

News

Standards for Musical Information

SMDL [Proposed ANSI Standard]

The American National Standards Institute subcommittee charged with developing a capability for machine interchange of musical information (called MIPS for Musical Interchange Processing Standards, its official name is ANSI X3V1.8M) held week-long meetings in New York City (September 1987) and in Valencia, CA (February 1988). It was scheduled to meet from July 11 to 14 in San Jose, CA.

The MIPS secretariat has been placed under the auspices of the Computer Music Association, and copies of its documents may be obtained from Craig R. Harris, P.O. Box 1634, San Francisco, CA 94101-1634. The CMA hopes to be able to sponsor two of its members as full MIPS participants and to establish from its membership a board of specialists to advise them in this undertaking. Charles Goldfarb (IBM) continues to serve as chairman with Steven Newcomb (Center for Music Research, FSU) as vice chairman and Alan Talbot (New England Digital) as secretary.

MIPS views its charge as being the development of a language that can express any music that can be written in standard notation. According to official communications from the subcommittee, the standard is intended as a storage and interchange format for musical ideas. Provisionally, the subcommittee has decided to differentiate these kinds of musical data: the underlying musical form ["core data"], a set of performances ["gestural data"], a set of scores ["visual data"], and a set of theoretical analyses ["analytical data"]. This hierarchical structure will be codified in terms of elements; each element has a related information set consisting of attributes. The coding is compatible with Standard Generalized Markup Language (SGML), a tool developed by Goldfarb for generic description of the elements of text documents. The result of the committee's work will be called Standard Music Document Language (SMDL).

A detailed report on the February meeting, written by Harris with additional material from Newcomb and Goldfarb, can be found in the Computer Music Association's newsletter, *Array* (issue for Winter-Spring 1988), pp. 6-12. Comments on the committee's work by Roger Dannenberg and Gareth Loy follow on pp. 12 and 13.

SMX

A method of data representation called "Standard Music eXpression" (SMX) has been developed in Tokyo to facilitate data transfer among the following systems and devices: (1) the Automatic Score Recognition System and (2) the Automatic Translation System of Printed Music in Braille developed in the Ohteru Laboratory at Waseda University; and (3) the Dai Nippon Music Processor (DMP), a microcomputer-based score processor developed by the Dai Nippon Corporation. An SMX-MIDI conversion capability is currently under development.

TMF

A Time-Stamped MIDI Data File Format (TMF) has been developed at the University of Helsinki by Kai Lassfolk and Timo Lehtinen. TMF is designed to facilitate the standardized representation of music and other timed events in a sequential file. TMF, which stores data in packets, can accommodate changes of tempo, key signature, and instrumentation. Based on MIDI protocol V1.0, TMF has been put before the International MIDI Association in draft form.

Text Encoding Initiative

Under the aegis of the Association for Computers and the Humanities and other organizations, a committee has been formed to develop guidelines for the encoding of literary and linguistic data. The main objective of the group is to facilitate file interchange. The Text Encoding Initiative (TEI), which has been awarded a two-year grant from the National Endowment for the Humanities, welcomes comments, documentation and copies of sample passages of encoded material from scholars who have created machine-readable texts. Information on text formats required or permitted by developers of software products is also being sought. Such information may be sent to Nancy Ide, chair of the steering committee, at Vassar College, Poughkeepsie, NY 12601, or to the project editor, Dr. C. M. Sperberg-McQueen, Computer Center (M/C 135), University of Illinois at Chicago, Computer Center (M/C 135), Box 6998, Chicago, IL 60680.

Recent Events

BOLOGNA

A study session on "Databases and the Practice of Musicology" and a day long technical exchange on "Computer-Based Approaches to Musical Data and Musical Analysis" occurred as part of the Fourteenth Congress of the International Musicological Society in Bologna. The sessions occurred on August 29 and August 30, 1987.

In the study session there were two substantial presentations--one by Michael Keller on the collaborative project entitled "Italian Music and Lyric Poetry of the Renaissance" and one by Walter Hewlett on "Full-text Musical Databases: Creation, Distribution, and Use." These set the stage for a roundtable discussion, chaired by Stanley Sadie, on "Process and Product: The Changing Nature of Scholarly Publishing and Research Methods," in which the participants were Bruce Phillips, Etienne Darbellay, Dorothee Hanemann, Laura Callegari, Christoph Schnell, Norbert Böker-Heil, and John Hill.

