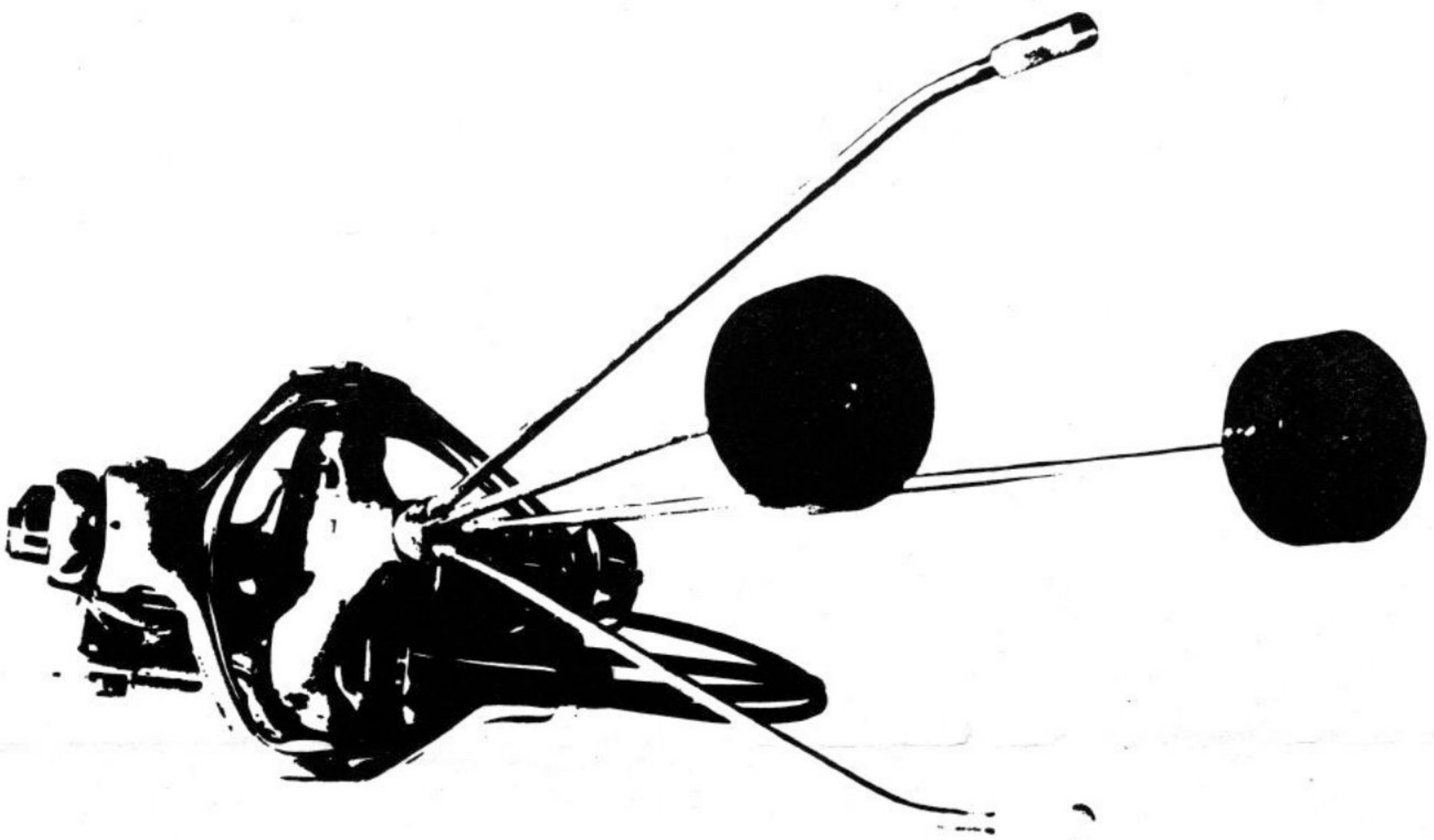


COMPUTER ARTS SOCIETY MEETINGS

British Computer Society 23 Dorset Square London NW1

Thursdays at 6.30pm

11 September OUTFACE – THE ARTIST WITHIN THE TECHNOSTRUCTURE
Stroud Cornock

9 October THE HUMAN END OR PAINTING PROGRAMMED
Colin Sheffield and Mike Thompson

13 November ART AND BEHAVIOURAL SCIENCE
George Mallen

11 December COMPUTERS FOR MUSIC
Alan Sutcliffe

These meetings are open to members and guests. There is no charge for admission.

