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COLLABORATION IN ELECTRONIC IMAGE PROCESSING

By ALAN WAYNE POWELL

A thesis submitted to

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MASTER OF FINE ARTS

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Joan Semmel

of the VISUAL ARTS PROGRAM

and approved by

New Brunswick, New Jersey

May, 1987
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ELECTRONIC ABSTRACTIONS
by Ben F. Laposky

Exhibition Catalogue
A NEW APPROACH TO DESIGN


Draft 
RS 11/20/74
THE ELECTRONIC GALLERY

Exhibition Catalog

Published in conjunction with an exhibition at the University Art Gallery, State University of New York at Binghamton, March 2-March 25, 1983

This exhibition was made possible through a grant from the Media Bureau of the New York State Council on the Arts.

unnumbered pages

cover: HENRY LINHART  Impersonations  1980
started to play *The Lark*. He had a very good ear, and he felt where to move his hands to get the sound — to lower or raise the pitch. In the middle of this piece I thought that he could, independently, move his hands. So I took my hands off his and he completed the whole thing independently, by himself, with great success and with great applause following. He was very happy that he could play on this instrument all by himself.

**Incredible! In what year did you arrive in New York?**

At the end of 1929, approximately. [In fact, the exact date was December 22, 1927.]

**What brought you to New York?**

When I was working in Leningrad in the Ioffe Institute for Physics and Technology, I had a lab. I was the inventor of this instrument, the first instrument. I was also the first in the world to invent a television device; this was in 1926.

Then I was sent abroad. I was sent to an international conference in Frankfurt. My wife Katia joined me in Paris, where I went next and we stayed with my relatives. After that we went to America.

Katia was interested in medicine, and she wanted to enter a medical institute that was about 35 kilometers from New York. So she entered this medical school, and she slept there in the dormitory, but she visited me once or twice a week in New York.

I'll tell you what happened afterwards. One fine day a young man came to me and said, "You know," (he gave me his calling card), "I have a request to make of you and of your wife too. We love each other. Let us marry each other." It was not quite pleasant for me, but I said, "Of course I cannot forbid — well, in the Soviet Union we have freedom. Divorce is legal." But I told him that things could not happen in this way. He left, and I felt terrible.

I tried to reach my wife, but the phones weren't working well. After a while, maybe three days later, I received from my Embassy — because at the time I was working under the leadership of our consulate — a magazine that was published by German representatives of a fascist organization in America. In this article it was written that, "The wife of Theremin is sympathetic to our work, and we accepted her into our society, but Theremin doesn't want to pay money, because he's probably a Jew, and he is afraid to give money. That's why he won't become a member of our society." Well, there was such a magazine.

At the embassy, the people said, "We cannot allow this." Then in a few days, they said something more definite. The embassy called me and demanded that I get a divorce from her. They gave us a divorce without her presence or consent. I talked to her on the telephone about it. She said, "It's my friends, but I was never a member of any such society," and that was it. This was my first divorce. She continued to live there and to study at that institute.

**Are you Jewish?**

No.

**Do you remember meeting Edgard Varèse in New York?**

No. I couldn't tell you. I met so many people. It was long ago, decades ago. I met a lot of people. I remember well a lot of my good students. I had a wonderful student Clara Rockmore, and also Lucie Rosen. These were the better ones whom I remember who worked in my studio.
A comprehensive and accurate treatment of the subject by a professional in the field (BBC).

An up-to-date collection of historical/critical essays principally of interest to the musician or listener with an interest in electronic music. Good bibliography and discography.

A comprehensive survey of tape recording procedures and hardware, including analog, digital, FM, and instrumentation recording.

BENADE, A.H.: Horns, Strings, and Harmony.
Readable and accurate, this text is a recommended reference in acoustics.

Includes a basic discussion of the history and theory, good coverage of the tape recorder and synthesizer by a man who participated in the development of the Moog Synthesizer. Exercises are given, and a record of sample techniques (33 1/3 rpm) is included.

A classic, dealing with recording setups and techniques, studio control-room procedures, film sound track composing and recording, TV production, even electronic music. Slightly dated, but a standard reference nonetheless.


An excellent, recommended text for a First Studio, suitable for a wide range of ages (although illustrations appear to show Jr. H.S.-age students). Many ingenious, creative techniques are explained clearly and simply, and all require an absolute minimum of equipment. Cleverly lays the groundwork for later use of more sophisticated studios.


"The best book on the technical side of recording... thoroughly recommended." (Studio Sound) Highly technical, for the advanced student of the art or the working pro. Deals with sophisticated equipment and theory.


A Classic, comprehensive reference. The comments re Eargle apply to this text as well. Also available from High Fidelity Music Listeners' Book Service.


A practical reference described by its title. Useful when you get to the semi-pro level (recommended by TEAC in manuals supplied with their multichannel mixers).

Clearly of use primarily in music education. Written specifically for use with ARP synthesizers; basics are nonetheless accurate, and the book will be very useful if you have an ARP or can tolerate "translating" for the synthesizer you do have. Extensive technical details.