In the technical exchange, chaired by Mario Baroni and Eleanor Selfridge-Field, there were discussions in the round of musical data and musical analysis, both in the present and as they may evolve over the next several years. Approximately 40 scholars from Italy, France, Germany, Spain, Switzerland, Poland, the USSR, Israel, Japan, and the US took part in this event. Reports of both events appear in the *Proceedings* of the congress.

CAMBRIDGE, MA

Christoph Schnell described and demonstrated the Alpha/TIMES system for musicological research at the Massachusetts Institute of Technology on March 22. His talk will appear in the proceedings of the RIAO for 1988.

LANCASTER [Condensed from a report by Lelio Camilleri]

A conference on "Computers in Music Research," hosted by the University of Lancaster from April 11 to 14, was attended by 110 people from 15 countries. Thirty-seven papers were given. In addition there were software demonstrations, a plenary session, and extensive opportunities for informal exchange. The meeting was organized by Alan Marsden under the auspices of the Centre for Research into the Applications of Computers to Music at the University.

In the plenary session, which took place on April 11, Lelio Camilleri (Florence) considered issues related to the development of a computational theory of music. After a critical overview of four computational approaches to models of musical knowledge, Camilleri focused on some hypothetical models emphasizing the relationship between music theory and music cognition. Marc Leman (Ghent), in the second paper, proposed that massive parallelism could be a suitable tool for the modelling of tasks in musical cognition.

Parallel sessions on music analysis and historical musicology occurred on April 12. In the session devoted to analysis, Arvid Vollsnes and Kjell Nordli (Oslo) described the MUSIKUS system and the window model of analysis on which it is based. Using their approach, a user can concentrate on a particular melodic or harmonic feature. The windows can be recursively defined. In the musicology session, John Stinson described the fourteenth-century projects (creation of a database of repertoires, manuscripts, documents, bibliography, and discography) underway at La Trobe University in Australia.

Measurements of musical similarity were the chief topic of a subsequent session in which Clive Broadbent (Durham) described his use of an algorithm derived from acoustic theory to produce a similarity measure from several weighted variables. Tony and Christina Eastwood (Western Australia) discussed similarity assessment in the indexing of melodic incipits.

In a session on music representation, David Huron (Nottingham) favored protocol representations, which allow the user to represent only the information needed for the task to be carried out, over universal representation schemes. In an ensuing roundtable on musical data structures contrasting approaches were also presented: one viewpoint was that musical representation must strictly follow the content of a score without interpretation; the other, starting from the consideration that a score does not represent all aspects of a musical work, proposed the use of representations tailored to specific tasks. This discussion involved Stephen Page (DARMS), Alan Marsden (Lancaster), and Steven Newcomb (ANSI-MIPS).

Among papers dealing with ethnomusicological subjects, one by Jim Kippen (Queen's University, Belfast) describing the development of an expert system for the analysis of tabla music attracted considerable attention. The grammar underlying the system is gradually refined as new assumptions are tested.

A similar conference is planned for 1991.

GHENT

The contributions to a workshop on "Models of Musical Communication and Cognition" held at the University of Ghent in December 1987 will be published in the Autumn 1988 issue of *INTERFACE, Journal for New Music Research*. Papers by M. Balaban, L. Camilleri, M. Leman, C. Lischka, A. Marsden, and M. Reybrouck are included. The event was organized in connection with the twentieth anniversary of *Communication and Cognition*.

ST. AUGUSTIN

A workshop on artificial intelligence and music was to be held September 15 and 16 in St. Augustin, West Germany. The meeting was organized by Christoph Lischka of the Gesellschaft für Mathematik und Datenbearbeitung.

ST. PAUL

A one-day workshop on artificial intelligence and music was scheduled to take place on August 24 in St. Paul, Minnesota, as part of the annual meeting of the American Association for Artificial Intelligence. The workshop was designed to consider expert systems in music analysis, printing, performance and listening; composition tools; and issues related to cognition. The workshop was organized by Mira Balaban, Kemal Ebcioglu, Marc Leman, and Linda Sorisio.

URBANA

"Music Notation Encoding and Printing" was the subject of a session chaired by Donald Byrd at the 1987 International Computer Music Conference, held from August 23 to 26 at the University of Illinois in Urbana-Champaign. Gerard Assayag, Dan Timis, Diane Cook, Stephen Dydo, John Free, Keith Hamel, Giovanni Müller, and Raffaello Giuliatti participated. Their papers appeared in the *ICMC Proceedings*.