PUBLIC MEETINGS

Because of the excess of expense over income it has been decided not to continue the series of public meetings that were held in the Nash House Cinema.

AIMS AND MEMBERSHIP

The aims of the Society are to encourage the creative use of computers in the arts and allow the exchange of information in this area.

Membership is open to all at £1 or $3 per year; students half price. Members receive PAGE and reduced prices for Computer Arts Society public meetings and events. The Society has the status of a specialist group of the British Computer Society, but membership of the two societies is independent.

Libraries and institutions can subscribe to PAGE for £1 or $3 per year. Extra copies will be sent to the same address at half price. No other membership rights are conferred and there is no form of membership for organisation or groups. Re membership, subscription, circulation and information, write to Alan Sutcliffe.

BULLETIN OF THE COMPUTER ARTS SOCIETY
AUGUST 1969
SIXPENCE

PAGE

PAGE welcomes information regards events relevant to the Society taking place in any part of the world. Views expressed are those of individual contributors. This number designed by Malcolm Le Grice.

COMPUTER ARTS SOCIETY ADDRESSES

Chairman Alan Sutcliffe ICL Brandon House Bracknell Berkshire
Secretary John Lansdown 50/51 Russell Square London WC1
Editor of PAGE Gustav Metzger BM/Box 151 London WC1

INSTITUTE FOR RESEARCH IN ART & TECHNOLOGY

The new Institute for Research in Art & Technology have recently acquired premises in Robert Street, NW1. The 11,000 sq ft factory, leased at a low rent from Camden Borough Council, due to the interest of the Camden Arts Committee, is only 2 minutes walk from Warren Street and Euston Square stations, and only yards from bus stops on Hampstead Road where about 10 routes run. The Computer Arts Society and the London Film Makers Cooperative are among organisations who have accepted offers to share the premises.

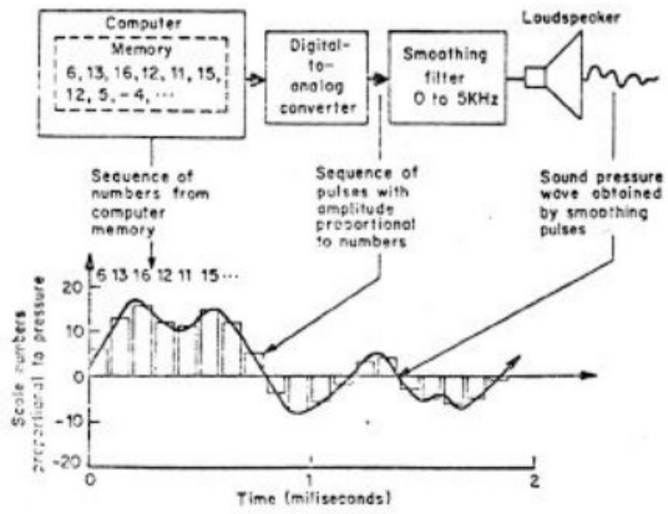
Conversion of the building is in progress and it should be ready for opening during September. It will include a gallery/exhibition area, a cinema, a theatre/performance area, workshops for electronics, cybernetics, video, and metal and plastics, film processing and editing rooms, and a conference room. There will also be a rehearsal area and printing facilities. The Institute will run a club, The London New Arts Laboratory, through membership of which the public will have access to the performances put on. Membership will cost only ten shillings a year and membership of many other organisations will be recognised.

The Computer Arts Society will use the conference facilities for its meetings, and the exhibition, film and performance areas for its events. It hopes to install a time-sharing computer terminal in the electronics workshop for the use of artists. The Institute would be pleased to hear from any member of the Society who is interested in using the workshop facilities of the building. A brochure showing plans of the building and giving more information about its departments and the people involved is available for 2/6d including postage from — The Institute for Research in Art & Technology, 1 Robert St,, London NW1.

The Institute would like to take this opportunity of thanking Peter Hunot of the Computer Arts Society for his help and encouragement.

John Lifton

BOOKS



Computer-to-pressure conversion.

MUSIC V — THE DIGITAL APPROACH TO ELECTRONIC MUSIC

Max V Mathews: The Technology of Computer Music. 188 pp. MIT Press, 1969. £5. 12. 0d. ($12.00).

This book about music assumes a knowledge of FORTRAN, Reasonable — unreasonable? I think reasonable. If you haven't yet adjusted to the fact that any one who wants to know about electronic music nowadays will need to read FORTRAN, I suggest you start now. Reference to some suitable texts for teaching yourself the language are given in the book.

