DUNE TUNE

Leaving no footprints on water she sleeps with shadows
prescience passed future
Starlike in youth dunelike in age my freedom is hers
Spacespectre walking on planets undreamed of
her eyes sing fire melodies

Essence of dreams
Walking on planets undreamed of she awaits the return of waves
She remembers no one
Essence of dreams parted in some long forgotten seed
her eyes sing fire melodies

Born of a universal stalemate
joining joy with repose a time for inconsequence
my freedom is hers
Walking on planets undreamed of leaving no footprints on
water
her eyes sing fire melodies.

Clutching at dreams I whisper her name
clutching at dreams her name
dreams clutching her name her I dream
dreams I dream clutching at clutching her
clutching at her dreams

POET AND PROGRAM

The attached poem *Dunetune*, which is a response and tribute to the novels *Dune* and *Dune Messiah* by Frank Herbert, was written by Gus Garside and myself using the BARD 1D program on the University of Surrey ICL 1905F computer. Gus wrote the element deck, which by my guess constitutes about 80% of the total authorship. I wrote the program, incorporating some Gus' ideas. (On many other occasions, I have also written the element deck).

Both Gus and myself are primarily poets rather than either programmers or art theorists. By that I mean that we write, (often) perform and (less often) publish poems, of which at least 95% are not in any sense 'computer poems'.

As far as we are concerned, the purpose of using a computer is to explore certain possibilities of producing interesting and pleasing poems. In other words, we are more interested in the results than the means. They are experimental, but only in the sense that all art is experimental.

In principle, any of our results could have been obtained without using a computer. Some people take the purist view that computers should not be used if the same results could be achieved without them. To my mind this is naive and damaging. To say that something *could* be done does not mean that it *would*. None of our program-arranged poems would have emerged in the same form (or, probably, at all) if we had not had access to a computer.

All art is shaped in part by the response of the artist to the character of his tools. To say otherwise is in my view to diminish and dehumanise the artist. A numerically-controlled milling machine will produce the same shape whether the material is marble, wood, plastic, or ice-cream: this is not true of a human sculptor.

The program is simple, though quite subtle, and requires very little store or processor time. It is a tool rather than a robot poet: it seems to me that ambitious programs tend to produce bad poems. From the point of view of the theory of programmed poetry, it is of interest because it employs an open form on which nevertheless an overall shape and design has been imposed.

A closed form is one in which the elements (variable words or phrases) are slotted into predetermined holes in a fixed framework, whereas in an open form there is no fixed part and the poem is composed by assembling the elements together in a chain of indeterminate length.

As Chomsky has pointed out, it is open forms which characterise natural languages, and despite their greater difficulty I think that the future development of computer poetry lies mainly in this field. Closed forms are very easy to devise and program, but seem to bear very little repetition before their artificial and limited character shows through. The reason for this can be found in information theory: it takes many closed forms to give the same number of possible permutations that can be obtained from one open form.

Essentially, the program is an element selector and arranger, to which a limited critical faculty has been added.

The selector is based on a quasi-random number generator producing a fraction f lying with approximately uniform probability at steps of 1/1023 in the range 0 to 1. If a choice between N possible courses is required at some point in the program, then the integral part of 1.5 + (N – 1) f yields the required decision.

The selection of elements is governed by a number of constraints.

In the first place, a sequence of tags indicating the presence and nature of various properties is read in with each element at the start of the run, and N would thus represent only those elements having the desired properties. The actual element is then found by consulting index tables. These tables do not contain any conventional sytactic or semantic information.

So far, the very unequal division of labour has been to restrict the program to selection and arrangement of elements on very simple principles (layout, repetition rate, etc.) and leave high level activities to the poet. He understands the meaning and associations of the material; the computer + program complex does not – it is little more than a slightly intelligent typewriter. It is just as demanding on the poet to use the program as to compose traditionally, although not in quite the same way.

Further constraints are applied by testing the selected element against various conditions, such as whether it will fit reasonably into the existing layout. A completely general condition has also been provided, to be specified by each poet for his particular purposes. In the case of *Dunetune* it was left as 'none'.

Finally there is the critical faculty, which takes the form of monitoring repetitions and penalising those that threaten to become irritating or boring. This is done by holding an individual probability for each element, initially 1.0, but decaying exponentially with each repetition at a predetermined rate. The individual rate of decline (i.e. repetition probability factor) is read in with each element, and is one of the means by which the poet can guide the program.