VENICE

A one-day meeting on the Computerized Venetian Music Archive was held at the Fondazione Levi, Venice, on May 28, 1988. Alessandro Moro, head of the project, presented a status report and numerous other participants gave demonstrations and perspectives on future use of the material (described in the Applications section of this Directory).

Newsletters and Networks

ASSOCIATION FOR TECHNOLOGY IN MUSIC INSTRUCTION

The Association for Technology in Music Instruction publishes a quarterly newsletter and a periodic *Courseware Directory*. The newsletter covers projects in progress, workshops, and general information and is available for \$10 a year from the ATMI treasurer, Denis Moreen (College of Notre Dame, Belmont, CA 94002). The *Directory* is provided free with a one-year subscription.

COMPUTER-ASSISTED INSTRUCTION

Musletter is a newsletter of developments in computer-assisted instruction in music that is published by IBM's Los Angeles Scientific Center and the University of Southern California School of Music. It is edited by Linda Sorisio. It contains short notices and reports on projects in progress.

COMPUTER MUSIC ASSOCIATION

The Computer Music Association established in 1987 an electronic discussion of music printing by computer. The coordinator is Dan Timis. Contributions may be sent to ucsbcslmusvaxltimis@ucbvax.edu.

MUSIC INFORMATION NETWORK

David Fenske, music librarian at Indiana University, is working to establish a Music Information Network that would support interlibrary bibliographical searches and facilitate on-demand electronic dispatch of rare out-of-print items. In a pilot phase, the Stanford and Indiana Music Libraries are cooperating in the project.

MUSIC LIBRARY ASSOCIATION

Notes: The Journal of the American Music Library Association will begin a column devoted to music software in its September 1988 issue. Robert Skinner is the contributing editor. The September issue will carry a review article on available software and discuss the relative merits of libraries providing music software and public access microcomputers. Future issues will contain software reviews and listings of newly published music software for microcomputers (music software vendors are invited to communicate with Mr. Skinner, Music Librarian, Owens Art Center, Southern Methodist University, Dallas, TX 75275-0356).

Technical Research: Automatic Transcription

Research in automatic transcription, the conversion of sound to a written representation of music, has been in progress for a number of years, especially in artificial intelligence environments in the US (Stanford University and the Massachusetts Institute of Technology) and Japan (Waseda and Osaka Universities). A system designed chiefly by Bernard Bel has been used with good results in a number of ethnomusicological studies. Outside Japan, successful results with automatic transcription have generally been demonstrated only with monophonic repertoires or single-voice results.

Reasonable success in the automatic transcription of a four-part Bach chorale is reported and explained at considerable length in a preprint called "Recognition of Chords for Automatic Transcription of Polyphonic Music" by Andranick Tanguiane [see accompanying illustration]. The work is conducted at the Soviet Academy of Sciences under the auspices of the Composers' Union of the USSR and the Novosibirsk Conservatory. The procedure employed provides both vertical evaluation of chords and horizontal tracking of individual voices. The results are reported in spectrographs of harmonic frequencies and in numeric tables (a music printing system is currently under development). The aim is to facilitate the development of musical databases of polyphonic folk repertoires. A Soviet SM-1420 computer and a Yamaha CX5ML are employed in the project.

Technical Research: Optical Scanning

OSAKA UNIVERSITY (Inokuchi Laboratory)

A recognition system for printed piano music has been developed as part of a more comprehensive expert music system in the Engineering Science Department of Osaka University. The approach is described in the proceedings of the 33rd annual convention of the Japanese Information Processing Society (1986). The music is treated in bar units. Identification is accomplished in two stages--the pattern recognition phase and the semantic analysis phase. Extracted symbols are encoded into playable musical information. The rate of accuracy in recent experiments was determined to be 94.2% for Beethoven's "Für Elise" and 89.3% for Chopin's Etude No. 3. The average processing time is 90 minutes a page. The researchers are Haruhiro Katayose, H. Kato, Keishi Takami, Masakazu Imai, and Seiji Inokuchi.