The situation is that the most attractive way to produce electronic music is using a digital computer to carry out most of the functions that have in the past been performed by a variety of analogue devices; waveform generators, filters, shapers and mixers. A few functions, such as reverberation and echo, are still best done by separate analogue devices, but most of the units of a classical electronic music studio can be thrown away and replaced by routines and programs running in a digital machine. Hence the need to know about programming.

This book describes such a digital system called MUSIC V, for synthetic sounds, developed at Bell Telephone Laboratories by Dr. Mathews and his colleagues. The first part of the book explains the principles of digitalisation of information specifying sound. The second part deals with MUSIC V from the point of view of the user, and the third part describes the internal workings of the programs in the MUSIC V system. All this is done with admirable clarity, which should make this a classic text. I think the very specific nature of the description of the system is most useful, much more useful than generalisations about what might be. There is so much that might be in the use of computers — a program can be written for any specifiable problem — that what matters is what is. Knowing what is, each of us can go on and formulate what might be. MUSIC V of course has ancestors, and MUSIC IV is well known in America, if not elsewhere, where it has been adapted for use in a number of places in addition to Bell Labs, as no doubt its offspring will be. MUSIC V should also be made available at some computer installation in Europe, and perhaps the Computer Arts Society could help in realising this. As much as possible of MUSIC V has been written in FORTRAN to ease the problems of transfer to other computers. There is also much more flexibility for the user than in MUSIC IV. The basic idea of defining a notional instrument (a certain type of sound) is retained, but the properties of each instrument can change in time. There are improvements too in the way the user specifies his score.

OUTFACE — THE ARTIST WITHIN THE TECHNOSTRUCTURE

An optimistic review of the artist's changing role in a technological society. Life as dominated by the need to survive is analysed retrospectively and is seen as hinged on a series of major external adaptions, the most recent being the Manhattan Project. Looking forward, 'information' is seen as dissolving our institutions as man 'gives away' his lower-order functions to the machine. Man's love-hate relationship with this idea is examined, and it is suggested that there is a 'fear of being human' (as distinct from 'humanitarian'). The artist, first to renounce specialisation, is already moving out into the arena of society as a model of creative behaviour — a catalyst.

2 lots of 50 minute sessions with a break for coffee or drinks — the last including what is usually a debate on questions raised.

Stroud Cornock

The above is an outline of Cornock's presentation on the 11th September. Cornock is a lecturer in fine art at Leicester Polytechnic. He is co-author of A Sculptor's Manual (Studio Vista). Involved in collaborative project for the Paris Biennale, 1969.

MORE CULTURE

Mike Smith 30 Fairfield Gardens London N8 distributed this design to announce his contribution to pavilions in the parks at Croydon, 13-20 August 1969. His work was titled Environmental Audio Research and Systems.

PUNCHING COMPUTERS

REAL TIME is tough . . . well designed . . . full of treble-think. If you have got it, look at it again; if not, order it from the editor, Mike Reid 66 Hargrave Park London N19. Enclose 1/6 ($0.30).

WHEN IN ANTWERP . . .

Ring 37 90 89 for a lively anti-establishment artists grouping. Kasper Koenig Co-ordinator Beeldhouwerstraat 46 Antwerpen Belgium.

MAUSOLEUM CALLING THE ARTIST

Judith Ann Rieniets 1987 Blake Street Berkeley California 94704 is writing a thesis on Computerised Art; welcomes information from anyone working in this area.

ARTS COUNCIL BURYING THE NEW ARTS?

Victoria Miller is a girl with a heavy load; 'One of the main aims of my enquiry is to discover everything happening throughout the country'. No, seriously, only in the art world, or more precisely, only everything about 'artistic activity outside the cognisance of the Arts Council and the organs of accepted artistic opinion'.

VM is Feasibility Co-Ordinator to the Arts Council's New Activities Committee who are toying with the suggestion of a series of gatherings/conferences/performances in different parts of the country during the next seven months. Info to: 20 Festing Road London SW15. 01 788 0763.

COMPUTERS IN THE ARTS AT DATAFAIR 69

DATAFAIR is the annual conference of the British Computer Society and is being held this year in Manchester on 25 to 29 August. Members of the Computer Arts Society are leading a discussion session on the afternoon of Wednesday 27 August under the heading WHY USE COMPUTERS IN THE ARTS?

On Thursday afternoon 28 August there is a DATAFAIR session on Applications in Design and Graphics. This includes papers on Computers in the Building Industry (Patrick Purcell), Systems for Composers and Some Applications (Zinovieff & Sutcliffe) and on some graphics systems. Two papers are being given by members of the Computer Arts Society on subjects not directly connected with the arts. On Tuesday 26 August David Firnberg on Master, Parasite or Servant? and on Wednesday 27 August Beverley Rowe on The Analysis of Surveys by Computer.

