its explosive messiness. According to Read, Penderecki's notation is "commendable", and Haba is "guilty of using different symbology for the same microtonal intervals in several of his works". Read wants to be fair (and he is) and to represent everyone (no matter how quirky), but he yearns for logic and efficiency: "Musical historians . . . it is hoped . . . will comment on the logic and suitability of the composers' ultimate choice of microtonal symbology". Read is not prosecution, defense or judge but rather the effective investigator who wonders why people act in the ways that they do.

Read's prelude to the book is an excellent and concise essay on the plurality of microtonal notations in use. To his credit, Read does not lament Rudolf Rasch's accurate and fascinating comment that "experience up to now has taught me that most composers prefer to stick to their own systems of notation and are not willing to adopt anything proposed by somebody else". Rather, Read documents this democratic and quite joyful pig-headedness of the generations influenced by such equally stubborn pioneers as Partch, Haba and Carillo, in all their diversity.

I have one quibble, which is entirely personal and represents a long-standing disagreement with many of my colleagues in this field. The use of the term 'microtonal' has always bothered me, Johnny Reinhard's phonomenological justifications aside, and I much prefer terms like 'experimental intonation' (a term I have tried to consistently use over the years) or Darreg's 'xenharmonics'. Microtonality, as a term, usually seems to refer to 12-tone equal temperament as a canon, which it is not for many composers. Many of the intervals that we composers use and are interested in are not microtonal in this way (for example, the standard septimal major second, the 8/7, which is bigger than the 12-equal tempered major second). There have been some elaborate arguments proposed for the use of the term, but I find them unconvincing—I think most people use microtonality because it is commonly used, and justify it later. Read, oddly enough, does not

address the issue of what the field is called at all, whereas many of the most active practitioners and theorists (whom he cites for their individual works) have been articulate and energetic about this very issue (including myself, John Chalmers, Ivor Darreg, Erv Wilson and many others).

In fact, I find a strange and related historical myopia in his statement from the prelude that "we still tend to think, nonetheless, that microtonal music is exclusively a twentieth-century phenomenon, forgetting that sporadic experiments with pitch outside of the traditional seven-note diatonic and twelve-note chromatic gammas have gone on ever since the development of classic Greek music". Even if one allows that he is discussing only Western 'art music' here (which might be viewed as an interesting problem with the whole book), what can he mean by this statement? Twelve-tone equal temperament is a relatively recent phenomenon historically, and the history of tuning is the history of change (of experimental intonation). What "traditional seven-note diatonic and twelve-note chromatic gammas" does he have in mind? Just intonations, mean-tones, well-temperaments? Twelve-tone equal temperament itself is a 'microtonality', not some standard engraved in stone and handed down to Beethoven on top of a mountain in Germany in ancient times. Nicely enough, Read's book itself helps to delimit the end of 12-tone equal temperament as a standard, making its (rather tenuous and by no means universal) 150-200-year tenure in European-American art music traditions respectable, but no more so than many other tuning systems! These more hermetic philosophical discussions aside, Read's book represents a monumental and beautifully executed body of research. Any composer working in or wishing to work in microtonality will find it essential, as will anyone who wants to appreciate the true complexity and richness of twentieth-century musics.

## ELEMENTS OF COMPUTER MUSIC

by F. Richard Moore. Prentice Hall, Englewood Cliffs, NJ, U.S.A., 1990. 560 pp. Paper, \$34.00. ISBN: 0-13-252552-6.

*Reviewed by Vance Maverick, Computer Science Division, 571 Evans Hall, University of California, Berkeley, CA 94720, U.S.A. E-mail: maverick@cs.berkeley.edu*

Richard Moore aims high with this book. His title is broad, and the first chapter, a survey of the field, makes it clear that he really means to introduce every important area in it. Like many other academics, though, who after a long career of research in a field then set out to encompass it in a book, Moore is best on the topics closest to his experience. This is a valuable book but narrower than its author may have hoped.

The second chapter is an introduction to the theory of digital signal processing (DSP). Moore has published similar material before, and he expounds the rudiments of the subject nicely. I am not sure, however, that this chapter alone will be a sufficient introduction to DSP for an unfamiliar musician. Furthermore, in this first edition, the chapter's usefulness is weakened by typos, primarily a long series of mismatched equation numbers. (An errata sheet is available from the University of California at San Diego [1]).