THAMES POLYTECHNIC, LONDON (Neil G. Martin)

A brief review of the main approaches to optical character recognition is contained in Neil G. Martin's undergraduate honours project, "Towards Computer Recognition of the Printed Musical Score" (Thames Polytechnic, London, 1987). Following a general assessment of template matching, decision theoretic and syntactic approaches, Martin develops a modular system of his own design for reading and encoding information from printed musical scores. His approach involves the use of a dynamic dictionary of symbols in which measurement data are refined on the basis of experience. A preliminary impression of each symbol's identity is gained by the generation of a bounding box (a geometric description of the symbol's outer limits). The results shown in his paper are short ones of treble-clef notation.

Automatic Transcription: Characteristics of Chord Recognition (Tanguiane)

Meine Seele erhebet den Herrn

I 3 7 II I4 I5 I7 I9 20 24

In the work of Andranick Tanguiane and associates at the Soviet Academy of Science, chords are evaluated both vertically and horizontally. The chords of the Bach chorale shown above are listed alphanumerically in column 1. Chord profiles derived from recognition of overtones are shown in column 2. These profiles are compared with those for the previous chord (column 3) and the succeeding chord (column 4). The number of chords correctly recognized is shown in the third of the five lines that follow the chord listing. Errors and omissions in recognizing individual tones occurred only in the chords marked with an asterisk (*), a plus (+) or a minus (-). The system is intended for use in the transcription of multi-voice folk music.

Исходные аккорды ①	Достаточное число образов / Число побочных образов в множестве достаточных образов / Минимальное $\frac{1}{2}$ максимальное число последовательных частичных тонов в образах нот, необходимое и достаточное для верного распознавания аккорда			
	по образам интервалов ②	по образам голосоведения		
		с предыдущим аккордом ③	с последующим аккордом ④	
1. [e, g, e1, h1]	4/ 0/ 1 1/ 5		8/ 1/ 3 1/ 5	
2. [f#, a, d1, d2]	13/ 8/ 5 1/ 5-d2	9/ 0/ 1 1/ 5	24/ 11/ 5 1/ 5-d2	
3. [g, h, d1, h1]	4/ 0/ 1 1/ 5	7/ 0/ 1 1/ 5	5/ 0/ 1 1/ 5	
4. [f#, a, d#1, h1]	9/ 4/ 5 1/ 5	5/ 0/ 1 1/ 5	7/ 1/ 5 1/ 5	
5. [e, g, e1, h1]	4/ 0/ 1 1/ 5	8/ 0/ 1 1/ 5	8/ 1/ 3 1/ 5	
6. [d#, f#, f#1, h1]	4/ 1/ 3 1/ 5	6/ 1/ 4 1/ 5	8/ 3/ 4 1/ 5	
7. [e, g, e1, c2]	4/ 1/ 3 1/ 5	12/ 2/ 3 1/ 5	8/ 0/ 1 1/ 5	
8. [f#, a, d1, c2]	5/ 2/ 5 1/ 5	7/ 1/ 5 1/ 5	6/ 0/ 1 1/ 5	
9. [g, a, d1, h1]	5/ 0/ 1 1/ 5	6/ 0/ 1 1/ 5	7/ 0/ 1 1/ 5	
10. [e, g, d1, h1] *	13/ 8/ 4 1/ 5-h1	24/ 12/ 4 1/ 5-h1	24/ 10/ 4 1/ 5-h1	
11. [c, g, e1, a1]	12/ 8/ 4 1/ 5-a1	6/ 2/ 4 1/ 5	23/ 10/ 4 1/ 5-a1	
12. [A, g, e1, a1]	3/ 0/ 1 1/ 5	23/ 13/ 5 1/ 5-e1	7/ 1/ 5 1/ 5	
13. [d, f#, d1, a1]	3/ 0/ 1 1/ 5	6/ 0/ 1 1/ 5	8/ 0/ 1 1/ 5	
14. [G, h, d1, g1] *	13/ 8/ 6 1/ 5+g	23/ 12/ 6 1/ 5+g	23/ 15/ 6 1/ 5-6+g	
15. [g, g, d1, h1]	3/ 0/ 1 1/ 5	5/ 0/ 1 1/ 5	6/ 1/ 4 1/ 5	
16. [H, g, d1, d2]	13/ 9/ 4 1/ 5-d2	7/ 1/ 3 1/ 5	24/ 15/ 4 1/ 5-d2	
17. [d, f#, d1, a1]	3/ 0/ 1 1/ 5	24/ 10/ 3 1/ 5-a1	5/ 0/ 1 1/ 5	
18. [d, f#, d1, a1]	3/ 0/ 1 1/ 5	5/ 0/ 1 1/ 5	24/ 13/ 4 1/ 5-a1	
19. [c, a, e1, e1]	2/ 0/ 1 1/ 5	7/ 1/ 3 1/ 5	3/ 0/ 1 1/ 5	
20. [H, h, e1, g1]	4/ 1/ 3 1/ 5	4/ 0/ 1 1/ 5	10/ 1/ 3 1/ 5	
21. [A, h, e1, g1]	7/ 4/ 4 1/ 5	5/ 1/ 4 1/ 5	6/ 0/ 1 1/ 5	
22. [H, h, d#1, f#1]	3/ 0/ 1 1/ 5	5/ 0/ 1 1/ 5	4/ 0/ 1 1/ 5	
23. [H, a, d#1, f#1]	3/ 0/ 1 1/ 5	4/ 0/ 1 1/ 5	24/ 11/ 4 1/ 5-f#1	
24. [E, g, h, e1]	3/ 0/ 1 1/ 5	7/ 2/ 5 1/ 5	-	
Наибольшие значения	13/ 9/ 6 1/ 5	24/ 13/ 6 1/ 5	24/ 15/ 6 1/ 5	
Средние значения	6/ 2/ 2 1/ 5	9/ 3/ 3 1/ 5	12/ 4/ 3 1/ 5	
Число верно распознанных аккордов	19	19	16	
Наибольшие значения для верно распознанных аккордов	9/ 4/ 5 1/ 5	12/ 2/ 5 1/ 5	10/ 3/ 5 1/ 5	
Средние значения для верно распознанных аккордов	4/ 1/ 2 1/ 5	6/ 1/ 2 1/ 5	7/ 1/ 2 1/ 5	