It can only make such repetitions unlikely; it has not been permitted a final veto. This distinction is important, and is in keeping with the philosophy of using open rather than closed forms. If you completely eliminate certain possibilities, then you are limiting your chances of getting out more than you were aware of putting in, although I think it is legitimate and useful to manipulate the odds so that the search is guided in directions that you expect to be fruitful.

Poems produced using the BARD family of programs (such as *Pavan, Charnel Carnation, Dunetune*) have been performed on upwards of twenty occasions at poetry readings, arts festivals, etc. Sometimes the audience has been told that they have been listening to computer poems, sometimes not.

I do not have strong views concerning whether or not to edit or rewrite the output produced by the machine. Each case should be considered on its merits, although, other things being equal, it is rather nice to be able to accept the output without modification (as was in fact the case with *Dunetune*).

Although much of our output (like *Dunetune*) has been concerned with themes belonging to science fiction, we would caution against making any generalisation from this, or expecting it to hold for future work.

Finally, I should like to thank the University of Surrey Computing Unit for authorising an annual budget for computer poetry since 1969.

Robin Shirley

ART AND THE COMPUTER

I have read with considerable interest the Nake–Smith–Whitney discussion in PAGE 21, 22 and 24, finding myself largely in agreement with Gary Smith.

I take John Whitney's point about Smith's Phenomena Systems graphics. A relatively simple mechanical device, even if not pen and compasses, could produce the bank-note patterns which came with PAGE 22. And yet I find something of aesthetic value in these patterns. For me they 'make (some) intangible expression concrete'. Now, I don't know how Gary Smith obtained these pictures. I assume they are serendipity results selected from a large volume of output with randomly generated variations. Certainly this is the method which produced my Three Sea Pictures. It is worth considering whether the result of such a process can be validly termed art.

I can see the creative process in terms of Flow Chart 1, which seems to apply well to painting, composing music, and with some modification to making a film. The production of Three Sea Pictures however was in accordance with Flow Chart 2. The main differences between these two processes appear to lie in the following:

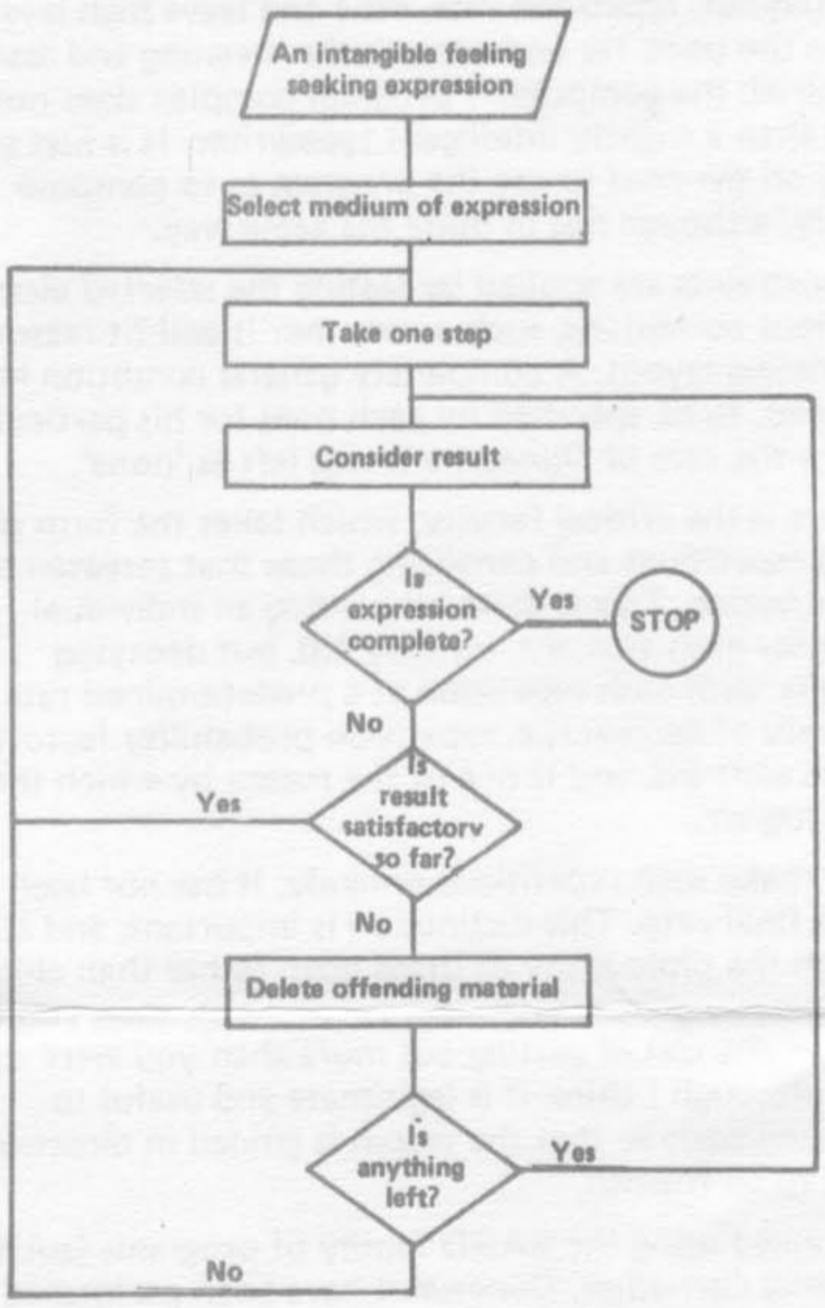
(a) The initial urge. In the first process the urge is to express a particular feeling, in the second to produce something aesthetically satisfying. Is the latter a valid starting point for creative activity?