The theory of DSP may be essential to an understanding of how synthesis techniques work, but musicians have been applying these techniques empirically for decades. So even a

reader who is unwilling to work through the second chapter will benefit greatly from the third, which is an excellent compilation of algorithms. Here Moore provides working code in the C computer language and useful explanations for waveable synthesizers, the Fourier transform, the phase vocoder, frequency modulation, waveshaping, the Karplus-Strong 'plucked string' algorithm, linear prediction analysis and more. I would have liked to see some material on recent developments in synthesis from physical models, but the narrowness of this complaint is a fair measure of the breadth of this collection.

The fourth chapter, involving rooms and reverberation, is more theoretical and is largely devoted to the exposition of the crusic model of sound spatialization. Some code is given, but not enough for most readers to progress far without the crusic program. Interested composers will need the program itself or a lot of time to spend writing code and experimenting with parameters.

The weakest chapter (and by Moore's own admission the least complete) is the fifth, called "Composition". It begins with a long quotation from Susanne Langer, expounding the familiar Romantic notion of music as expressing "the composer's knowledge of human feeling". Moore carries on the mood for a moment with a paragraph of meditation; from this point to the end of the chapter, everything is Markov chains and random sieves. This material fails at two levels: none of the algorithms is of sufficient complexity to intrigue a computer scientist, and none of the

results is of sufficient interest to attract a musician.

Like some of the other founders of the computer-music field, Moore is more interested in research than in making music. He passes with little transition from a detailed presentation of algorithms to vague and general musical remarks. Furthermore, these remarks reflect a narrow musical perspective: almost all of the works that he mentions were composed by his immediate colleagues. This cliquishness may alienate readers from outside his world—academics elsewhere in the field—and, particularly, the many computer musicians who are not academics at all.

The book is rounded out with a series of appendices: some basic mathematics necessary for the DSP section, a table of units, a brief venture into the realm of tuning and an overview of crusic. But for most readers, the important part of the book will be the central chapters, particularly chapter 3. Here, Moore distills his years of experience by building crusic and its ancestors into a meaty collection of algorithms. This core will remain an important source and reference for years.

### Note

1. The crusic program and the current errata sheet for *Elements of Computer Music* are available from the Center for Music Experiment at UCSD. The distribution fee for the CAML software package is \$250.00. Write, telephone or send electronic mail to John Lauer, Administrative Director, Center for Music Experiment, University of California at San Diego, 9500 Gilman Drive, La Jolla, CA 92093-0037. (619) 594-4383. E-mail: jlauer@ucsd.edu

## II. Recording Reviews

Indeterminate procedures ensures that each performance constitutes a new version of the work. The 30 sections of *Electric Rags II* are designed to be played in a random order. Unfortunately, they are grouped together in only 10 tracks on this compact disc (CD), denying the listener the full capability of sequencing the new versions.

The Rova Saxophone Quartet's extraordinary tight-and-loose performance yanks the listener from extremes of noise improvisation to meticulous composition and notated material, often within very short passages of time. The ensemble consistently sounds as though its members are in charge of

their performance, despite the fact that new and unpredictable formal decisions are being tossed at the players. The use of the computer in these pieces is not always obvious, as it is used some of the time to conduct the ensemble. When the computer's participation is audible, its effects range from enormous swarms of sound to jagged rhythmic bursts to humble marimba-like ostinatos heard beneath the ensemble. During these striking musical passages, it is often difficult to separate the live saxophone timbres from complementary synthesis and signal processing. At their best, the sound worlds created by en-

## ELECTRIC RAGS II

by Alvin Curran/Rova Saxophone Quartet. New Albion Records, 1990.

*Reviewed by Nick Ditkowsky, 171 East 99th St., Apt. 20, New York, NY 10029, U.S.A.*

*Electric Rags II* is a challenging suite of 30 miniature pieces for computer and saxophone quartet. A flexible computer-music system, designed by Alvin Curran and Nicola Bernardini, tracks the quartet in real time, subtly or grossly altering their sound, echoing the group's improvisations, anticipating their material or directly conducting the ensemble. The use of

seniune and electronic devices allow the listener in with their simultaneous familiarity and mystery.

