My First Experience with Computer Drawings

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My background of study in art was of the traditional kind. I have made drawings, paintings, prints and some sculptures. My paintings have evolved into a type that are more formed by the dictates of intuition than by preconceived ideas or conscious planning. The paintings in oils have taken the form of flat geometrical shapes. In my recent paintings the number of shapes has been reduced to very few, and they are closely related to the rectangle of a canvas. I came to realize that intuition feeds upon a certain fund of knowledge and experience with a medium. The intuitive or creative act seems to follow this sequence: spade work, planting, waiting and harvest.

The image-making process is to me a way of expressing a felt fact. The rightness and the order

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of the parts of an image, supplied by intuition, produces a sensation that is both new and familiar.

During my first semester of teaching at the University of New Mexico in 1968, I was invited by Charles Mattox to attend a computer drawing class. This happened to coincide with a time in which I had painted myself out, so I welcomed this new experience. I was shown how to prepare a computer program and how to transfer it to an IBM punch card by machine. The alphanumeric characters we could 'draw' with were: the alphabet, ten numerals and eleven symbols, such as periods, dashes, slashes etc.

The working area of the completed drawing is made up of a field of one hundred and five characters disposed horizontally and fifty vertically. The program prepared on one or more punch cards permits the making of lines, rectangles, triangles, circles and ovals, and also, exponential curves.
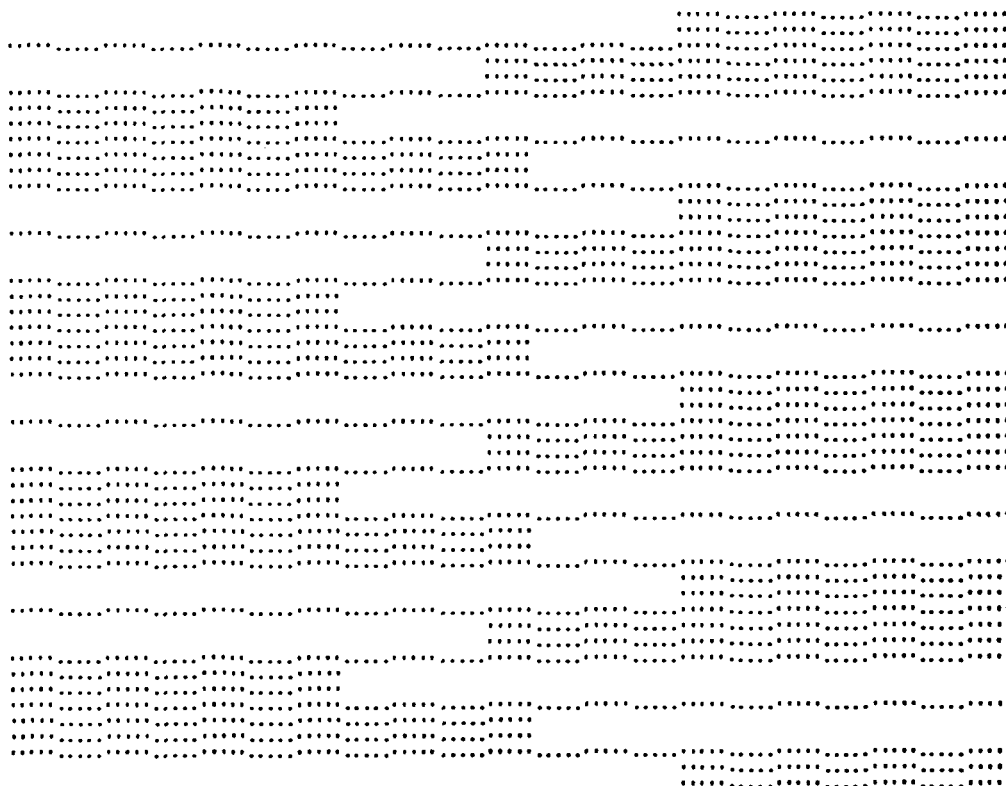