(b) The feedback points. In the first, feedback occurs after each step in the activity, in the second only after the final results have been considered.

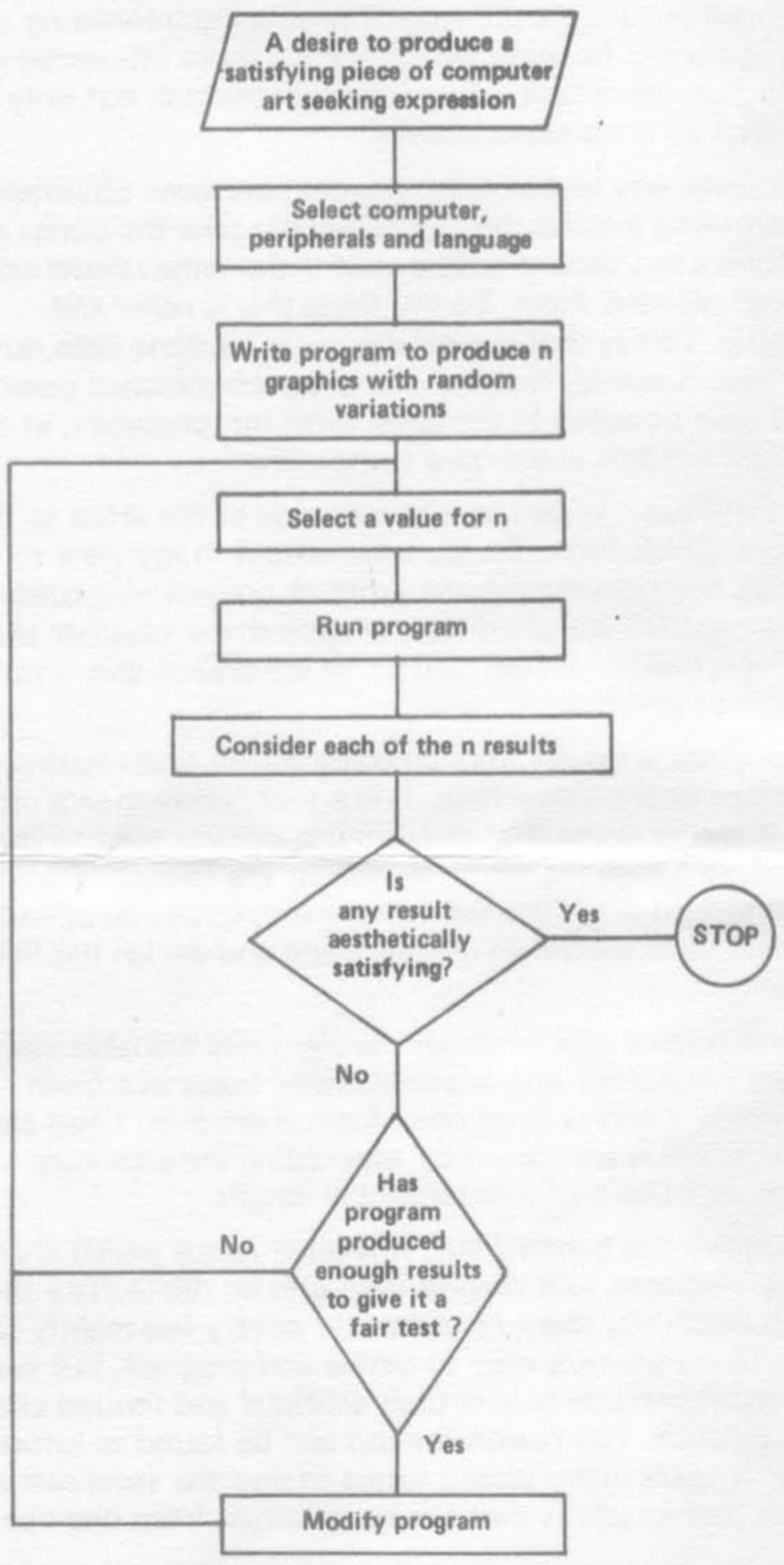
It is clear from (b) that in the case of Three Sea Pictures, and presumably much other 'computer art' as well, the control of the 'artist' is less immediate than it is in the case of painting or composition. This remoteness seems to me a weakness in the creative use of the computer in this serendipity kind of way. I foresee therefore that one possible line of development in the use of the computer in art will be the production of programs incorporating the aesthetic decisions of the artist/programmer. These programs will enable the computer to answer questions such as 'Is result satisfactory so far?' as it prepares the data for the graph plotter or other peripheral. The task of programming aesthetic decisions could open up the whole study of aesthetics.

