

Not quite computing - almost art

JOHN LANDSDOWN

Swords into ploughshares

The Computer Art Society recently had a visit from one of its world-famous honorary members, John Whitney (USA), who came to show some of his films and talk about his work.

Whitney has pioneered the use of computers in film animation and was responsible for one of the classic works in the medium: 'Permutations'. As long ago as the early fifties, John and his brother James began using a mechanical/electrical analogue computer based on a British army surplus anti-aircraft ranging device. This helped them produce some quite remarkable abstract films, and their experience and skill in this field led to grants from IBM to experiment with digital computers. 'Permutations' came out of this work as did many other more recent films such as the 'Matrix' series. Lecturing in his European Tour in the Spring 1969 Whitney said: 'The computer, as a drawing tool, offers some very special advantages if you want to compose visual motion as I do. However, motion, as a fundamental attribute of any graphic art, is altogether unprecedented. I am speaking of a visual art whose primary quality, like music, must be movement through form; formal action, with colour, that evolves, changes and develops in time. Until recently we could not realise this visual art, although it has been within the scope of human imagination for hundreds of years, because we have not had instrumentation comparable in any way to the whole body of classical musical instruments. The computer, of course, is a relatively costly and sophisticated instrument. As a tool for this visual art, it is also clumsy, and I suppose, primitive compared to instruments that will evolve in the coming years. Yet the essential drawing capability is there. With precision and detail it can produce thousands of images, each one with the most subtle incremental variation. This power of the computer to produce endless variations upon pattern is basic to the production of motion.

'Some people can't bear the thought of computers invading the domain of art in any fashion as tools or what you will. From their point of view computers are an invasion — as if these machines had the power somehow to intrude themselves upon us, or use us, instead of the other way around. There are others who seem to want to

be used by the computer. They will propose that we turn one on expecting that some new kind of art will just flow forth ready made. It is easy to understand why these people wish to enjoy the illusion that a computer has a 'useful' mind of its own, with science fiction as popular as it is. Yet tools have not often been personified this way in the past. No one even proposed that we turn on a steam shovel 'to see what kind of a hole it will dig'. No one living, that I know, ever turned a car loose, full throttle, in gear, and asked, 'Let's see where it will take us'. 'I might even wish at time that I could turn the computer loose to 'follow its own mind' and see what it would draw. But my disposition, as well as computer capability, will not permit this. I have found, from considerable experience, that a computer graphic system, set in motion this way, is hardly more productive than mechanical systems or oscilloscopes that I have used in the past. There is a mid-course which one must carefully search out which offers some degree of balance between tedious planning and unplanned surprise and discovery. At any rate my computer will not play by itself, I am obliged to approach my work with much the same constraint and respect and studious mind as others study the piano.'

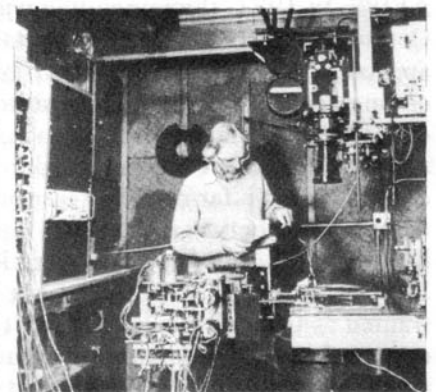
To my mind, Whitney's work is most striking when he systematically explores patterns by use of carefully devised procedures and anyone who has not seen his films should take the earliest opportunity of doing so. Some of them can be hired from Cinegate, 70 Portobello Road, London, W11, and a programme of these would make a valuable addition to a Branch evening meeting.

Antics

Two other, much younger, computer film-makers are Alan Kitching and Colin Emmett who have devised a system called Antics to aid in the production of animated films. They used the system to produce the title sequence for the 'Burke Special' TV programme and more recently, a large full-colour drawing called 'The Snake'. Not clear from the black-and-white reproduction shown on the front cover of this issue is the fact that the stripes on the snake's body are made up of the names of the months of the year and that the whole drawing can act as a calendar. Describing how it was made Colin says

'The outline of the snake, the day divisions on the snake, and the positions of the stars were designed first, in a circular format. The designs for each month were worked out with pen and ink until they looked right, then the outline of each letter in each month name was traced from the original design. These outlines were then digitised so that the computer programs could process them. 'The blue background was made first. Two circles were generated to provide the inside and outside outline of the egg. Stars were generated and positioned on the previously described points. The sun was generated. The area enclosed by the two outlines of the snake were made to hide, or cover over the sun's rays. All these outlines were then distorted into an egg shape and scanned in. The result was output on the plotter to produce the artwork for the Blue separation. 'The snake patterns were produced from the twelve month names by transforming, or in-betweening, one name into the next so that, for instance, 'January' transforms to 'February' in 31 steps, or 'days'. Each day was fitted into its appropriate day division on the original circular area, and transformed into its position on the egg shaped area. The whole image was then scanned and output to the plotter. The coloured effect on the print was achieved during the silk-screening process. Gold paper was used for the print, so all areas not printed on show as gold.'

The drawing by Antics was made on the ICL 1906A computer, input from a DMAC digitiser, and output on a Stromberg Datagraphix 4020 microfilm plotter all at the SRC Atlas Computer Laboratory. The frames shown on page 18 are examples of an uncontrolled transformation (left) and a controlled transformation (right).



John Whitney and his analogue machine