Among the research presentations is a demonstration by T.H. O'Beirne, of Barr & Stroud Ltd, of real time improvisation of music on a small computer.

THE MORE WE ARE TOGETHER

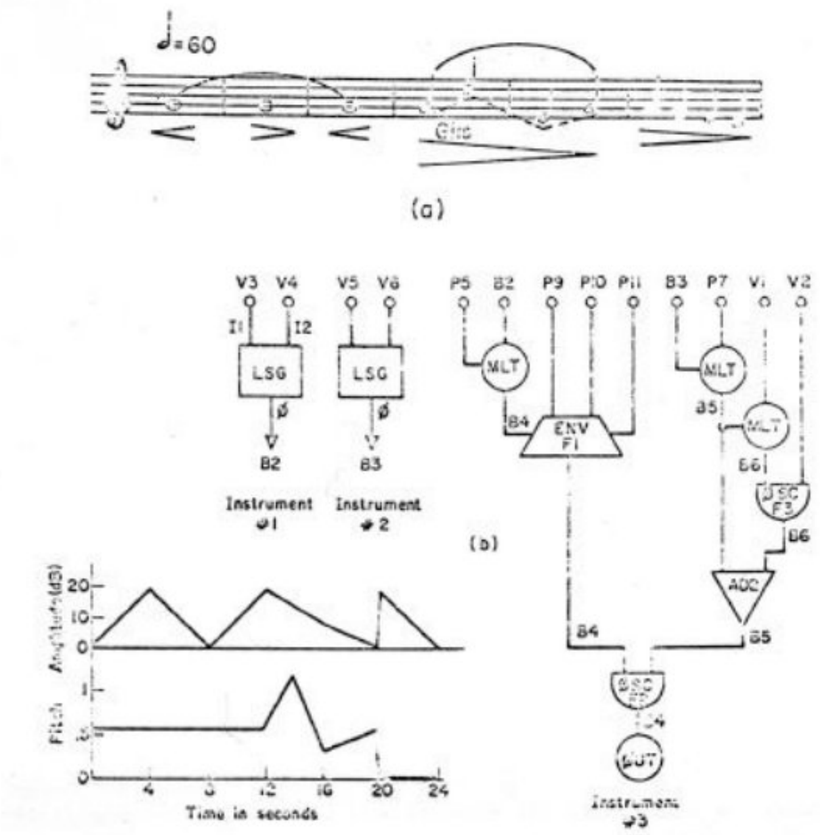
Membership of the society now exceeds 250, and about 60 members are in Europe, America and Japan.

MAN/MACHINE SYMPOSIUM IN CAMBRIDGE

The information regards contact for this event given in PAGE 2 was incorrect. It was received from an established computer organisation in this country. We apologise to everyone concerned, but have to point out that it is impossible for us to check on this kind of information, and readers are reminded that due to accidents, last-minute change of plans, etc, errors may enter this kind of notice. In the present issue we give the names of two contacts for this symposium, one in England, and another in the USA.

ARCHITECTURE ITALIAN STYLE

The next issue of FINALITA DELL'ARCHITETTURA will be devoted to the uses of computers in architecture. This lively journal appears six times a year and annual subscription is L.5,000. For information write to Via Montanari 10, 00195 Rome.



Interconnected instruments for amplitude and glissando control: (a) musical score; (b) block diagrams of instruments; (c) continuous control functions.

Systems as sophisticated as this do not appear suddenly fully formed, but are the result of interactive learning between users and designers — what the composers want, and what is feasible are questions with ever changing answers.

To summarise. All sound is wave forms, and any wave form can be approximated to any degree of accuracy by a sequence of digits — see the first diagram. However a composer does not wish — is not able — to work in terms of these sub-atomic digits. Therefore there is a system that he addresses in a language at the level, if not in the terms, that he understands. The language here is described by way of a series of examples: what matters to a user is what he can say in language, not its formal definition. Again, clear diagrams, like the second one here, are a great help. Finally, a description of what happens behind the language, how the system works, helps the user to make intelligent use of it.

Alan Sutcliffe

INTRODUCTION TO MUSIC AND COMPUTING

B C Sliggers: Componerende Computers. 58 pp. Bull General Electric Amsterdam, 1969. 4th edition.

This attractively produced and well illustrated book, sub-titled Een Creativiteitsprobleem, gives a straightforward introduction to some of the ideas of computers and of music, and shows simply how composing by computer can be carried out. A.S.