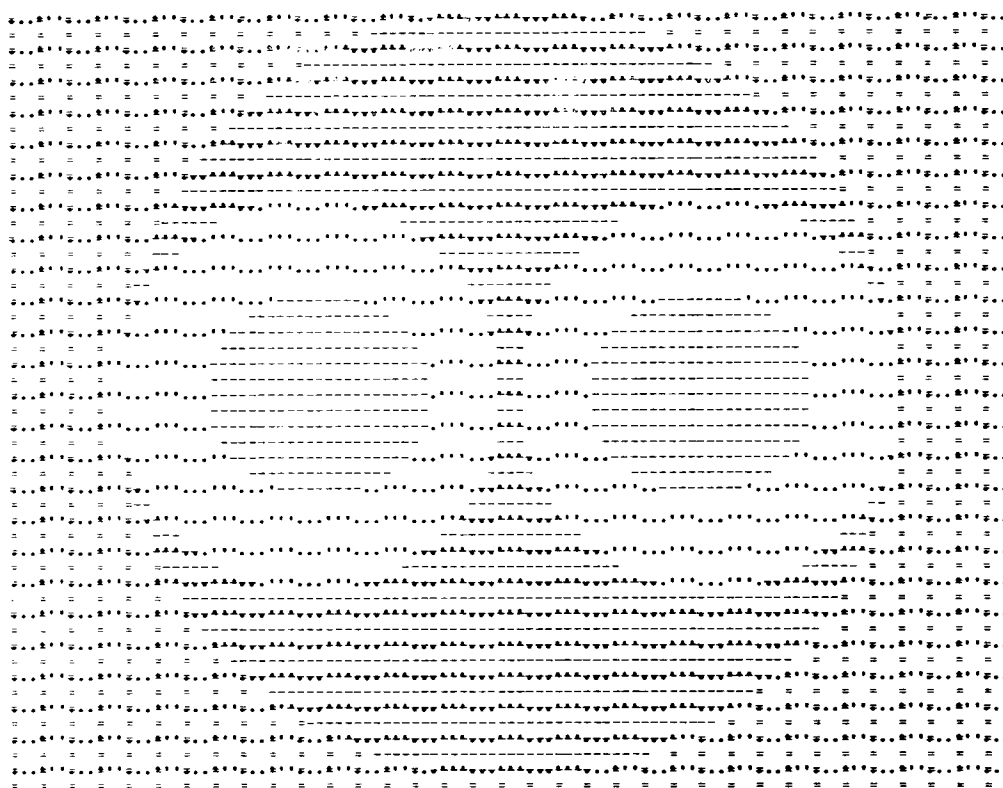*Fig.* 1. '*Yo-Yo Almost*', *computer drawing*, 8·25 ×10·5 in., 1969.

Fig. 2. '*Enough is Plenty*', *computer drawing*, 8·25 ×10·5 in., 1969.

In addition, any character can be printed on top of any other. The drawings are printed by the computer in black on white paper.

It took me some time to get used to this medium. What I intended to make did not always correspond to the program I thought I had punched in the card. I made many mistakes which the computer, in its logical way, would not print. The intricacies and possibilities seem endless and I have spent a great deal of time simply trying to master the mechanics of this particular technique. It continues to fascinate me.

The great advantage of the computer is that one can see the results so quickly. It takes a considerable time to program a drawing, less time to punch the information on cards, then, only a few seconds for the computer to print it. Afterwards, it takes a very short time to punch out variations of the first program for other drawings.

I have been making computer drawings for only a few months and am just now getting warmed up. I find that working with the computer is, in principle, the same as painting. The elements are different but the end result, as in all visual art is the same—an image. It is not enough that an image be visually attractive. It must, I feel, be one of substance and of some significance. I am not concerned with the tricks and combinations forming computer drawings. I am trying, as in my approach to drawing and painting, to take advantage of all possibilities a computer offers me, and to exploit its limitations. I cannot, as yet, predict what might happen. Some ideas that I think are brilliant,

when printed, turn out to be unsatisfactory. Doubtful ideas at times turn out to be quite good. I am continually being surprised by the difference between expectation and the result. This I find, is part of the fascination and challenge of the computer.

There are two final points about computer drawing that intrigue and concern me—one is positive and one, perhaps, may be negative. The positive one is, as I have said, the seemingly endless and wonderful possibilities it presents. The second point is that I, myself, am not actually making the drawing with my hands. My involvement and participation is very different from my feeling when painting, which may be a shortcoming. It might, on the other hand, be an asset to me; it may furnish me upon return to either drawing or painting with new insights and added understanding.