I have related this discussion mainly to graphical art, but most of what I have said would also be applicable to the use of the computer in composing music, writing poetry, or indeed any other recognised creative activity. But it could be that the real future of computer arts lies in the evolution of quite new art forms, such as Senster, though even here I can see that the programming of aesthetic decisions is going to be one of the keys to successful development.

John G. Seal



FLOW CHART 1

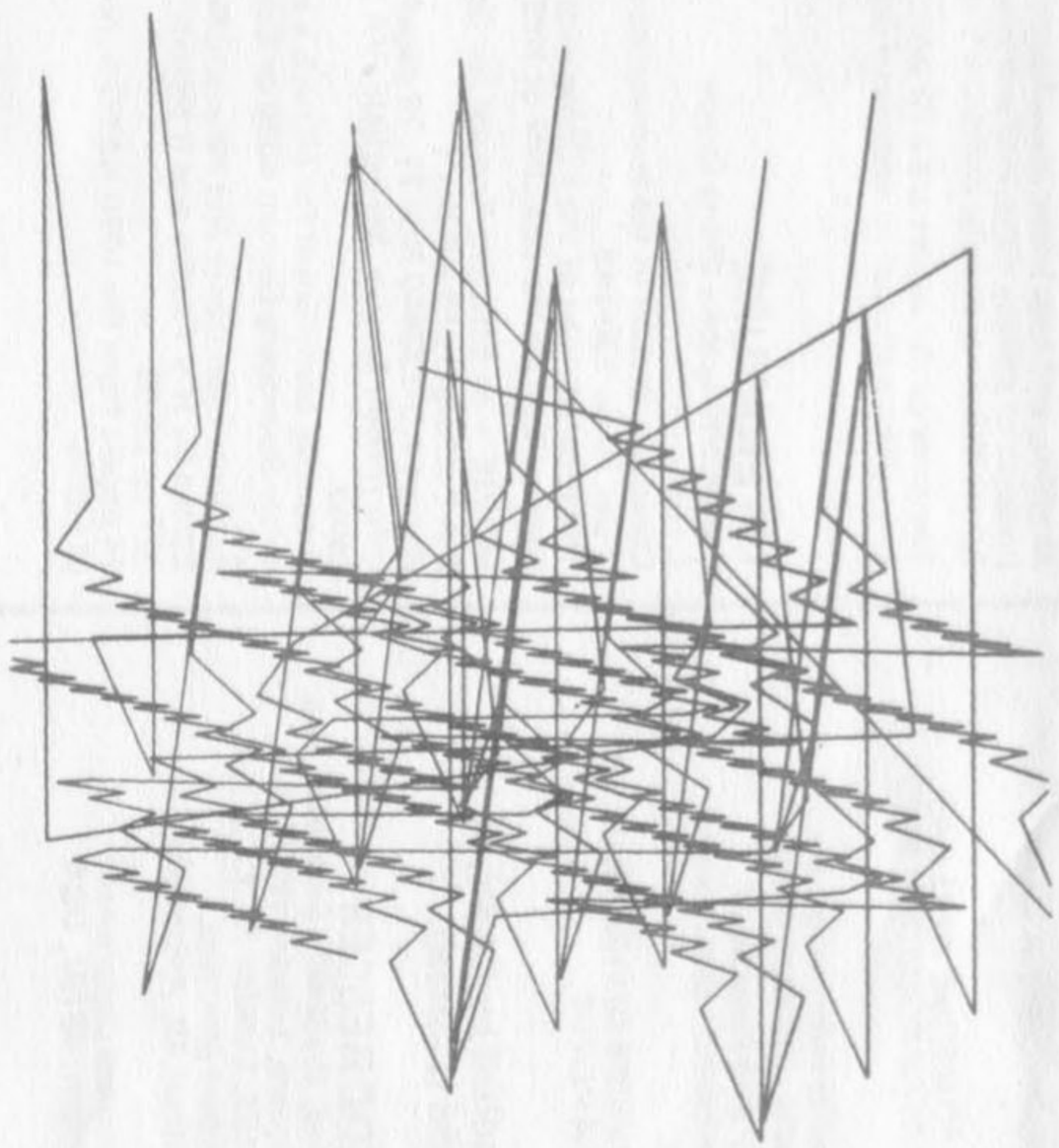


FLOW CHART 2

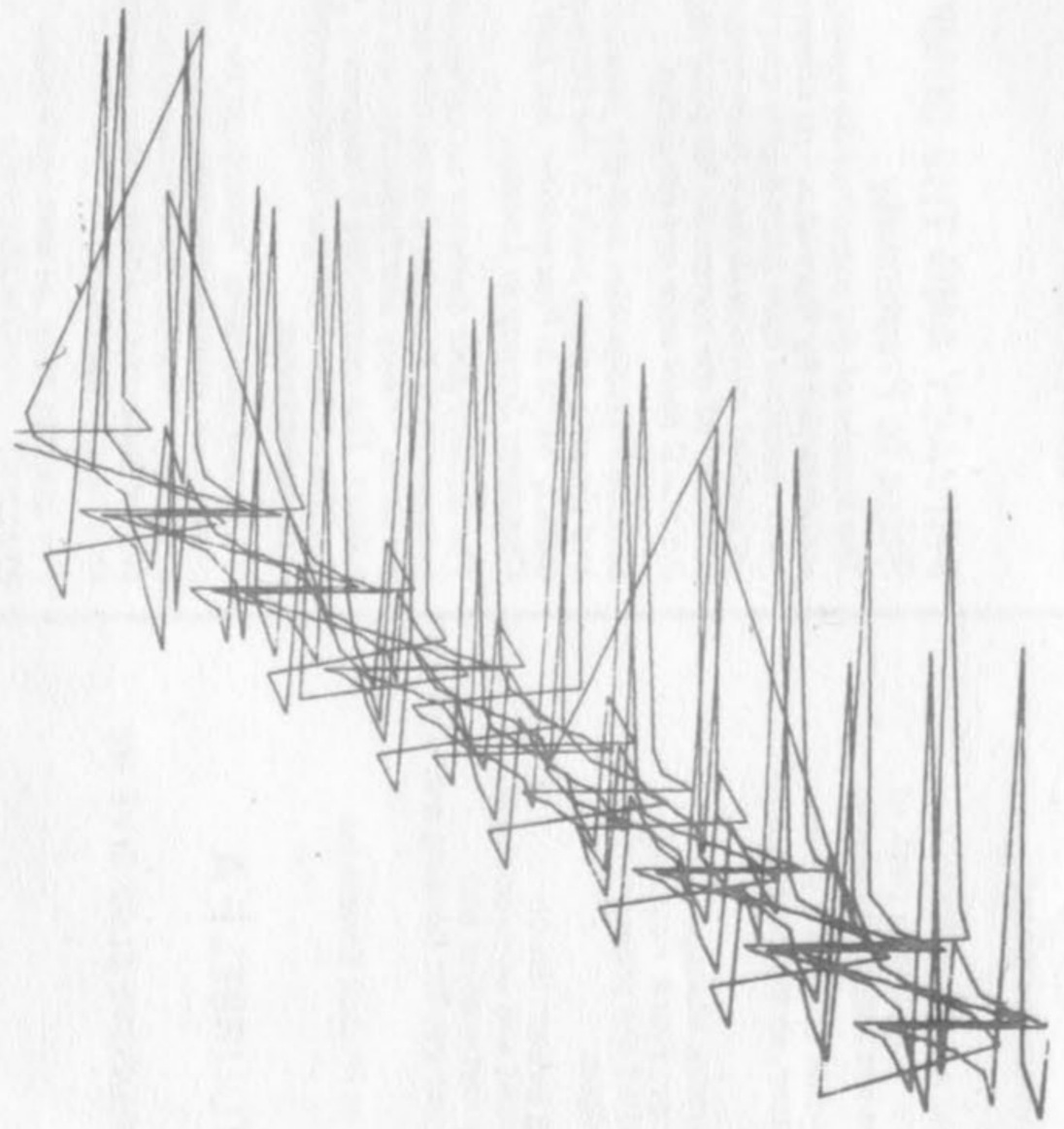
AIMS AND MEMBERSHIP

The Society aims 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 eight times a year, and reduced prices for the Society's 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.