COMPUTER — ART — WEEKLY

Sydney Paulden, who has acted on press relations for the Computer Arts Society, is starting a regular feature in Computer Weekly on computers and the arts. This will deal with all aspects of the subject and will appear monthly. The first article will deal with the growth of the Computer Arts Society.

Computer Weekly has taken a lively interest in the society, and a leading article in March noting formation of the group commented 'What must be understood and explored is the way in which the computer can extend the artist, composer or poet. It must not be used to do badly those things that a human can do well'. Sending an artist to review EVENT ONE for the paper also showed an intelligent attitude — not shared by all journalists and computer people. This latest initiative is most welcome and should promote understanding of the importance of the creative application of computers. It will complement Jonathan Benthall's regular feature on Art and Technology in Studio International, and provide PAGE with competition to provide information about what's going on. Sydney Paulden would like to hear your news, at 16 Cambridge Road, Hampton, Middlesex, telephone 01-979 4197 — but don't forget to tell PAGE too. A.S.

THANKS TO THE BCS

The Committee of the Computer Arts Society wish to record their thanks to the British Computer Society for the substantial help that has been given in meeting the loss that was incurred on EVENT ONE. But for this help it would have been necessary to use almost all the money collected in membership fees to cover this loss leaving little to run the society.

EXHIBITION IN HANOVER

Kathe Schroder, in conjunction with the Gottfried-Wilhelm-Leibniz-Gesellschaft, is organising an exhibition of computer graphics in Hanover from 19 October to 12 November 1969. There will also be lectures and discussions. Contributions are invited. The exhibition may later move to Manchester. For more information write Kathe Schroder at 3000 Hanover, Plathnerstrasse 27, or telephone 0511/81 42 90.

ONE MORE AMERICAN NON-COMMUNICATOR

If someone wrote to you, asking you to plug his message, signing off 'I realise the magnitude of my claim, your positive action is at least as immense. Veraciously yours' would you?

Anyhow, Jay Sheaffer, MAN-ENVIRONMENT COMMUNICATIONS 758 Widget Drive San Jose California 95117 USA is eager to send you his stuff.

LEONARDO AND COMPUTER ART

Leonardo is an International Journal of the Contemporary Artist. Vol 2 No 4 (October, 1969) will contain a number of articles of interest to members of the Computer Arts Society. This is the provisional list of contents.

Richard I. Land: Computer Art. Ben F. Laposky: Electronic abstractions. Charles Mattox: The evolution of my audio-kinetic sculptures. C. Viseux: Evolution de ma sculpture. George A. Agoston: Health and safety hazards of art materials. Miroslav Marek: The economics of the plastic arts in Czechoslovakia. Erik Sonntag: Foundation studies today. Apart from book reviews, international science-art news, letters, information on international opportunities for artists, there will be notes and documents by the following: Simona Ertan, Juan Downey, Frederic Hammersley, Milton Howard, P. Katsulidis, Ted Vincent, Leo Malet, Francis Ponge, Henry P. Raleigh.

Leonardo is published by Pergamon Press; its Founder-Editor is Frank J. Malina 17 rue Emile Dunois 92 Boulogne sur Seine France.

LETTER

Many thanks for informing your readers of the existence of the British Society for Electronic Music in your June issue.

Certainly we aim to establish a comprehensive National Electronic Music Studio which will include computer facilities, but could I point out that the money we require for this project is £300,000 — not £3,000,000 as reported.

Perhaps members of the Computer Arts Society will help us to chip away at this total by becoming members of the BSEM? Subscriptions of £1 per year should be sent to: The Secretary, British Society for Electronic Music, 49 Deodar Road, London SW14.

Peter Maxwell Davies, Chairman, BSEM. 31.7.1969.

[What's one zero among friends? Ed.]