Curran's multiterred exploitation of the computer system and live ensemble is a testament to his compositional vision, which is neither enamored with the use of computer systems nor negligent of their capabilities. He succeeds brilliantly in the synthesis of opposites: determinate and indeterminate structures, live and inanimate intelligence, composition and improvisation, spontaneity and predilection. *Electric Rags II* is a haunting and powerful piece, superbly performed by the Rova Saxophone Quartet.

## KARYA [create] : COMPOSITIONS

by I Wayan Sadra. Distributed by the American Gamelan Institute and Frog Peak Music, Box A-36, Hanover, NH 03755, U.S.A., 1990. Cassette, \$10.00.

*Reviewed by Kent Davereaux, California Institute of the Arts, Valencia, CA, U.S.A.*

Over the past several decades, many in the West have become conversant with the musical traditions of Indonesia, the Balinese gong ensembles and Javanese *gamelan* especially. More recently, the appeal of 'world beat' and the availability of good-quality recordings of Sundanese *gamelan dangung* and the popular dance music *jaitipongan* has spawned at least a passing interest in the musical styles of other parts of Indonesia.

Indonesia is home to one of the largest cassette industries in the world, and, with a population comprised of over 180 million people of diverse ethnic origins, there is a myriad of musical styles, both 'traditional' and 'popular'. The prominence of cassette recordings throughout Indonesia has led to both an awareness of regional diversity and the formulation of a 'national culture', the presence of which is promoted, along with nationalism, by the central government, in an effort to keep Indonesia from literally pulling itself apart under the pressures of rekindled ethnic identity.

Many of the distinctions between 'traditional' and 'contemporary', and 'high' and 'low' culture, commonly accepted in the West, are only now being played out in Indonesian society. These customary Western divisions, as well as the corollary associa-

tion of musical modes or expression with successive generations, did not exist in Indonesia before development pressures, both indigenous and Western, forever altered the cultural landscape. Native musical traditions were based, for the most part, upon recontextualization, not invention; upon community, not autonomy. Music maintained its vitality through a seamless adaptation of the past to the needs of the present.

Given this situation—as well as the tendency of Western scholars, first Dutch and now American, to 'orientalize' Indonesian artistic practice to satisfy their notions of Indonesia as the domain of the undeseccrated innocent—the opportunity to hear 'contemporary' music from Indonesia has been infrequent. This enjoyable, if abbreviated, introduction to the music of contemporary Balinese composer I Wayan Sadra (born in 1953) is a welcome contribution to the re-formulation of a new musical image of Indonesia.

The phenomena of musical innovation in Indonesia is hardly new: in fact, it may be ongoing innovation that has been responsible for the vitality in Indonesian musical life. Innovation has occurred both through the 'modernization' of traditional genres and through the incorporation of nonindigenous musical influences, primarily from popular music. The frenetic, virtuosic style of *gong kebaya* arose as a response to the stately, reposed quality of the Balinese *gamelan pellegongan* and *gong gedé*; the serene tranquility of the Central Javanese *gamelan* was profoundly altered by embracing popular *dalanon* melodies; the musical genre known as *tarling* in the West Javanese city of Cirebon combines electric guitars with indigenous instrumentation; even the musical form known as *kronceng*, with its strong nationalistic associations, is an intermingling of Portuguese, Javanese and Hawaiian influences.

In similar fashion, Sadra's six selections on *Karya [create]* combine the musical conventions of disparate functional genres throughout Indonesia in often peculiar and startling combinations. On "O-A-E-O" the punctuating sounds voiced by male singers in Java and Sunda (*alok, kaphlok* and *seng-gakan*) form an evocative ostinato ground for the emotive wailing of the female vocalist. Sadra combines voices, *ketipung* (Javanese drum), *rebena*

(salamit, flute or drum) and western percussion (flexitone) into a succinct, haunting lament.

"Mika" (a contraction of Minangkabau and Bali) borrows from the dissimilar musical traditions of the Minangkabau—a primarily Christian matriarchal people of Southern Sumatra—and the composer's own Balinese roots. *Zikir*, a style of Islamic sacred singing and *mantra*, a type of prayer in Hindu, Buddhist and Javanese vocal practices, form the bases for Sadra's exploration. The addition of the Western violin in heterophonic relationship with the female vocals produces a seductive ambience shattered only by rapid *kekakan* (interlocking patterns).