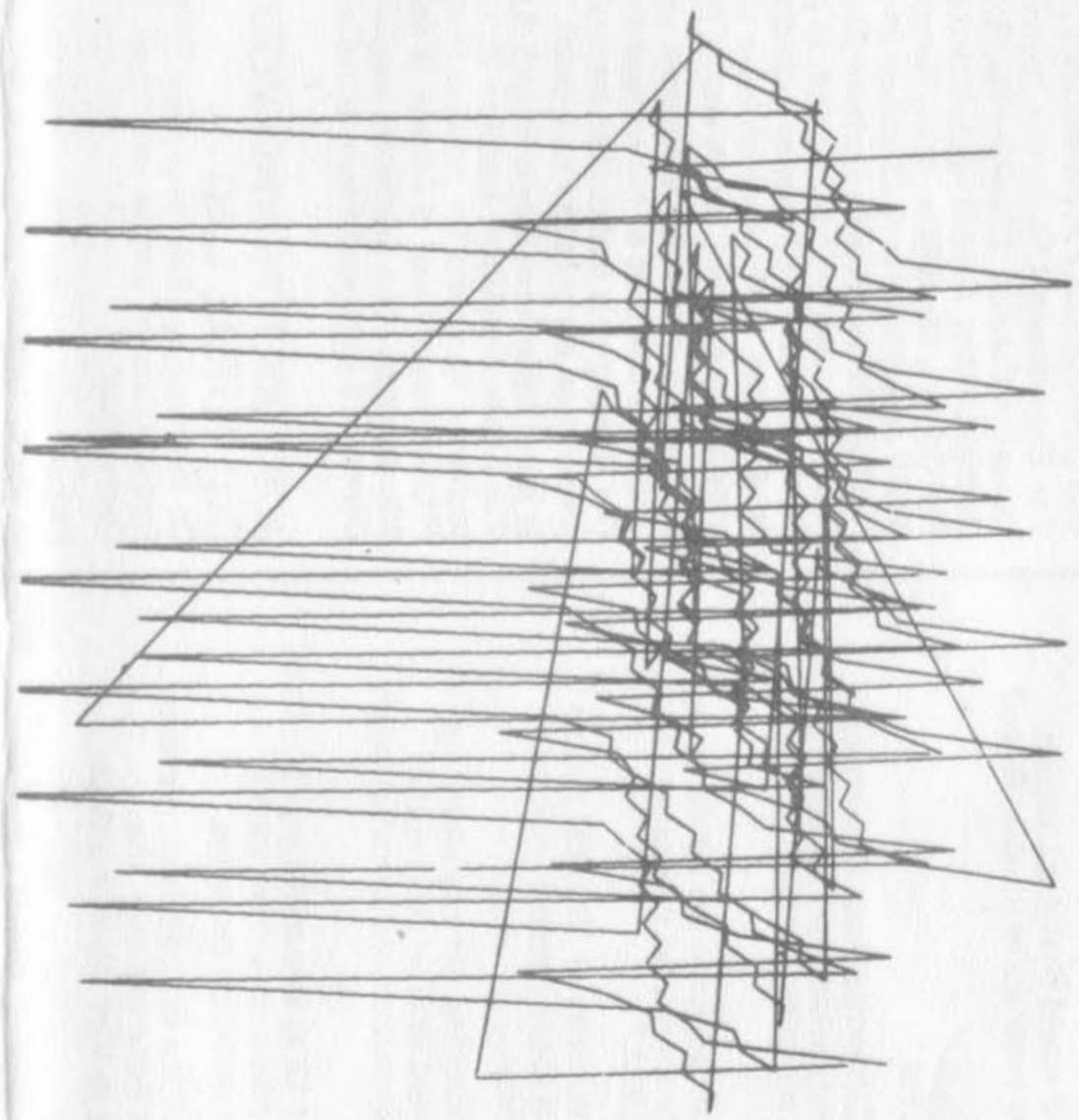
Libraries and institutions can subscribe to PAGE for £1 or $3 per year. No other membership rights are conferred and there is no form of membership for organisations or groups. Membership and subscriptions run from January to December. On these matters and for other information write to Alan Sutcliffe.



