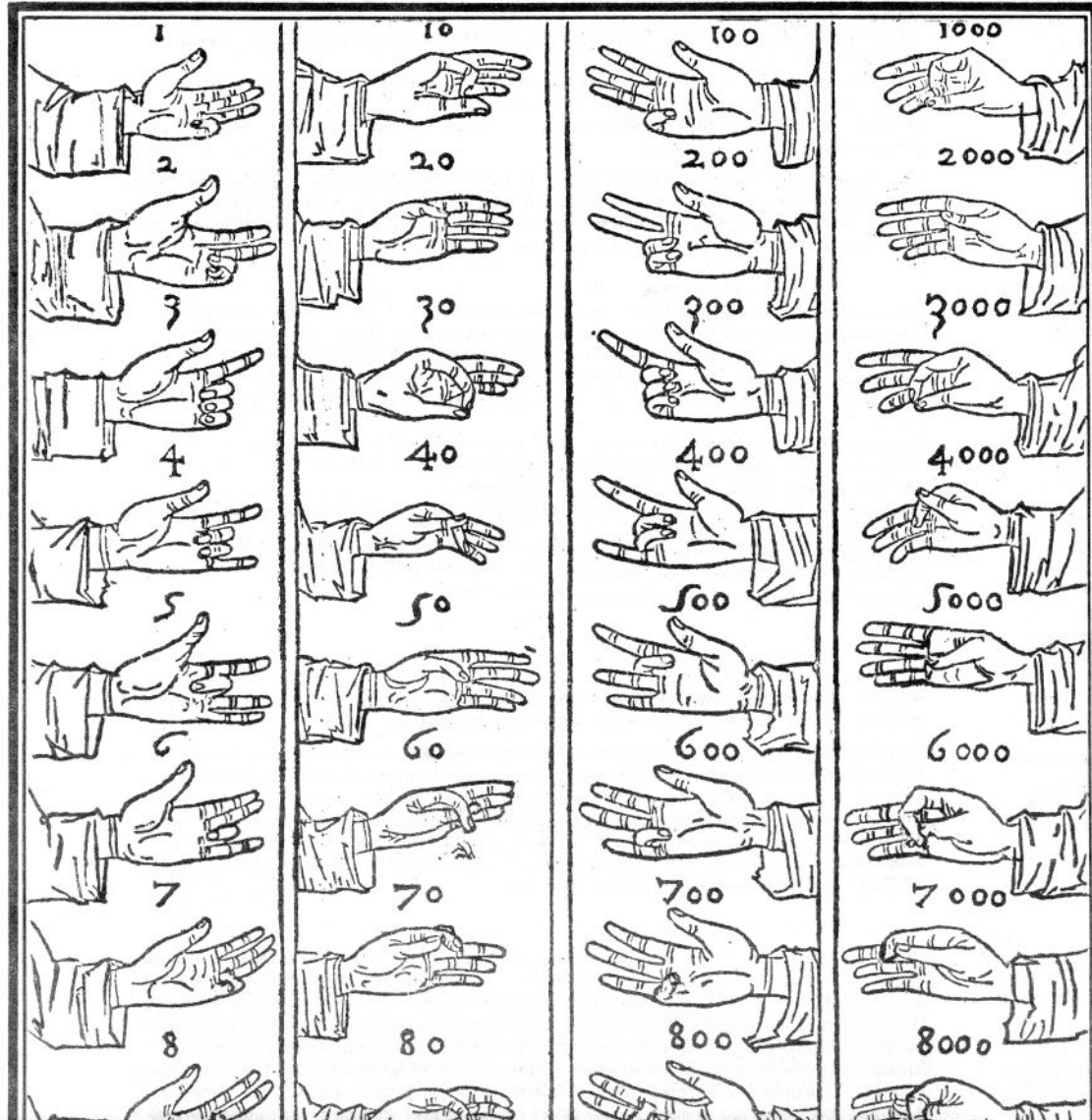


PAGE. As announced elsewhere in this bulletin, PAGE 9 will be edited in Holland by CASH. This number will be sent from Holland around 1 July. Subsequent numbers will again be edited from Britain. News for immediate publication should be sent to Holland by 30 May.