"Saktar 12-14 Menit" (Around 12 to 14 minutes) is both an exploration of musical treatment and a combination of the two tuning systems, *slendro* (five-tone) and *pelog* (seven-tone), of the large Central Javanese court *gamelan*. Sadra transfers many of the idiomatic techniques fundamental to Balinese gong ensembles to the Central Javanese orchestra. The rapid alternation of moods and tempos, expansive dynamics and the punctuating rhythm of the muted gongs characteristic of contemporary Balinese music is reinterpreted on the Javanese ensemble. The rapid *kekakan* interlocking figuration that forms the basis of the modern Balinese *kebaya* style is performed here on Javanese *saron*.

The remaining three selections are all dance compositions. "Aku" (familial Javanese for 'I') is a programmatic piece performed here by a poet, street singers, students and faculty of the Indonesian College of the Arts (STSI) in Surakarta; instruments include *rebena*, Balinese *suling* (flute), European flute and violin, and Javanese drums. "Aku" alternates between a mercuric melodic monody reminiscent of South Indian classical music and the dramatic recitation of Indonesian poetry set to the faint murmur of the *ostinato* filigree of flutes and violin.

"Buka" (Introduction), a peaceful setting for Central Javanese *pelog gamelan* and voices, is the introductory music for the dance "Portret" (Portrait), choreographed by Yelfanofa. Music from another section of the same dance, "Cia" (You), combines a Balinese *slendro* tuning with a five-tone Chinese tuning. The combination of Balinese *subing*, European

PHONIC AND PLAINIVE STATEMENT. The live passages on this cassette are clear and well balanced, if limited by their technologically simple recording media. In contrast, the recording quality of "Sektior 12-14 Merit", completed by the staff of STSL, is overmodulated in several places.

## CROSSINGS

by Alvin Lucier. Lovely Music, Ltd. LCD 1018.

## DIGITAL MUSIC

by Emanuel Dimas de Melo Pimenta. Mode Records mode 21.

Reviewed by Tim Perkis, 1048 Neilson, Albany, CA, U.S.A.

Of all his contemporaries who came to public attention in the 1960s, Alvin Lucier has taken most seriously the prime edict of minimalism: find one simple idea and stick to it. His work, like the work of his contemporaries David Tudor, Gordon Mumma, Pauline Oliveros and David Behrman, has largely been about redefining music in terms of a meditation upon the physical properties of sound. Working often as composers/performers, these musicians also articulated a new social role for composers as solitary explorers, akin to the heroic stance taken by visual artists. In fact, oftentimes their work would be presented in gallery or installation settings rather than in a traditional concert situation.

Lucier's work has been built upon the minimalist faith that the world itself provides infinite interest, and that the artist—whether working in light, space or sound—can merely focus his or her work to present nearly natural phenomena as clearly as possible. In Lucier's case, this most American of ideas has worked out well. Over the last 25 years, one strand of his work has explored the acoustic properties of various objects by driving their resonances with the simple sine oscillator. He has explored the response of a brick wall in *Still and Moving Lines of Silence in Families of Hyperbolas*, of an 80-foot-long steel wire in *Music on a Long Thin Wire*, and of a chest of drawers in *Job's Coffin*; in other pieces he has used ice, water, briefcases, teapots and a canoe.

With the pieces on this disc, Lucier

HAS FOUND A WAY TO REPRODUCE musical practice in an idiosyncratic way, bringing his decades of work with standing waves and other acoustic phenomena to works for players of classical Western instruments. All three pieces reproduced in *Crossings* are based on one trick: instrumentalists play sustained tones or chords against a fixed sine-wave oscillator that never varies in volume. In two of the pieces, "In Memoriam Jon Higgins" for solo clarinet and "Crossings" for small orchestra, the oscillator is very slowly sweeping up throughout the piece; in "Septet for Three Winds, Four Strings and Pure Wave Oscillator," the oscillator is just fixed at middle C.

The impact of these pieces is physiological: the unremitting sine waves cause a strong trance effect. The combination tones, beatings and other interferences between the sine tone and the players form the heart of this music. At a certain point, the difference between changes in the music and changes caused by the listener swallowing, moving his or her head or moving across the room become indistinguishable. The sound has the remarkable property of seeming to happen right in the ear—and, certainly, some of the perceptible effects are caused by breakdowns and hallucinations in the brain's sound-localization apparatus. The effect is unlike anything one is likely to have heard in normal life or in normal music. The results are fascinating, but this is a warning: some listeners may find it an unpleasant, even nauseating experience.