UNIVERSITY OF OTTAWA (William McGee)

William McGee, in the Department of Electrical Engineering of the University of Ottawa, is exploring music manuscript capture and analysis using a Hewlett Packard ScanJet and an IBM-PC/XT computer. His software is written in Pascal.

UNIVERSITY OF SURREY (Nicholas Carter)

Nicholas Carter continues work towards a general solution to the problem of automatic pattern recognition of printed music, using a Gould minicomputer and a Hewlett Packard desktop workstation, both running UNIX. Printing utilizes SCORE and a laserprinter supporting PostScript. Success in capturing short monophonic examples from both printed and manuscript sources was reported in May 1988 and was featured in a report carried by the British Broadcasting Corporation. The work is supported by the Leverhulme Trust.

Two articles written in collaboration with Drs. Richard Bacon and Thomas Messenger are in press. They are entitled "Acquisition, Representation and Reconstruction of Printed Music by Computer: A Review" (*Computers and the Humanities*, Vol. 22) and "Automatic Pattern Recognition of Printed Music" (forthcoming in *Computer Vision, Graphics, and Image Processing*).

UNIVERSITY OF WALES (Alastair Clarke)

The thesis research of Alastair Clarke in the College of Cardiff (University of Wales) focuses on "optical character recognition of printed music notation" and is conducted using an IBM-PC compatible computer and an IBM 3117 scanner. Mr. Clarke and his supervisors, Drs. Malcolm Brown and Michael Thorne, presented a talk on "Inexpensive Optical Character Recognition of Music Notation: A New Alternative for Publishers" at the Lancaster conference. They reported success in reading symbols from a single melodic line.

Technical Research: Perception, Cognition and Performance

The Center wishes to acknowledge the significant amount of activity being devoted to studies concerned with the relationship of the human subject to analytical domains. How music is perceived and how it is organized by the mind into units and structures are subjects receiving attention in many quarters. The technical and experimental nature of these studies has naturally led to the use of the computer in various capacities for data collection, sound generation, data analysis, etc. Because this field has developed an extensive literature of its own, including articles in the quarterly journal *Musical Perception* (published by the University of California Press), activities are not given a full report here. In relation to the study of musical performance, the following areas of research seem to be closely allied to projects reported elsewhere in this *Directory*.

One avenue of current research focuses on diverse ways of performing the same work (usually from recordings) for the purpose of explaining how emotion is communicated. In a few cases, the results are viewed in relation to the work as an intellectual entity. A case in point is Nicholas Cook's "Structure and Performance Timing in Bach's C Major Prelude (WTC I): An Empirical Study," *Music Analysis* 6/3 (1987), 257-272. An overview of such work, "Computer Synthesis of Music Performance" by Johan Sundberg, appears in a new book entitled *Generative Processes in Music: The Psychology of Performance, Improvisation, and Composition*; it is edited by John Sloboda and published by the Clarendon Press, Oxford (1988). In research supported by IBM at the University of Glasgow, Stephen Arnold and associates are attempting to categorize performed derivations from notated norms and to study structural problems associated with multimedia representations.