This is a SPECIAL ISSUE of PAGE;  
it is double the usual size.



COMPUTER ARTS SOCIETY, 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 organisations or groups. Re membership, subscription, circulation and information; write to Alan Sutcliffe.

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

SOCIETY MEETINGS

27 May 1970, 7.30 pm. An Evening of Computer Films. Arranged by Malcolm Le Grice. Institute for Research in Art and Technology. 1 Robert Street, London, NW1.

24 June 1970, 7.30 pm. Computers and Sculpture. A talk by Gustav Metzger. British Computer Society, 29 Portland Place, London, W1.

The exhibition of Computer Art arranged by the Computer Arts Society at the Midland Institute Birmingham continues until 20 May 1970.

THIRD PROGRAMMING COURSE

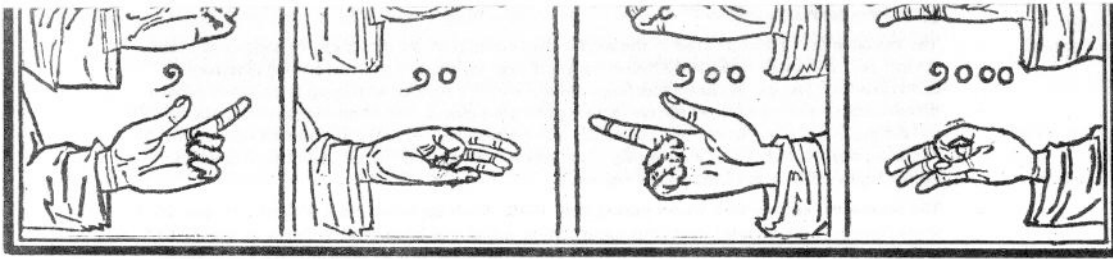
Music and Text Processing will be featured as subjects of this week-end course for members by members of the Computer Arts Society. It will take place simultaneously (well, more or less) in Manchester and London on 20-21 June 1970. Details from John Lansdown.

TRAVELLING EXHIBITION

The Computer Arts Society has received a grant of £250 from the Arts Council for its travelling exhibition which had its first showing at Computer Graphics 70 last month. The Society is appealing to artists and collectors to donate works. If you are sending works, please give details of design and manufacture. Label each work, and make sure that there is an indication regards the right way to hang the work, ie mark it TOP. We also require slides (35mm) for showing in connection with the exhibition. These slides can show any kind of computer art, sculpture, fabrics, music, poetry, for instance. When sending computer graphics from abroad, please specify these works as COMPUTER OUTPUT for purpose of customs declarations. This will save us a lot of bother (trouble). Send to John Lansdown. We plan to have several exhibitions on tour, so duplicates or variants of graphics etc, would be welcome.

COMPUTER ART AT COMPUTER GRAPHICS 70

According to the lady in charge of the Press Room at CG 70, there was a greater demand for off-prints of papers by members of the Computer Arts Society than for any others. An article in Computer Weekly, London, 23 April 1970, page 19, speaks of a packed lecture theatre for a session on Computer Art. As the Session Organizer, Alan Sutcliffe, remarked in opening the proceedings, this was perhaps the largest contribution ever made by artists to a Symposium of



BACKGROUND TO COMPUTER ART. No. 2. This illustration is a real-size Xerox print from Luca Pacioli's *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*, Venice, 1494.

This work is regarded as the most famous book on accounting ever printed. In its time, it was the most widely used book on mathematics in Italy. Pacioli is a particularly apt figure in relation to our field of computer and the arts. As a young man he studied with Piero della Francesca. Later, he worked with Leon Battista Alberti. He was friendly with Leonardo da Vinci. A member of the Franciscan order, he taught at the universities of Perugia, Rome, Milan, Florence, Bologna, Pisa, among others. Federigo, Duke of Urbino was his patron and friend. (Xerox print by courtesy of the trustees of the British Museum.)