Harbour Scene



Moorings



Seascape

THREE SEA PICTURES

The program for these was written in Fortran and run on a KDF9 computer.

YET MORE ECOGAMING

"Suppose you were Emperor of the World and could design a Utopian Community. We certainly wouldn't be in the mess we're in now. Right?

Well, you may have a chance to prove it!

The opportunity: 'Focus: Shelters for Mankind.'

Participants in the three-day conference at California State University, Los Angeles, will have just such an opportunity when they sit down at computer terminals to face the challenge of planning the ideal city — on paper at least.

The computer 'game', which will be played throughout the conference, will be one of the highlights of the university-sponsored program to be held at the CSU campus during September 1972."

The object of the game will be to plan communities of 100,000 people with the players in the roles of economic and social decision makers who determine the quality of life of the society.

The game is divided into seven sections representing the key elements that make up a community: publicly supported services, economic environment, home environment, leisure, transportation, administration and revenue.

The players are given a basic physical area of 12 square miles that is land-locked. It has a water electrical system based on a river, canal and fountains, which can also be used for recreational purposes.

The game is played with four people. Each of the four decision makers contributes suggestions as to what should be done and then the choices are discussed via computer terminals as they try to reach an agreement on each issue.

The system will be programmed with information to provide the raw materials for developing a community. In other words, it will contain statistics on population, politics, economics, etc.

Once a decision is made, the computer will provide additional information or 'extensions' of the choices.

Finally, the computer will digest all the choices and determine a fair and representative consensus. At the same time, it will keep track of individual decisions and also recap the plans as the players go along.

When the game is finished the computer will come up with a visual display of the 'ideal' community that was created, so the participants can see the end result of their Utopian vision.

The game was designed by Ruth Baker, Conference Manager and President of Experiments in Art and Technology. Frank Reynolds developed the game model, Warren Juran handled the programming of the computer and Jerry Jacobs wrote the dialogue.

The purpose of the CSU conference is to bring authorities on architecture, urban planning, behavioural sciences and anthropology together with a concerned community so they can analyse and exchange ideas about the use of alternative structures for housing and industry.

Ruth Baker will be speaking about the 'game' at Russell Square on Wednesday 18th October 1972 at 7.30pm.

DRAW UP A CHAIR AND CUT YOURSELF A SLICE

IF I GIVE YOU WHAT YOU NEED, WILL SOMEONE ELSE GIVE ME WHAT I NEED?

Tell us what you need to get.
Tell us what you want to give.
Tell us what interests and projects you wish to get involved in.
Tell us what ideas or information you are looking for or want to share.
Tell us what you need to create the environment in which you want to live and work.

PIE WILL TRY TO CONNECT YOU WITH SOMEONE WHO HAS WHAT YOU NEED, AND CONNECT YOU WITH SOMEONE WHO NEEDS WHAT YOU HAVE TO GIVE.

PIE — People's Information Exchange — handles information about interactions that people are interested in having with each other.

PIE is a computer-based information idea by Bob Polakov of TIE LINE CORPORATION which is an organisation dedicated to improving the quality of life in Los Angeles.

More information from him at: DATA SERVICES DIVISION, TIE LINE CORPORATION, 710 FOURTH AVENUE, VENICE, CALIFORNIA, 90291.

This issue of PAGE should have been edited by CASH, in Holland, but wasn't! John Lansdown did it instead.