But there is another beauty and power in this music, rooted in the intense concentration these pieces obviously demand from the performers. Lucier's live solo performances always gained power from the intensity of Lucier himself, who was often moving through the space, exploring and setting a standard for the audience as the chief listener. In these pieces, that sense of heightened attention takes on a new delicacy, as we become aware of the extraordinary concentration and skill required from the musicians to control their instruments. The performers meet this challenge well, and ably carry out the slow and subtle transformations that are the body of this music. Tom Ridenour, the clarinetist for whom "In Memoriam Jon Higgins" was written, is the most remarkable. In Lucier's

WORK THE MOST INTERESTING OF changes has obvious consequences, and Ridenour's playing, consisting of long, precisely pitched tones, bathes the music in an aura of attention.

Emanuel Dimas de Melo Pimenta is of a younger generation of composers, strongly influenced by the works and life of John Cage and by the possibilities inherent in computer technology. Pimenta is a Portuguese architect in his 30s, who is also a composer. He has worked with Cage, and Cage's influence permeates the work. In fact, if one imagines a body of work built upon the implications of Cage's early computer-music collaboration with Lejaren Hiller, *HPSCHD*, then one gets a pretty good idea of the ground Pimenta is covering.

The pieces are architectural all long, very static spaces, which form simple arch structures if they develop at all. Development is clearly beside the point in this music: the music is lush, jangly, complexly textured, and, like Lucier's work, provides a certain field for aural hallucination. Although Xenakis is not mentioned in the liner notes, I hear a strong kinship with his music here: there is a sense that the composer is trying to create a texture complex enough to energize the acoustical field so that listeners will be able to find, or project, whatever they will into the depths of this texture.

The sound material for most of the pieces seems to be completely synthesized. The notable exception, and one of the strongest pieces on the disk, is "Rozart", which uses recordings of the voice of Caruso. This voice, like Einstein's brain or Elvis's comb, has a certain totemic value, but what Pimenta does with it is a cut above any of the sample-manipulation clichés we have been hearing lately. There is something like demon conjuring in this piece, the invocation of a really spooky and powerful presence. This music is not mere technical fiddling, as too much computer music seems to be: the power and integrity of Pimenta's vision is palpable.

## SMALLTALK

by Paul Lansky. New Albion Records, 1990.

Reviewed by Nick Didkovsky, 171 East 99th St., Apt. 20, New York, NY 10029, U.S.A.

*Smalltalk* is an easily digestible collec-

tion of four computer-created pieces. The compositions "Smalltalk" and "Late August" are based on recorded conversations. "Guy's Harp" and "Not So Heavy Metal" are based on recorded solo improvisations on harmonica and electric guitar, respectively.

"Smalltalk" is rooted in a recording of household chitchat between Paul Lansky and his wife, while "Late August" is based on two Chinese interlocutors. Lansky's software extracts pitch, rhythm and contour information from the recorded conversations and uses this information to abstract a piece of music. As this is a theoretically interesting project, I was surprised to hear such uninspired and lightweight music result. Sweetly timbred pitches dance and dart about from left to right in light flurries. Pedal-point background-drones lull the listener. Barely audible conversations slip in and out of consciousness.

The pitch material used to build the pieces is chosen from familiar notes ("Smalltalk" begins in D major) leaving me to doubt whether pitch data from the original conversations were used at all, except, perhaps, as indices into a table of preselected

pitch choices. Similarly, the durations used to carry the phrasing of the conversations seem quantized to produce a soundworld of sixteenth notes, thirty-second notes and quick arpeggios. These are hardly the durations of language.

Since Lansky's musical material is so far removed from the original source material, I doubt whether composer or listener has really learned anything about the nature of the conversations or the languages in which they were spoken. This is a case where a composer's esthetic decisions completely overwhelm the subtleties and potential of his source material. If not for Lansky's own claims that he was at least a little bit interested in investigating how the pitch and contour of English differ from Chinese, I would have no objection to his overpowering his subjects. As they stand, the pieces subsist in a pseudoscientific haze.