Starting from such questions, research heads off in numerous directions. There are efforts to make machine music sound more human (Anders Friberg, Johan Sundberg *et al.*, Royal Institute of Technology, Stockholm), and it can be seen from the Applications section that any number of studies involving the development and refinement of rule systems may stray into or overlap the area of rules for performance. From the perspective of "the psychoneurology of music," Manfred Clynes claims to have uncovered two essential microstructural principles (hierarchical pulse and predictive amplitude shaping, both explained in his contribution to *Action and Perception in Rhythm and Music*, Stockholm, 1987). Some studies diverge towards artificial intelligence. Performance nuance is a constituent part of the comprehensive work being pursued at Osaka University. [see **Optical Scanning.**] While recognizing the inherent interest of such studies, the Center is largely unable to accommodate information about them in the *Directory*.

Theses and Dissertations in Progress

- * Clive Broadbent, a postgraduate student at the University of Durham, is attempting to create an analytical workstation capable of tracing constructive routes from inception to finished composition. His efforts utilize a Sun workstation operating under UNIX and an extension of DARMS code.
- * Christine Buyle (Belgium) is writing a thesis on computer implementation of a generative grammar for tonal music.
- * Nicholas Carter (University of Guildford, Surrey) is seeking a general solution to the problem of automatic pattern recognition of printed music. His research is being conducted in a UNIX-based image processing context. [See **Technical Research.**]
- * Alastair Clarke, a research student in the Department of Computing and Mathematics at the University of Cardiff, is working on computer typesetting of music and optical scanning. [See **Technical Research.**]

- * Walter Colombo (Mathematics, University of Milan) has completed a thesis involving the development of a series of microcomputer programs to facilitate harmonic analysis based on Schoenberg's theory of tonal regions.
- * Chiara Durante is preparing a thesis related to the computer analysis of grouping structure in the TELETAU environment of the CNUCE (Pisa) Musicology Division and the Florence Conservatory.
- * Luigi Finarelli (Computer Science, University of Bologna) has completed a thesis involving the development of a series of UNIX-based programs for elementary analysis procedures. His programs use TAUMUS encoding.
- * Bruce McLean (Engineering, SUNY Binghamton) completed his thesis, "The Representation of Musical Scores as Data for Applications in Musical Computing." He continues to work on retrieval, query, and analytical software for music applications.
- * Neil G. Martin's final year project for a B.Sc. in computer science at Thames Polytechnic, London, "Towards Computer Recognition of the Printed Musical Score," was completed in May 1987. [See **Technical Research.**]
- * Stephen Page (Computer Science and Music, Oxford University) continues work on a "Query System for Music Information Retrieval." His approach favors description-oriented queries over special-purpose programs and operates on DARMS-encoded data.

Comprehensive Publications (In press)

PASCAL PROGRAMMING FOR MUSIC RESEARCH

Alexander Brinkman's book on *Pascal Programming for Music Research* will be published by the University of Chicago Press in 1989.

COMPUTATIONAL MUSICOLOGY IN ITALY

Lelio Camilleri's "Computational Musicology in Italy: an Overview of Basic Concepts and Applications" will appear shortly in *Leonardo*. A shorter version of the same material will be published in "Musletter."

COMPUTER APPLICATIONS IN MUSIC

Deta Davis's bibliography, *Computer Applications in Musicology*, will be published by A-R Editions in September 1988. More than 4500 listings covering 25 topics are included.

JOURNAL OF COMPUTATIONAL MUSICOLOGY

As an outgrowth of the Lancaster meeting, Alan Marsden has proposed the initiation of a *Journal of Computational Musicology* to cover papers of three kinds: (1) musicological research using computers, (2) discussions of problems and issues in the use of computers in musicology, and (3) descriptions of software of actual and potential use to musicologists. Detailed planning is currently in progress.

MUSICIAN'S MUSIC SOFTWARE CATALOG

The third *Musician's Music Software Catalog* is an 81-page listing of commercial music software products offered by Digital Arts and Technologies (P.O. Box 11, Milford, CT 06460). Illustrations and detailed specifications are given for many products. The listing is current through January 1988.