The computer drawing 'Yo-Yo Almost', shown in Fig. 1, was the seventh one I made. It began simply. I liked the opposing directions of the apostrophe and the period. The first drawing of the Yo-Yo series was a page of alternate columns of five apostrophes and five periods. This page of dots of one value seemed to move quietly up and down. There then followed several trials of introducing a variety of horizontal blank rectangles coming in from either side of the drawing creating a movement which opposed the vertical movement of the dots. There is a secondary horizontal effect in that one set of rectangles does not reach the middle of the page, while the other set goes beyond it.

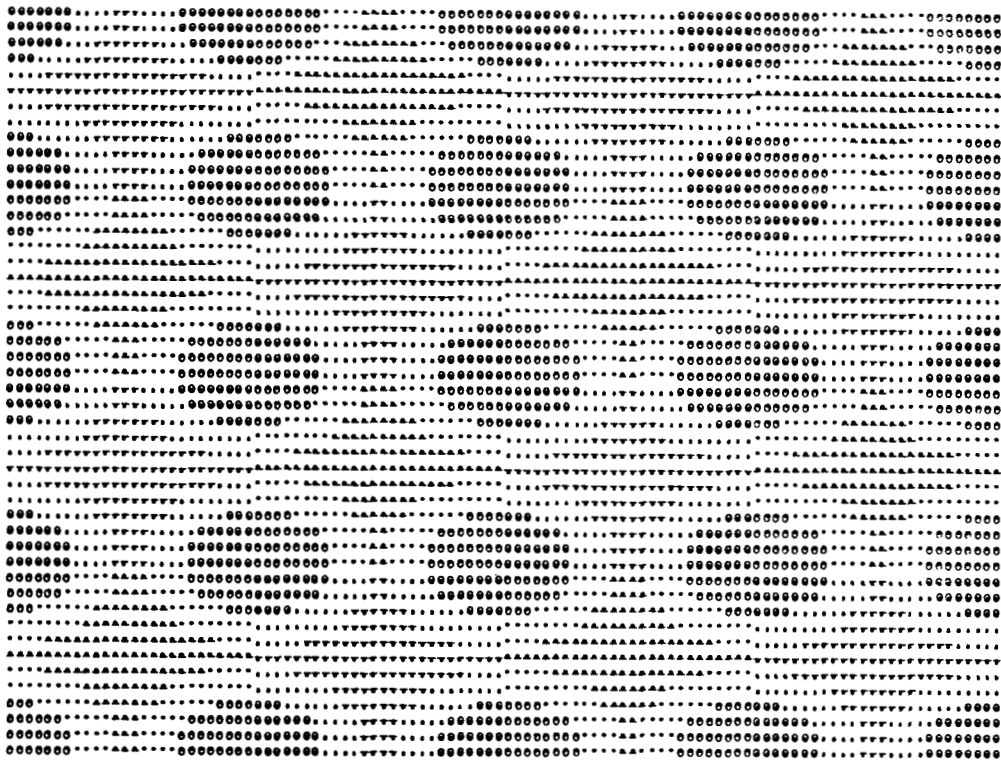'Enough is Plenty' was my twenty-eighth drawing

Fig. 3. *'Jelly Centers', computer drawing*, 8·25 × 10·5 in., 1969.

(cf. Fig. 2). It is also based upon a root of alternate columns of apostrophes and periods. But in this drawing the columns are three dots wide. I then removed every other row (horizontal line). Next came the large circle of dashes, followed by the two smaller circles without dashes. Inside of these I placed still smaller circles of dashes only. The background surrounding the large circle is made up of columns of 'equal' signs placed every third column repeating the pattern of the three dot wide column. Here an up and down arrangement occurs in three different areas.

The drawing 'Jelly Centers' was my thirtieth one (cf. Fig. 3). Apostrophes and periods were again used as a base. But this time they were in rectangles of 12 rows by 26 columns. A field of dashes was printed all over, resulting in rectangles of dots which alternated above and below the dashes.

Next I removed ovals of dashes from every junction of four rectangles. Inside of these ovals I placed smaller ovals of zeroes. There resulted a regular pattern of ovals with a secondary up and down arrangement of dots in three different areas—the background, the large ovals and the small ovals of zeroes.

As to the significance of these drawings I can say that they are an outgrowth of the same ideas that I use, for the most part, in my paintings—a kind of marriage of opposites. Often this is demonstrated by the rhythm and sequence of the elements. In the positioning of the parts there is an innate requirement that must be satisfied—and that is that the elements must occupy the entire working area. When the elements are arranged properly they produce the remarkable effect of being in sum more than they are individually.