#### STATEMENT FOR PAGE

I stop exhibiting for the present (last exhibition, in form of a retrospective, with H de Vries at Swart Gallery, Amsterdam).

Reason: it looks as if the capitalist art market is trying to get hold of computer productions. This would mean a distraction from visual research.

Exhibiting in universities etc., is different as it helps to communicate; communication is essential to research.

The actual production in artistic computer graphics is repeating itself to a great extent. Really good ideas haven't shown up for quite a while.

Frieder Nake. London, 16, April, 1970.

#### COMPUTER ART HUMS IN HOLLAND

Readers of PAGE will be aware that there has been an upsurge of activity in Holland. There was the foundation of the WERKGROEP VOOR COMPUTERS EN WOORD, BEELD EN GELUID (Secretary: Johannes van der Wolk, Otterstraat 51, Utrecht) and the publication of their newsletter in January 1970. Computer-designed postage stamps went on sale at post offices in April, designed by RDE Oxenaar, working with the numerical control group at the Technical University of Eindhoven. Now, on 2 May, the Dutch launched CASH, their equivalent of the Computer Arts Society. The meeting at the Mathematisch Centrum, Amsterdam, was attended by 35 members. Among their plans — a programming course for artists to be held in the Autumn.

CASH will have close links with the Society; we hope that this could become a model for other national groups. CASH will pay a proportion of its income from membership to the Society to cover the cost of producing and distributing PAGE. The Dutch organisation will produce one copy of PAGE each year.

From 30 April 1970, the membership fee in Holland will be f 10.00, students, half price. Address all inquiries to: Leo Geurts and Lambert Meertens, Mathematisch Centrum, 2e Boerhaavestraat 49, Amsterdam, Holland. PAGE 9 is to be edited from the above address; please send all copy for this issue by 30 May 1970.

In the background, Edward Ihnatowicz, a Polish sculptor, is test-running his vast computer-controlled sculpture in the basement of a London institution. Later this year it is due to be unveiled by . . . you know who . . . at Philip's showcase at Eindhoven. In the meantime, the Librarian of the world famous Stedelijk Museum writes to PAGE for a complete run of the bulletin; 'Xeroxed copies if necessary . . .' Watch this space!

this kind; ten papers were presented. We shall return to CG 70 in a future issue. In the meantime here is a quick look at some of the foreign members of the Society who attended the Symposium as speakers or delegates. Ernest Garcia-Camarero, Spain; Frieder Nake, Germany; Auro Lecci, Italy; Manfred Mohr, France; Estarose Wolfson, USA; Arturo F Montagu, Argentine; Jan van der Wolk, Holland; Rein-Arend Leeuw, Holland; Lloyd Sumner, USA.

#### HOW MYTHS ARE FORMED

Under the heading 'technological grope-in' appeared an (unsigned) article in *New Society*. Here are some extracts. Man's struggle to come to grips with his newest technological toys takes many odd forms but scarcely any odder than the international symposium on computer art (Graphics 70) at Brunel University last week. Cultures were gnashing their teeth at each other whenever they had the chance and the spectacle was, quite literally, that of intellectual groping in the darkness of lecture theatres while strange new forms played from a slide projector. A small offshoot of the British Computer Society, the Computer Arts Society, ran the symposium at Brunel. *New Society*, 23 April 1970, page 676. The same issue has article 'Computer Psychiatry' by Peter Watson. (A technological lie-in? Ed.)

#### POLLINATION AND POLLUTION

Computer art is alive and well, not living in Paris but in London. Last week we took Brunel to task for stressing gadgetry too much at the expense of art and imagination. A look at the real thing, CG 70 at work, shows a healthy stress on art.