A good, readable introduction to the making and presentation of AV materials for instructional use. Includes valuable practical information on the care and feeding of equipment, and on presentation.


A well written, clear manual specifically dealing with the many problems of electric music performance. Useful to Creative Sound programs in terms of presentation, and in its introduction to some of the many inexpensive modifier boxes made for the Pop musician. Foreword by R.A. Moog.


This accessible text integrates acoustics and optics, and includes unusual information on acoustic lenses, illustrated photographically with a method which gives the reader a rare opportunity to see sound as it undergoes reflection and focusing.


A most important text on the subject, containing an excellent chapter on recording.
Murray, Don: The World Of Sound Recording. J.B.
This is a very readable, anecdotal history of
sound recording technology and applications,
containing many ideas for creative uses in a
broader range of areas than is covered by
most other texts in this bibliography. While
a bit dated, it is well written, and the
author is clearly an enthusiast. A recom-
mended source/textbook for Creative Sound.

Pincus, E.: Guide To Filmmaking. Signet Books,
Comments re Lipton, above, apply.

Runstein, Robert E.: Modern Recording Techniques.
Howard W. Sams Co., Inc., Indianapolis,
Ind.
Recommended by a number of sources, this
volume is in use as a text in the seminars
offered by the Recording Institute of
America. Again, more useful at the semi-
pro level.

Schafer, R. Murray: The New Soundscape. Clark
and Cruickshank, Toronto, Canada, 1969.
A "handbook for the modern music teacher," 
this readable and interesting volume offers
some ear- and consciousness-expanding
material useful to the teacher and student
of Creative Sound, as well. Written by a
recognized artist in electronic music, in
response to his teaching experiences.

Alfred Publishing Co., Inc., Port Washington,
N.Y., 1972.
Good basic discussions of acoustics, elec-
tricity, magnetism, recording, synthesizer
principles. No unnecessary detail is given,
and writing is suitable for H.S. level.

This oft-cited, classic text is relatively approachable and useful, despite several technical errors. Again, slanted toward musical applications.

TEAC Corp.: **The White Paper.** TEAC Corp. Of America, Montebello, Ca., available through hifi dealers.

A 24-page booklet about tape recorder technology. Critical performance parameters are explained for the novice, making this a handy little reference.


The classic, standard reference. A must for comprehension of the more technical of the sources here listed, and always handy.


Best suited for elementary school use, this "awareness" text offers the student comparisons between electronic music compositions and contemporary art, and includes some exercises that can be interest-generating and use equipment found in most schools.


An up-to-date, high level reference for the more sophisticated studio, written by a pro (former Eastern V.P. of the Audio Engineering Society, engineer for RCA and Vanguard). Hefty and expensive.
PERIODICALS:
The technical aspects of sound recording advance quite rapidly, and the contact with the field that is necessary if one is to stay abreast of new developments can only be maintained through periodical literature. Following is a selected list:

Audio (high fidelity orientation)
Audio Engineering Society Journal (excellent, right at the forefront, but highly technical; good occasional library reading)
The Audio Amateur (approachable, some do-it-yourself)
db, The Sound Engineering Magazine (studio procedures, high tech)
High Fidelity (orientation obvious from the name; often good articles)
Popular Electronics (broad range of information, do-it-yourself, theoretical articles)
Radio-Electronics (same comments as above, preferred by this author)
Recording Engineer/Producer (studio procedures, high tech)
Modern Recording Magazine (this author's current favorite; studio procedures, live recording and sound reinforcement, semi-pro as well as pro coverage)
Studio Sound (from London, some do-it-yourself, sometimes highly technical)

* * *

Categorization Abbreviations:
H. REF. denotes "handbook" references.
S. REF. denotes "standard" references (i.e. to be referred to for definitions and clarification of questions).
AWAKE denotes those texts promoting expansion of sound awareness.
PRACT. denotes those texts suitable for use in practicum.
TEXT denotes those suitable as textbooks.
GUIDE denotes those suitable as reference guides for instructors.
MISCELLANEOUS INSPIRATIONS

Following is an incomplete and thoroughly personal listing of a few books and recordings found by the author to have been helpful in the understanding and development of a creative approach to sound:

Books


Recordings

Columbia:
   MS 7207 "The World Of Harry Partch"
   MS 7051 "New Electronic Music..." (Music of Our Time series)
   MS 6146 "Music of Edgar Varese"
   MS 7222 "Conlon Nancarrow: Studies For Player Piano"
Deutsche Grammophon Gesellschaft:
   139421/22 "Hymnen" (K. Stockhausen)
   138811 "Stockhausen: Electronic Music"
Nonesuch:
   H-71246 "Iannis Xenakis: Electroacoustic Music"
Limelight:
   LS-86049 "Pierre Henry: Le Voyage"
Earthquack:
   EQ0001 "Mother Mallard's Portable Masterpiece Company"
   EQ 0002 "Like A Duck To Water"
REFERENCES FOR CREATIVE SOUND

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Ralph Jones
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State Education Department
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