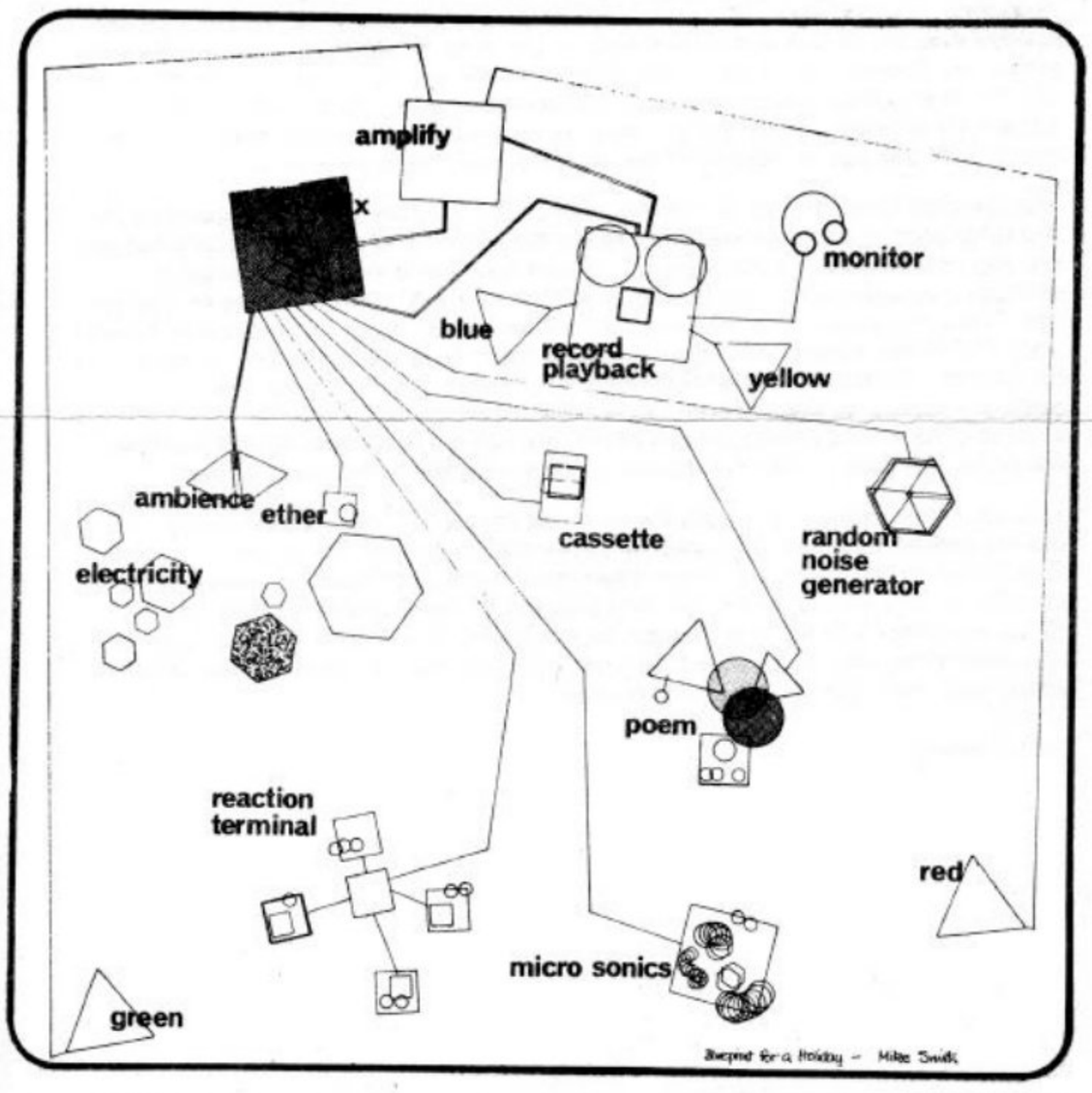
ADVANCED HARDWARE RESEARCH

It is reported that Goodyear Aerospace Corp. in the USA have developed an experimental 'associative memory unit', which has parallel memory search and content addressability. This presumably means the replacement of conventional addressing systems by a more direct and powerful accessing of binary information in main storage. At this point it is impossible to tell if Goodyear's development is the major breakthrough it sounds; enquiries are being made with the company.

Meanwhile in England Dr. Igor Aleksander, of Kent University in Canterbury, has been awarded a grant of £19,000 by the Science Research Council (Computer Weekly, 7 August), to build an adaptive logic computer using more than 1,000 adaptive microcircuits. Each microcircuit is capable of performing a logic function by copying one it has been given as an example.

These developments cast serious doubt on the orthodox view in the computer industry that the major developments in computing over the next few years will be in software.

Jonathan Benthall



noit

NOITMEN OR ARTISTS WITH COMPANIES

Since its origin in 1965 as a tentative probe into the possibilities in artist/industry interation, apg has developed into three divisions. A research division, (the original artist placement group). An industrial liaison division (the apg limited company). An artists division (apg noit).

The way it came about . . .

There was a situation where the financial structure virtually controlled the forms of art, that is into 'painting', 'theatre' and so on. It had done so because collection of cash required it in those forms. The shop, the gallery market, box office and doors, these devices all led to a belief that there was such a thing. Now, the artists' decision to make something interesting happen regardless of whether it could pay off – always a key element – has become part of the facts of life, an essential in the structure of a total, in contrast to a purely monetary economy. In addition to these factors there was another, the coming off of a new system or model of communication principle . . . A new role was not only called for by the circumstances but its engineering principles were also evident.