Alan Sutcliffe has organised a session which includes a paper called 'the painting of ideas.' Another considers control as the creative process where the artist is amplified or superseded by the computer. Speakers include a sculptor, an architect, and an NPL man.

Nonetheless, there's a tendency to limit art to a few well-specified media, and keep it in its own separate corner.

Computer 70, which takes place October 5-9 in London, may be different. The Computer Arts Society has been asked to design the central feature for the exhibition. They are working on a management game, using a random-access slide projector, to show how short-term management decisions can affect the long-term ecology. (Pollution is a very 'in' thing this year; next year will be 'ethology.') Bubbles on the brain continue — they'll house the whole thing in a 1,000-square-foot air dome. (What happens to left-over bubble buildings after their shows are over?)

These are steps in the right direction. It would be even more impressive, perhaps, if the people organising things like Event One, Cybernetic Serendipity, or Computer 70 could tap the kinds of imaginative thinking that goes on at the State-of-the-Art lectures. The new giant computers are going to require superb programmers and users. More cross-fertilisation between the men who design imaginatively and the ones who use computers in imaginative ways might give birth to better systems as well as better shows.

NSF

The above editorial appeared in DATAWEEK, (Editor: Nancy Foy) 15 April 1970.

#### QUOTE OF THE MONTH

'Subversive elements plan to make American children live in an environment that is good for them.' A delegate from Mississippi at the Continental Congress of the Daughters of the American Revolution, held in Washington on EARTH DAY, 22 April. Earth Day brought together 4,000 diverse ecology groups in the US. *Time*, 4 May, 1970, page 12.

Stockholm has been chosen as the venue for the UN Environment Congress. It will take place for two weeks in June 1972.

#### CENTRE FOR RESEARCH IN ART AND TECHNOLOGY

The Centre has recently received a computer terminal, installed by Time Sharing Limited at their 'arts and education' rates. At present students and staff are undergoing familiarisation. The computer will be used to further the research and educational aims of the Centre. During May, the terminal plus a plotter will be 'on-line' in a section mounted by the Centre, included in the Manufactured Art exhibition at the Camden Art Centre.

Address of the Centre: Marcello Salvadori, 31, Willoughby Road, London, NW3. 01-435 4166.

The Camden Arts Centre is in Arkwright Road, London, NW3 (on the corner of Finchley Road). Tuesday-Saturday 11 am-8 pm. Sunday 2-7 pm. Monday-closed. Show open till 31 May: admission free.

#### MECHANICAL BALLET

Peter Logan's Mechanical Ballet is an entertainment by 7 mechanical structures to an electronic score by Brian Hodgson. Each structure has its own particular performance pattern or dance. Each piece in turn quietly performs a dance. As the programme continues, the structures interrelate and, as a climax, the whole space is filled with the interweaving moving forms. The audience is not seated, but free to move or rest at will. 6 May till 16 May 1970. Royal College of Art, London SW1. 7-11 pm Monday to Saturday. Also 2.30 to 5 pm Thursday, Saturday, Sunday.

London Contemporary Dance Theatre in association with The Pierrot Players present a London Season, May 27 till 14 June 1970. At The Place, 17 Dukes Road, London WC1. 01-387 0161/2/3.

Museum of Modern Art, Pembroke Street, Oxford. Phone 44553. 12-31 May 1970: Kenneth and Mary Martin. Constructions. 13-28 June 1970: CONCRETE light YEAR-mixed-media Jan Kaliciak. And Josef Albers - 25 years of graphic art.

#### PAVILLIONS IN THE PARKS

Not quite. Three large tents or other structures faintly reminiscent of war-time London straddle along Euston Road, near the Station. They enfold exhibitions and events by a number of artists. Changing throughout the month of May. Further details from: Festival Box Office, Medway Court, Judd Street, WC1. 01-387 0839. Heaps of other goings-on in theatres, cinemas, streets, churches. AND there is the REAL CAMDEN ARTS FESTIVAL FOREVER. For details see TIME OUT.

