But is it art?

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Creative Computer Graphics.

By Annabel Jankel and Rocky Morton.
Cambridge University Press: 1984.
Pp.143. £15.95, \$29.95.

Art and the Computer.

By Melvin L. Prueitt.
McGraw-Hill: 1984. Pp.246. Hbk \$39.95,
£34.75; pbk \$29.95, £26.25.

"COMPUTER power" used to refer to the rate at which machines digested numbers. The users were, in the main, scientists, and they generally viewed developments in terms of a new machine's ability to solve bigger problems faster than before. Graphics devices were useful for checking results, but were rarely seen as more than that; there were thought to be better things to do with an expensive computer than use it to draw pictures. Then the price of computers fell, and we finally realized that we could control and understand the computer's calculations better when we could see the problem and the results directly. Equally, quality graphics created a market for personal and small business computers, reaching those for whom numbers held no great appeal, and allowed people working in design, manufacturing and art to discover a new medium with which to express their creativity.

Being creative involves more than producing striking imagery, however. These two books attempt in different ways to examine how computer graphics can be used in this way, and why difficulties are encountered in achieving the desired effects, while presenting a wide selection of pictures that have been produced using the medium.

Jankel and Morton survey many aspects of modern computer graphics technology in order to portray ways in which graphics

images can express and communicate ideas, or emulate the natural world. Early chapters trace the history of the discipline, and describe how an object can be modelled within the computer and how these models are converted into images on the screen. Their treatment is non-mathematical, and the novice will have no difficulty following the thread of ideas. Accompanying pictures, which throughout are of the highest quality and generally in colour, complement the text with a refreshing competence and clarity; it would have been all too easy for the authors to rely on the vividness of the pictures to compensate for an anodyne commentary.

Subsequent chapters are devoted to the ways in which computer-generated images are being applied to science, design, art and the media, and used in home computer programs and video games. The authors pay much attention to the technical and human problems of realizing the technique's potential, and there are some amusing insights along the way. One story that appears to be almost apocryphal describes how an attempt to enter a computer-generated print for a New Jersey competition was rejected in 1969, but accepted the following year when the artist presented the same piece as a hand-made silk screen. We often expect too much too soon, and technical novelty must be studied in terms of what is already known, not presented in isolation, before the artist knows how to use the medium and the viewer can understand the context within which he should see the results. Certainly, Jankel and Morton demonstrate that creativity remains the product and responsibility of the craftsman. In spite of the argument that such creativity resides in the programmed sequence of code that produces the image, the best results seem to be those in which computer graphics is used to complement and enhance material obtained using other techniques.

In *Art and the Computer*, Prueitt con-

cerns himself specifically with computer graphics as an art form, and most of his book is used to present a gallery of pictures representative of recent work. He too describes the methods used to generate the images, and analyses their potential as tools for the artist, but somehow neither his pictures nor the commentary really succeed in showing that computer art is yet on a par with more traditional work. Interesting topics are introduced — for example, Prueitt notes how visual appeal often depends on precise use of colour — but he fails to develop the opportunities he has created, and merely repeats his contention that the results can be considered to be art.

It is, however, not sufficient to define art simply as "creative work produced by a person", since that does no more than make us ask what the author means by "creative", and that question is not answered in the book other than by encouraging us to look at the results for ourselves. Yet, although the work reproduced here is twice claimed to be representative of the finest computer-generated art, by its greatest practitioners, over half of the pictures are by the author himself, and are mostly variations on a theme of broken symmetry, resembling pictures viewed in a kaleidoscope or drawn with a child's epicyclic toy. While they show clear technical skill, there is too little sensitivity to the need to define where the art has contributed something new.

Neither of these books offers much that is new to the specialist. Nonetheless, Jankel and Morton have succeeded in portraying the creative use of computer graphics in a way that will interest both layman and professional. Their book should remain an accurate snapshot of the state of this particular "art" in the mid-1980s. □

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"Foggy Chessmen", by Turner Whitted and David Weimer, produced using scanline algorithms (rather than ray tracing) to produce the shaded effect. Scanline algorithms cannot cope with reflections, and the mirror chessmen are the original ones turned upside down and toned down to give the effect of reflection in a marble chessboard.

From Creative Computer Graphics