Industry, in its deployment of motive and responsibility tends to protect for itself a virtual monopoly of materials and facilities for work on any scale. Its organisational premise either repels an artist or it presents him with the most provocative, exciting context one could possibly imagine. It has everything, materials and machinery are only some of it; there is, therefore, more to this possibility of setting up a new kind of position than one would imagine from experience of the art product typical of the system mentioned. Any individual, having given evidence of a capacity to transfer or handle new conceptual material, is a vital bit in the total economy – and there should be no difficulty in persuading those involved in the financial economy of industry to acknowledge it in appropriate ways, so he can do so to proper effect.

The involvement with a difficult art semantics becomes unnecessary. We are dealing with a universal play situation, and the artist role is admissable in engineering terms. To be literate in data processing, while not essential with computers, is of course a required attribute if one is going to get an organisation to cooperate with a scheme. The idea behind apg's proposal to industry has technological implications of all sorts built into it – but it is primarily a simple affair, to put two polarised systems of accounting – the financial and the artists – into interactive contact. A motivational collage.

If the idea has appeared to run ahead of practical actualities let the thought get around – the grass roots of wealth are in disregard for finance.

How apg works . . . may work . . .

A company is approached and urged to take on a relationship with a particular artist or number of artists in such a way as to leave the artist's autonomy of decision alone. The ones put forward are those who indicate some particular relevance or irrelevance for a company. When the management has become persuaded that the idea is a good one (and there must be someone who really understands the function or it won't get anywhere) the names are put up for the company to do whatever selection moves it finds necessary. It is then up to the artist to be long or wide enough to convince, to be aware of the diplomatic requirements that one has to observe if the end in view is to be an actuality.

The research division and the commercial unit of apg are currently operated by the same people and they are there to do the liaison and monitoring of what goes on. apg noit advises. At the moment of writing there is one noit man with a company, appointed by the British Steel Corporation, and beginning in September. The arrangement is a fellowship as previously awarded only to science graduates, £2000 for a year with expenses and a requirement that he puts in his day at St. Martin's Sculpture school during terms. Apart from this there is only the understanding that the artist will look into the potential of steel as his medium, as he said he would like to do this at his interview. The Corporation's facilities are to be available to him on request, and that means technicians as well.

This very well thought out consideration on the part of the core of heavy industry is a marvellous example and basis for proposals elsewhere. As stated in the CAS Page 2 a form of deadline to encourage more active participation has been made possible by the allocation by the Arts Council of the Hayward Gallery (by the Royal Festival Hall) for apg to organise the INNO 70 project. Further situations are under discussion with about 20 firms. Questions as to what art, and what economics, will then come under review.

John Latham

The beginning of Edward Ihnatowicz' large computer controlled sculpture for Philips' EVOLUON at Eindhoven is shown overleaf. Photo by Ian Robertson, who is assisting with the scheme. The piece is about 2 foot long.

The technique of the sculpture includes a sound-direction detector, 2 independent systems for horizontal and vertical deflection, electro-hydraulic servo control, radar range, direction and motion detector. The computer will be used to interpret data arriving continuously from these input channels. The sound of people, and their motions as they circulate in the vicinity of the device shown overleaf, will determine the motion of the rest of the sculpture.

For some years, the sculptor has been working at a workshop at 41 b. Ufton Road, London N1. He has now accepted an invitation from Ron Davies, senior lecturer in Control Engineering, to complete his work in a laboratory at University College. All the electronic and computer work, assembly and testing will take place at U.C. where the Philips P 9201 computer with 16 bit word, 8 k memory has recently been delivered. Construction work will go on at the workshop. The sculpture is due to be installed early next year.

SCULPTURE FOR EINDHOVEN

IN OTHER JOURNALS

Zeitschrift fur Datenverarbeitung. Cologne. 4.6.1969. JH Sexton; 'Graphische Entwurfe mit Computern'.
Elektronische Rechenanlagen. Munich. Heft 3. 1969. Editorial by H. Zemanek; 'Es mehrt sich die Computer-Kunst'.
DATA REPORT 4 (1969). Heft 1. Siemens, Munich. Interview with Georg Nees; 'Vom Bit zur dritten Dimension'.
Same journal. 4 (1969) Heft 2. Werner Weigl; 'Das Automatische Reissbrett'.
Elektronische Datenverarbeitung. Braunschweig. Heft 5, 1969. G.H. Mansell 'Lichtschreiber-und Computertechniken fur den Entwurf von Bauplanen'.
Same journal. No 5. Bibliography of Programme Languages. Part 1.
Same journal. No 6. 1969. E. Klevers 'Automatische Zeichensysteme in der Datenverarbeitung'.