#### GOOD VIBRATIONS AT INSTITUTE

Hans Jenny is a Swiss general practitioner and natural scientist. For 12 years he has been observing and documenting phenomena of periodicity, and in particular the effects of applying vibrations to different substances; phenomena of periodicity and vibration are widespread in nature. Each substance used in Dr Jenny's research - mercury, sand, kaolin paste, etc - responds very specifically when caused to vibrate at a given frequency and amplitude. This exhibition at the ICA will be accompanied by a series of lectures.

Jonathan Benthall, who is correspondent for Studio International on technology and art, is acting as consultant to the ICA for the exhibition.

Bibliography. Hans Jenny: Cymatics. Basel. Basiilus Presse, 1967. (Parallel English and German text.) Hans Jenny: Visualizing Sound. London. Science Journal, June, 1968. Hans Jenny: Cymatics: the sculpture of vibrations. Paris. Unesco Courier, December, 1969. Jonathan Benthall: Hans Jenny and Cymatics. London. Studio International, November 1969.

The exhibition will consist of: photographic enlargements; a continuously shown colour film lasting about one hour; two machines, one of which may be operated by manual controls, and the other will enable visitors to make their own voices visible in the form of sound figures.

Dates: 11 June-22 July, 1970.

**IMPULSE. Computer Art: Graphics, Sculpture, Film, Music.** This travelling exhibition will be installed at the following places.

8 May-7 June 1970: Kunstverein, Munich, Galeriestrasse, 4.

12 June-12 July 1970: Kunsthaus Hamburg, Hamburg Ferdinandstor 1.

28 July-middle of September 1970: Gottlieb Duttweiler Institut für Wirtschaftliche und soziale Studien. Rüschiikon bei Zürich.

11 October-8 November 1970: Pforzheim, Kunst und Kunstgewerbevereine V Reuchlinhaus, Jahnstrasse 42.

Plans for the show are as follows: December 1970, Vienna. January 1971, Roma. February, Genua. March, Milano. April, Liverpool (sans le Beatles). May, Cologne. June, Louisiana, Denmark. July-August, Oslo. October, Napoli. November, Palermo. December, Triest. January (we are now in 1972) Turin, Italy.

The organizer, the indefatigable Käthe (Computer-Kunst) Schröder, writes: 'Irgendwo dazwischen muss dann noch Brüssel kommen. Für Berlin will ich eine Sonderveranstaltung machen. Der Termin liegt noch nicht fest, er wird aber erst im nächsten Jahr: 1971 sein.' KS, Plathnerstrasse 27. Hanover, Germany. Phone: (05 11) 81 42 90.

Zbigniew Blazeje: ENVIRONMENT. Illuminated Audio-Kinetic Works. 1 May-12 June 1970. Art Research Center, 1609 Washington, Kansas City, Mo. 64108. Phone: AC816 221-6066. Blazeje is a young Toronto artist working with light, ultra-sonic sound, and has had a wide experience. Quote: . . . art and architecture will fuse and a person's daily life will be aesthetic experience. (Didn't the Greeks say sometin like that a couple a thousands years ago? Ed.)

8-13 June 1970. Stockholm Conference. The Composer in the Age of Technology.

19-26 June 1970. Basel Weltmusikfest der Internationalen Gesellschaft für Neue Musik.

25 June-12 July 1970. Spoleto Festival of Two Worlds.

23 August-4 September. Internationale Ferien-Kurse für Neue Musik. Internationale Musikinstitut. Der Stadt Darmstadt.

19-27 September 1970. Warsaw XIV International Festival for Contemporary Music.

25 September-31 October 1970. Barcelona VIII International Music Festival.

October 1970. Donaueschingen Contemporary Music Days.

#### SOUTH AMERICA

Medellín's Second Bienal de Arte Coltejer takes place 1 May-15 June 1970. For details write to: II Bienal Coltejer, Apartado Aereo 50396. Medellín, Colombia. SA.

