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oeuvres/works/opere -----

- Program Etude//CDW/JNS 2-track tape, 1'55" MPeC  
(CDW sound synthesis program by M. Kowalski,  
MUSIC IV conversion routines; execution: IBM 360/  
44, Oberlin College)
- Plateaus string sextet, ca. 2' (CRANK program MCC  
by M. Kowalski, Markovian calculation of pitch,  
rhythmic, dynamic details; execution: IBM 360/44)
- Variations string sextet (2.2.1.1.), ca 16' MCC  
(CRANK I program by M. Kowalski; execution:  
IBM 360/44)
- The Entrance of the Queen of Sheba fl, cl, bn, MCC  
hn, tpt, b.tbn, cel, mar, pno, vn, vla, vc,  
ca. 8'30" (CRANK II program; execution: IBM 360/65)
- Tracks xylophone, marimba, vibraphone, piano, MCC  
anvil, ca. 8' (CRANK III program; execution :  
IBM 360/65)
- Refuse fl, hpsch, cl, tpt, vla, tbn, mar, vc, MCC  
ob, pno, perc.quartet, ca. 10' (TEXTURE program  
and CRANK IV program by M. Kowalski; execution:  
IBM 360/75, University of Illinois, Urbana)
- Analysis of Penderecki's De natura sonoris 2 CAMA
- Analysis of Xenakis' Akrata : information theory CAMA  
viewpoint; prog's PHRASE, EARS by M. Kowalski

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programmes/programs/programmi -----

CDW in FORTRAN IV, IBM 360/44 Digital sound synthesis derived from MINISOUND, tutorial program implemented at Oberlin Conserv.; timbre synthesis by means of complex transient functions (up to 20 simultaneous, independent attack envelopes)	MPeC
MUSBIB in SNOBOL III, IBM 360/44 Digital storage and cross referencing system for annotated music bibliographies (listing available)	CAMD
CRANK (five versions) in FORTRAN IV, IBM 360/75 Sixth-order Markovian process for the derivation of pitch, rhythmic, dynamic, and articulative details within a generalized structure specified by the composer; produces contrapuntal textures of up to 8 voices. A special function is implemented to regulate the level of noise (information theory) in the output. (listing avail- able)	MCC
TEXTURE in FORTRAN IV, IBM 360/75 Semi-Markovian process for the derivation of densities within a generalized contrapuntal structure specified by the composer. Special functions insure that 1. no one voice or section will predominate, and 2. passages marked by continuity of line will alternate with passages characterized by disjunc- tion. (listing available)	MCC
PHRASE, EARS programs in FORTRAN IV, IBM 360/75 Formal analysis on the basis of fluctuating rates of change in frequency, amplitude, timbre. (listing available)	CANA

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activité/activity/attività -----

Refuse for chamber ensemble marks the end of a three-year project in Markovian composition; six FORTRAN programs were implemented during the course of the project.

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Currently studying systems programming and digital circuit design in the dept. of computer science, University of Illinois. I am hopeful that these studies will enable me to undertake the design of a digitally-controlled real-time electronic music device -- without frequent recourse to electrical engineers. Preliminary designs for the device have already been made. The basic hardware configuration for the control circuitry will be a set of microprocessors linked in parallel, affording not less than 4K words of memory. The basic hardware configuration for the audio signal will be a set of digitally-controlled pulse generators and attenuators -- patching to be controlled automatically. The system will be implemented with these requirements in mind:

MCC

1. that it be easily reprogrammable
2. that it be a performing instrument (requiring significant input at execution time)
3. that it produce a gamut of sounds not available from voltage-controlled devices
4. that the entire system be transportable.

I also intend to begin a new series of computer-aided compositions (pencil-and-paper variety!) based upon concepts borrowed from information theory, game theory, and various artificial intelligence schemes.

MCC

During the past year I have developed an analytical method (partially computer-implemented) based on the study of fluctuating rates of change in frequency, amplitude, and timbre. This analytical technique has yielded non-trivial results when applied to musics as diverse in conception as Penderecki's De natura sonoris 2 and Xenakis' Akrata. I hope to continue these analytical experiments on an everwidening range of literature!!

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biographie/biography/biografia -----

1950 born in Buffalo, New York.  
1968-72 piano, musicology, theory studies at Oberlin  
Conservatory  
1970-72 composition and research in the digital and  
analog electronic music studios at Oberlin  
1972-74 composition studies at the University of Iowa  
with Richard Hervig and Peter Lewis; work in the  
analog studios at Iowa.  
Teaching assistant, music theory, Univ. of Iowa.  
1974-.. composition studies at the University of Illinois  
with Herbert Brün and Salvatore Martirano.  
1974-75 University Fellow in music, Univ. of Illinois  
1975-.. Teaching assistant , music theory, U. of Illinois

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