ELSEWHERE

8-12 Sept 1969: International Symposium on Man/Machine Systems, St. John's College, Cambridge, England. W.T. Singleton, Applied Psychology Dept. Un. of Aston, Birmingham. Robert C. McLane, Honeywell Inc. 23 2345 Walnut Str. St. Paul, Minn. 55113., USA.
15-17 Sept 1969. PROLAMAT International Conference on Programming Languages for Numerically Controlled Machine Tools, Rome. Dr. A Resta, S.p.A. Olivetti, Piazza di Spagna 15, Rome 00187, Italy.
15-20 Sept 1969. Nobel Symposium on the Place of Value in a World of Facts, Stockholm. Dr. Sam Nilsson, Nobel Foundation, Sturegatan 14, Stockholm 5, Sweden.
18-20 Sept 1969. International Meeting on the Use of Computers, Brussels. Colloque de Radiologie, 64 Chaussee de Haecht, Brussels 3, Belgium.
22-26 Sept 1969. International Symposium on the Relations between Science and Technology, Prague. World Federation of Scientific Workers, Sec. 40 Goodge Str., London W1.
24-27 Sept 1969. International Congress on the Theory of Machines and Mechanisms, Zakopane, Poland. Prof. J. Oderfield, Al. Niepodleglosci 222, Warsaw 10., Poland.

13-16 Oct 1969: 1969 International Visual Communications Congress, International Amphitheatre, Chicago, Ill. Int. Ass. of Visual Communications Management, Suite 610, 305 S. Andrews Ave. Fort Lauderdale, Fla. 33301, USA.
14-16 Oct 1969: Symposium on Remote Sensing of Environment, Ann Arbor, Mich. Un. of Michigan, Extension Svc. Conf. Dept., 412 Maynard Str. Ann Arbor, Michigan 48103. (Abstracts available from 10 Sept 1969).
26-30 Oct 1969: Joint Conference on Mathematics and Computer Aided Design, Disneyland Hotel, Anaheim, Calif. J.F. Traub, Programme Chairman, Computing Science Research Center, Bell Telephone Laboratories, Inc., Murray Hill, N.J. 07974.
3-8 Nov 1969: World Conference on Cybernetics, Vienna. Intercongress, Stadiongasse 6-8, Vienna, Austria.
17-19 Nov 1969: IEEE Eighth Symposium on Adaptive Processes, The Pennsylvania State Univ. Dr. George J. McMurtry, Dept. of Electrical Engineering, The Pennsylvania State University, University Park,Pa. 16802.
16-18 March 1970: Visual and Motion Simulation Technology Conference, Cape Kennedy, Florida, Am.Inst. of Aeron. and Astr. Mtgs. Mgr . 1290 Sixth Ave. New York, N.Y. 10019.

ARTE Y CIBERNETICA

Seminario de Informacion y Acercamiento

Lunes 1 de septiembre a las 21.30 hs. – Ing. Ricardo Ferraro, con la colaboracion del Sr. Nestor Sameghini y el Lic. Marcelo Larramendy: (a) Antecedentes y posibilidades del dibujo automatico. (b) Grupo Operativo (Evaluacion del aprendizaje de la informacion tecnica).

Lunes 8 de septiembre a las 21.30 hs. – Sr. Jorge Glusberg Arte y Cibernetica. Los antecedentes de Tokyo, Londres y Nueva York. Cybernetic Serendipity, E.A.T., CTG.

Lunes 15 de septiembre a las 21.30 hs. – Arq. Arturo Montagu con la colaboracion de: Ing. Ricardo Valek, Sr. Pablo Jononovich, Sr. Cesar E. Armoza y Srta. Silvia L. Yacub. (a) Posibilidades locales de las tecnicas de computacion y plotters; (b) Grupo operativo acumulativo (Evaluacion del aprendizaje de la informacion tecnica-artistica; sintesis del seminario).

La coordinacion estara a cargo del Ing. Ricardo Ferraro desde el punto de vista de los sistemas de computacion y el Sr. Jorge Glusberg de la critica de arte. El grupo operativo y acumulativo a cargo de la Lic. Martha Berlin.

ceac – centro de estudios de arte y comunicacion fundacion de investigacion interdisciplinaria.
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