Jorge Glusberg, Director of the centro de arte y comunicación, Buenos Aires, and his wife Martha Berlin, Head of the Department of Psychology, University of Buenos Aires, visited London in February, as part of an extensive journey which included Africa. They met many members of the Society, and attended the evening of computer art at the Slade University College. We have just received the announcement of the future plans of the centre; these would fill almost an entire issue of this bulletin. In a future issue we will have an article on the work of the centre. Address: Epidio Gonzales, 4070, Buenos Aires, SA.

#### ELECTRONIC MUSIC COURSE

The British Society for Electronic Music is laying the foundations for a National Electronic Music Studio by offering its first course in Electronic Music techniques and composition at the recently completed studio of Electronic Music Studio Limited in Putney. The course, which is financed by The Arts Council of Great Britain, is open to twelve composers and will explain the basic principles and ideas of electronic music as well as the MUSYS system designed in the Putney studio for general application in computerised electronic studios. It would be pointless to offer such a course without the possibility of further participation in the activities of the studio, and the composers chosen will be encouraged to make further use of the facilities in addition to realising projects as part of the course.

Hans Jenny: **VIBRATING WORLD**. The following lectures will take place at the ICA, Nash House, The Mall, London, SW1. 01-930 0493. Chairman at the lectures will be Jonathan Benthall. Lectures will commence at 8 pm. Tickets 4/- for members: 6/- for non-members.

15 June: Dr Hans Jenny. **Vibrating World**.

22 June: Brian Goodwin. **Rhythmic Organization of Cells and Embryos**.

29 June: Professor CH Waddington FRS. **Developmental Patterns in Biology**.

6 July: Dr William Goody FRCP. **Rhythms and the Nervous System**.

#### EXHIBITION IN SPAIN

The Centro de Calculo de la Universidad de Madrid Av. Complutense, Madrid-3 Spain; phone 449 36.06. announces an international exhibition of computer art for June 1970.

Last date for sending works is end of May. You can send graphics, tapes, photos. Do not send sculptures. Material will be returned at the expense of the organisers. In connection with exhibition there will be a Symposium lasting 2-3 days. The Centre is very active in the field of art. Their bulletin is sent free. It is called *Boletín del Centro de Calculo de la Universidad de Madrid*. It includes news on the seminars in painting, architecture and linguistics. These seminars were started in November 1968. Each seminar meets fortnightly. Each seminar consists of 12 people. Some of the artists attending are not otherwise working with the Centre. There are two kinds of scholarships available for artists. The main work of the Centre, which has a staff of 12, is to serve the needs of all the faculties. The Director is F Briones. The Assistant Director, Ernest Garcia-Camarero, a member of the Society, attended the Brunel Symposium in April.

#### ITALY

Remember the cops; the rioting students; the protesting artists in 1968? Well, the Venice Biennale will open its doors for the 35th time around 25 June this year. Among a multitude of other exhibits the Biennale will feature an international experimental exhibition of art and technology which will include a section on computer-generated art. The exhibition is being organized by Umbro Apollonio, who is the director of this year's Biennale, and Dietrich Mahlow, who is the Director of the Institute of Modern Art of Nürnberg.

On the 25, 26 and 27 of June in connection with the Venice Biennale, a three-day symposium will take place at Palazzo Papadopoli in Venice, during which Pietro Grossi will present his recently developed DCMP — Digital Computer Musical Program. Practical demonstrations will take place at the IBM Lab in Venice, and a direct link with some rooms at the Biennale of Art will enable visitors to listen to the music that is being produced by the computer.

"Prima Biennale Internazionale di metodologia globale della progettazione". This is an international conference on problems related to the development of a comprehensive planning and design methodology, which will take place at Rimini and San Marino from the 20th to 30th of September. IBM and Univac are providing computer terminals and CRTs to be used in connection with special didactical sessions. The theme of the symposium is the following: "The forms of the environment of man".