"Guy's Harp" and "Not So Heavy Metal" complete the compact disc. "Guy's Harp" stays true to the gritty timbre of Guy DeRosa's harmonica performance, with a few exhilarating moments of computer-generated harmonica swirls and vortices. "Not

So Heavy Metal" attempts to turn a piece from a Steve Mackey electric guitar solo. In its most embarrassing moment, the computer tries to force the music to a climax by breaking into a rhythmic accompaniment devoid of intensity, guts or emotion, as Lansky's squeaky clean sonorities bounce around the guitar, obediently following its I-IV-V's. The piece's painful appellation (it has no more to do with being 'heavy metal', or with not being or not being a giraffe) reveals a kind of insular academic myopia, where musical styles can be appropriated and purported to be understood on some glib intellectual plane.

Both "Guy's Harp" and "Not So Heavy Metal" suffer from lack of depth; here, a series of improvised clichés mistakenly become synonymous with a musical style. The musicians should have been pushed much harder to create powerful individual solo performances. Instead we are presented with nebulous, overly idiomatic music-as-data, lacking in vision and understanding.

## Recommended/Further Readings

### *Breaking the Sound Barrier*

G. Bartoock: Dutton, New York, NY, U.S.A., 1981.

### *Chambers*

Alvin Lucier and D. Simon: Wesleyan Univ. Press, Middletown, CT, U.S.A., 1980.

### *The Computer and Music*

Harry B. Lincoln, ed. Cornell Univ. Press, Ithaca, NY, U.S.A., 1970.

### *Computer Music:*

*Synthesis, Composition and Performance*  
Charles Dodge and Thomas A. Jerse. Schirmer Books, New York, NY, U.S.A., 1985.

### *The Development and*

### *Practice of Electronic Music*

Jon Appleton and Ronald Perera, eds. Prentice-Hall, Englewood Cliffs, NJ, U.S.A., 1975.

### *Experimental Music*

Lejaren Hiller and L. Isaacson. McGraw-Hill, New York, NY, U.S.A., 1959.

### *Experimental Music: Cage and Beyond*

Michael Nyman. Schirmer Books, New York, NY, U.S.A., 1974.

### *Formalized Music*

Iannis Xenakis. Indiana Univ. Press, Bloomington, IN, U.S.A., 1971.

### *Foundations of Computer Music*

C. Roads, ed. MIT Press, Cambridge, MA, U.S.A., 1985.

### *Genesis of a Music*

Harry Partch. Da Capo Press, New York, NY, U.S.A., 1974.

### *Meta+Hodos & META Meta+Hodos*

James Tenney. Frog Peak Music, Hanover, NH 03755, U.S.A., 1988.

### *Mind Models:*

### *New Forms of Musical Experience*

Roger Reynolds. Praeger, New York, NY, U.S.A., 1975.

### *Modern Music:*

### *The Avant Garde Since 1945*

Paul Griffiths. Braziller, New York, NY, U.S.A., 1981.

### *Music by Computers*

H. von Forester and James Beauchamp, eds. John Wiley & Sons, New York, NY, U.S.A., 1969.

### *New Musical Resources*

Henry Cowell. Knopf, New York, NY, U.S.A., 1980. Reprint, Something Else Press, 1969.

### *The Schillinger System*

### *of Musical Composition*

Joseph Schillinger. Carl Fischer, New York, NY, U.S.A., 1946.

John Cage. Wesleyan Univ. Press, Middletown, CT, U.S.A., 1961.

*Software for People*

Pauline Oliveros. Smith Publications/Printed Editions, Baltimore, MD 21207, U.S.A., 1984.

*Sound Structure in Music*

Robert Erickson. Univ. of California Press, Berkeley, CA, U.S.A., 1975.

**Related Books**

*Algorithmic Aesthetics*

G. Stiny and J. Gips. Univ. of California Press, Berkeley, CA, U.S.A., 1978.

*Information Theory and*

*Esthetic Perception*

A. Moles. Univ. of Illinois Press, Urbana, IL, U.S.A., 1966.

*Music & Discourse:*

*Toward a Semiology of Music*

Jean-Jacques Nattiez. Carolyn Abbate,

trans. Princeton Univ. Press, Princeton, NJ, U.S.A., 1990.