MUSIKOMETRIKA

The first volume of *Musikometrika*, edited by M. G. Boroda, was to be issued in June 1988. It includes contributions from the United States, Canada, Romania, and the USSR on such topics as melodic analysis, rhythmic organization, generative grammars for musical analysis, and quantitative analysis of musical language and musical text.

Resource List for Humanities Computing Information

BITS AND BYTES . . .

Bits, Bytes, and Biblical Studies by John J. Hughes, the editor of the monthly academic software product report called *Bits and Bytes Review*, is a resource of value far beyond the confines suggested by its title. The lists of academic and computer abbreviations and acronyms appended to the preface will be very useful to many novice users trying to read technical literature, but the heart of the book is constituted by the 300 plus pages devoted to academic word processing programs. While these necessarily extend to programs primarily suited to ancient languages in non-Roman alphabets, they give succinct coverage to the most popular programs of general value in humanistic disciplines. *BBB* is available from the Zondervan Publishing House in Grand Rapids, Michigan.

HUMANITIES COMPUTING YEARBOOK

The first volume of *The Humanities Computing Yearbook* is scheduled for publication in the summer of 1988. The editors are Ian Lancashire and Willard McCarty and the editorial address is c/o the University of Toronto, 14th Floor, Robarts Library, 130 St. George St., Toronto, Ont. M5S 1A5, Canada. The publisher is Oxford University Press. The emphasis is to be on text-based disciplines.

THE SCHOLAR'S PERSONAL COMPUTING HANDBOOK

The Scholar's Personal Computing Handbook: A Practical Guide by Bryan Pfaffenberger is an introduction to electronic scholarship that explains basic concepts and principles and identifies widely used products and services. It is published by Little, Brown and Co. and is available in paperback.

Humanities Research Tools

DISSERTATION ABSTRACTS

University Microfilms International offers a CD-ROM version of *Dissertation Abstracts* from 1861 through 1984. Two archival disks (the first containing all listings through June 1980) and a current edition with more recent information constitute the set, which is priced at an institutional rate (\$5,495 for the archival set; \$1,695 for the update).

OXFORD CONCORDANCE PROGRAM

A microcomputer version of the Oxford Concordance Program, originally written by Susan Hockey for mainframe computers with a FORTRAN77 compiler and now revised for the IBM PC and compatibles with the help of Jeremy Martin, was released by Oxford University Press early in 1988. A description of its capabilities can be found in *Literary and Linguistic Computing* 2/2 (1987), 125-131. The program works with data in several input formats and it is claimed that it can perform its tasks with alphanumerically encoded musical data.

OXFORD ENGLISH DICTIONARY

The CD-ROM edition of the *Oxford English Dictionary* was published on December 3, 1987, by Oxford University Press. Eight tagged fields can be searched with appropriate software. The price of the two-disc edition is \$1250.

RECORDS OF EARLY ENGLISH DRAMA

The Records of Early English Drama project, initiated in 1975 to locate and edit all surviving documentation concerning English drama and minstrelsy up to 1642, is seeking to make its materials available in machine-readable form. Several volumes are available in book form (from the University of Toronto Press, 5021 Dufferin Street, Downsview, Ontario M3H 5T8). The studies of Norwich and Cambridge are particularly rich in musical information.

THESAURUS LINGVAE GRAECAE

The "C" version of the *Thesaurus Linguae Graecae* became available on CD-ROM in May 1988. This disc has three main components: (1) a databank consisting of 41 million words of text (primarily in Greek), (2) an index to this material, and (3) a machine-readable version of the TLG Canon. At its headquarters in Irvine, California, the TLG continues to provide individual searches on request. A modest fee is charged.

TREASURY OF THE FRENCH LANGUAGE

"Le Trésor de la langue Française" was the title of a project started in France in 1963 to compile a dictionary of the French language by using a wordbank culled from machine-readable texts of the core works of modern French literature. In 1983 the database was made available through the University of Chicago. For further information, contact Robert Morrissey, Department of French, the University of Chicago, Chicago, IL 60637.

FRANTEXT is a textual database of 2600 French texts from the seventeenth century to the present and is largely drawn from the TLF. FRANTEXT may be searched by author, title, genre, and date. Dramatic works and poetry are included. For information concerning remote access, contact CNRS-Institut National de la Langue Française, Service FRANTEXT, 52 boulevard de Magenta, 75010 Paris, France.