It will be a thoroughly interdisciplinary event, with papers presented, among others, by Hans Jenny, Fernando Belaunde-Tenny, Herbert Ohl, Konrad Wachsmann, Kenzo Tange, Bruno Munari, Abraham Moles, Herbert W. Kapitzki, Leonardo Mosso, Pietro Grossi, Theo Crosby. There will be an exhibition of computer graphics and computer music will be played at special sessions.

Centro Di, Piazza de' Mozzi 1 R, Firenze, 50125 Firenze, Italy are trying to collect all information available on art and technology activities around the world and would like to receive news of books that are being published, and catalogues, with prices.

These news were received from Auro Lecci, via Pagnini 31, 50134, Firenze, Italy.

part of the course.

The studio is the first of its kind in the world: two computers are employed to control all audio devices and to provide rapid and efficient ways of storing, altering and performing electronic compositions. The use of computers largely eliminates the tedious setting-up required in conventional studios when several people are realising different pieces, and of course permits unprecedented precision in performance. The studio also possesses a full range of standard equipment including tape recorders and monitoring amplifiers for the production of two or four channel master tapes and copies of the pieces realised.

The course will occupy four weeks during June 1970. Each applicant must present a project for a short (two or three minute) electronic composition which will be realised in terms of the MUSYS programming language. It is hoped that the form of the piece will be determined by a problem of realisation whose solution will be of general interest and value to the other students.

Successful applicants may apply through the BSEM for a bursary from the Arts Council of Great Britain. The course will require:—

1. Two full days per week for a six hour seminar
2. Six hours for individual tuition and the realisation of the project piece at the studio.

The course will be arranged and presented by Harrison Birtwistle, Tristram Cary, Peter Grogono and Peter Zinovieff on the studio premises. Applicants should write to the address below for application forms. The complete forms should reach the organisers by 1 June 1970. British Society for Electronic Music, 49 Deodar Road, London, SW15.

#### CALL FOR PAPERS

IFIP CONGRESS 71. The Fifth Congress of the International Federation for Information Processing will be held in the Sports Palace, Tivoli, Ljubljana, Yugoslavia, 23-28 August, 1971. It is planned to have a display of computer graphics, and performances of computer music during the Congress week. Papers are invited in seven categories. Under Sciences and Humanities there is an entry: Arts. Papers should be strongly related to the design or use of computers.

Authors should forward seven copies of a 100-word abstract in English, along with four draft copies of the full text of the paper. The text should not exceed 3,000 words, and should be typewritten, double-spaced, on one side of the sheet. The first page must carry the following information. Title of the paper; Name, country, affiliation and mailing address of the author(s); Area of the paper according to the classification of the IFIP Congress topics (only one should be given); Language of oral presentation (English, French, Russian, Spanish); A statement of originality, e.g. a clear indication of the newness of the results or of the approach, and an assurance that the paper or no version close to it is being offered elsewhere for publication. A full set of illustrations, properly keyed to the text, must be included with every copy, but the figures need not be in a finished form, suitable for reproduction.

Submissions should be directed not later than 30 November 1970, to one of the following addresses: Professor CC Gotlieb, Vice-Chairman, IFIP Congress 71 Program Committee, Institute of Computer Science, University of Toronto, Toronto, Canada. Professor H.Zemanek, Vice-Chairman, IFIP Congress 71 Program Committee, IBM Laboratory, Vienna, Parkring 10, A-1010 Wien 1 Austria. Authors will be notified of acceptance or rejection, and of recommended modifications by mid-March 1971. The final copy of accepted papers, ready for publication, will be due by 1 May 1971.

Computer Weekly is arranging a package tour to Ljubljana. The inclusive cost inclusive flight, hotel, breakfast, is around £70. Some members of the Society have already booked, and if you are interested, you are advised to contact the organisers at once. The Editor, Computer Weekly, Dorset House, Stamford Street, London, SE1. The envelope should be clearly marked: IFIP TOUR.