COMPUTER ARTS SOCIETY ADDRESSES

Chairman: Alan Sutcliffe, ICL, Lovelace Road, Bracknell, Berkshire, Eng.
Secretary: John Lansdown, 50/51 Russell Square, London WC1B 4JX.
Editor of PAGE: Gustav Metzger, BM/Box 151, London WC1.
Dutch Branch (CASH): Leo Geurts and Lambert Meertens, Mathematisch Centrum, Tweede Boerhaavestraat 49, Amsterdam, Holland.
US Branch (CASUS): Kurt Lauckne, Mathematics Department, Eastern Michigan University, Ypsilanti, Michigan, 48197, USA.

SOUNDS EXPERIMENTAL

The Experimental Music Catalogue publishes music by composers Cornelius Cardew, Christian Wolff, Robert Ashley, Richard Ascough, George Brecht, Greg Bright, Gavin Bryars, Michael Chant, Ed Fulton, Phil Gebbit, Chris May, Bryn Harris, Chris Hobbs, Ivan Hume-Carter, David Jackman, Terry Jennings, Michael Nyman, Michael Parsons, Tom Phillips, Eddie Prevost, Richard Reason, Hugh Shrapnel, Howard Skempton, John White. As well as pieces by individual composers, there are also 9 anthologies including the Scratch Anthology and Nature Study Notes, both of which were used by the Scratch Orchestra, London, as material for its work. The policy is one of renewable publication in which a composer only represents those pieces of his which are still part of his current concerns and old pieces are archived. The Catalogue is updated at intervals (edition 2 should be in preparation early in the new year).

It is available from Gavin Bryars, Experimental Music Catalogue, 208 Ladbroke Grove, London W.10 (phone 01-960 1996) — please include a 4p stamp for postage (English Domestic rate, and World Printed Paper Rate. If Airmail is required please inform and add 20p postage). The scores are available for perusal at Music Information Centre, 10 Stratford Place, London W.1.

JUST WATCH WHO YOU'RE CALLING AN 'OLD CULTURAL LAG'

On Wednesday 15th November 1972, 7.30pm, Russell Square, Stroud Cornock will be talking on 'The Cultural Impact of Interactive Computing'.

Stroud says: 'In the case of the computer we can already see evidence of the cultural lag which characterises the period in which any technological imperative is being transmitted through a society.'

Come and argue with him.

PRIVACY AND THE COMPUTER:
Steps to Practicality

The impact of the computer on society in recent years has been accompanied by fears about its effect on individual privacy. In many cases reactions have been highly emotional, and computer people and far-sighted individuals have been concerned, that the significant potential of the computer for good might go untapped if these often irrational fears were not alleviated.

Serious investigations into the possible invasion of privacy have been, and are still, taking place in the United States and in Britain. The latest report, 'Steps to Practicality', has just been published by The British Computer Society in London.

The Society gave evidence on computers before the British government's Younger Committee on Privacy during 1971, and then set up its Privacy and Public Welfare Committee to go deeper into the subject. This committee is composed of computer specialists and members of the legal and medical professions, the civil service and local government.

'Steps to Practicality' reports on the last 18 months work of this committee, spent researching and clarifying key aspects of the nature of privacy invasion, the degrees of sensitivity of data, the definition of and relevant questions about data banks, and the need for more satisfactory legislation.

For the first time, an attempt is made to define the terminology used so loosely in debate about the invasion of privacy issue, and the manner in which the Society's committee has tackled this has earned tributes from specialists in the United States.

The Society believes its report which consists of 27 pages and six chapters, will help wider identification of the major components in the invasion of privacy issue, and will provide a firmer foundation so that future debate about the computer's role may be more meaningful.

The price of the report is £1.25 which includes UK postage packing only. (Please enclose an additional 30p for overseas postage).

LITERATURE

Programming the I Ching Oracle
L Hiller
Computer Studies in the Humanities and Verbal Behaviour
3 Oct 70 pp 130-143
The programming of the I Ching with a discussion of its use in music composition by the co-author of HPSCHD.

MOVIE — an Efficient Package for Generating Computer Movies
P A Fothergill and J P Boris
Report AD-733440 Nov 71, 78 pages ($3.00 from National Technical Information Service, Springfield, VA 22151 or $0.95 for microfiche copy).
A concise user manual for MOVIE a system that generates tapes for either Stromberg-Carlson 4020 or Calcomp microfilm recorder.

Artificial Intelligence and Heuristic Programming
Edited by N V Findler and B Meltzer, Edinburgh University Press 1971
327 pp £6.00
14 papers from the 1970 NATO Summer School, covering a wide range of topics.