*Noise: The Political Economy of Music*

Jacques Attali. Brian Massumi, trans. Univ. of Minnesota Press, Minneapolis, MN, U.S.A., 1985.

*On the Sensations of Tone*

H. Helmholtz. A. Ellis, trans. Dover Books, New York, NY, U.S.A., 1954.

*Sonic Meditations*

Pauline Oliveros. Smith Publications, Baltimore, MD, U.S.A., 1974.

*The Age of Intelligent Machines*

Raymond Kurzweil. MIT Press, Cambridge, MA, U.S.A., 1990. 565 pp., illus. Trade, \$39.95. ISBN: 0-262-11121-7.

*Biotechnology and the Arts: Results of*

*Early Experiments*

David Rosenboom, ed. Aesthetic Research Centre of Canada, Vancouver, B.C., Canada, 1976. 162 pp., illus. Trade. ISBN: 0-88985-002-X.

*Bitter Music*

Harry Partch. Thomas McGeary, ed. Univ. of Illinois Press, Champaign, IL, U.S.A., 1991. 487 pp. Trade, \$44.95. ISBN: 0-252-01660-2.

*Current Directions in Computer Music*

Max V. Mathews and John R. Pierce. MIT Press, Cambridge, MA, U.S.A., 1990. 400 pp. Trade, \$40.00. ISBN: 0-262-13241-9.

*If I Am a Musical Thinker*

Benjamin Boretz. Open Space, R. D. 2, Box 45e, Red Hook, NY 12571, U.S.A. Illus. Trade. ISBN: 0-88268-002-1.

*Images, A Collection: 1987*

Elaine Barkin, Benjamin Boretz, J. K. Randall, Robert Parades, et al. Open Space, R. D. 2, Box 45e, Red Hook, NY 12571, U.S.A. Illus. Paper.

*The Music Machine*

Curtis Roads, ed. MIT Press, Cambridge, MA, U.S.A., 1989. 500 pp. Trade, \$40.00. ISBN: 0-262-18131-2.

*Schubert 60*

Werner Gritznweig, Gesine Schröder and Martin Suppers, eds. Wolke Verlag, Hofheim, Germany, 1990. 374 pp., illus. Paper. ISBN: 3-923997-36-1.

*Sound by Artists*

Dan Lander and Michal Lexter, eds. Art Metropole, 788 King St. W., Toronto, Ontario M5V1N6, Canada, 1990. 385 pp., illus. Trade, \$25.00. ISBN: 0-9209156-23-8.

**Cassettes / CDs Received**

*Bees, Cuneiform Rune 27*

Curlew, P. O. Box 6517, Wheaton, MD 20906-0517, U.S.A. CD.

*Beta 14 ok, Cuneiform Rune 26*

Doctor Nerve, P. O. Box 6517, Wheaton, MD 20906-0517, U.S.A. CD.

*Chronolyse, Cuneiform Rune 30*

Richard Puhlas, P. O. Box 6517, Wheaton, MD 20906-0517, U.S.A. CD.

*Circular Thoughts*

Daniel Goode. 167 Spring St., New York, NY 10012, U.S.A. Cassette.

*Electro-Acoustic Music 1*

Neuma 450-73. Neuma Records, 71 Maple St., Acton, MA 01720, U.S.A. CD.

*Electro-Acoustic Music: Classics*

Neuma 450-74. Neuma Records, 71 Maple St., Acton, MA 01720, U.S.A. CD.

*Hub Music*

The Hub. Antelope Music #H1, 1048 Nelson St., Albany, CA 94706, U.S.A. Cassette.

*Illinois Sleep, The Voice of the Poet,*

*Radio Rain*

David Mahler. Frog Peak Music, Box A-36, Hanover, NH 03755, U.S.A. Cassette.

*New Music Series, Vol. 2*

Neuma 450-72. Neuma Records, 71 Maple St., Acton, MA 01720, U.S.A. CD.

*Next Tone Please*

John Bischoff. Frog Peak Music, Box A-36, Hanover, NH 03755, U.S.A. Cassette.

*Unit 23*

Larry Kucharz. American Composers Edition, 170 W. 74th St., New York, NY 10023, U.S.A. \$16.00. CD.

*Wind Peace, For Thom Miller, Rising*

*Ground*

David Mahler. Frog Peak Music, Box A-36, Hanover, NH 03755, U.S.A. Cassette.