Off the shelf

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From time to time someone will ask me what I call what I do. Do I call it computer art? No, I say, I do not call it computer art. I don't want anything to do with computer art. Why is that? I am asked. Because computer art seems very reactionary to me, very old-fashioned. Because it hasn't changed in any fundamental way in twenty years and that seems to me a sure sign of infertility. Because I've rarely seen any that I didn't find simple-minded and boring. Because so much of it is done by the technology and not by the artist. Because... (when I get started on this particular topic I've been known to go on for hours.)

But if what you do isn't computer art, they say, what do you call it? You have to call it something. No, I do not have to call it something, I say; I have to do it. Well, they say, that's ok for you, but what do we call it? Why ask me? I say; call it what you like. Well, then, they say, we'll call it computer art. I rather suspected you would, I say.

Occasionally someone asks me what it is that I do: then I do my best to tell them what I do.

The trivial reason for naming something is to let you know where to put it. The serious reason for naming something is to tell you where you *can't* put it. Serious naming implies a prior act of discrimination. You begin by noticing that A is unlike B, not in the sense of marginal differentiation but in a way that demands attention because the existence of A challenges how you think about all the B's. (Marginal difference is the difference between two boxes of Uniquely Wonderful Cereal on the Wonderful Cereal shelf in the supermarket.) If you accept the challenge to your beliefs which this act of discrimination implies, you may be in a position to summarize it in a single word. Or you may need to write a book. In either case the activity is called criticism.

That computer art has lacked criticism almost completely is perhaps the most important reason why I don't want anything to do with it. Computer art exhibitions are like mail-order catalogs: everything marvelous, everything up-to-the-minute or just dressed-up, and nothing ever presented or discussed, under any circumstances, in terms of its significance. W does polynomial equations and X does rotating polygons and Y does abstract expressionist paintings with an electronic paintbox and Z's got hold of a tame Solids Modeling programmer and is doing Solids Modeling Art. So? So nothing.

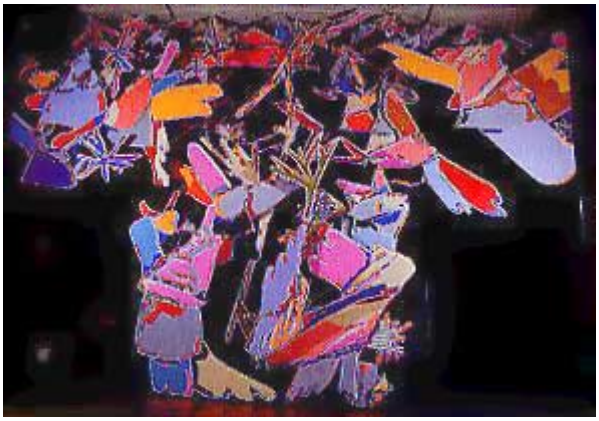

Fig. 1. Free standing screen wall. Buhl science Center, Pittsburgh, Pennsylvania, 1984

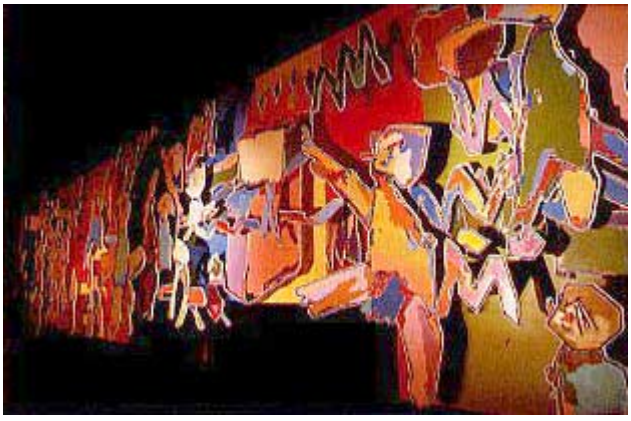

Fig. 2. Mural. Ontario Science Center, Toronto, Ontario, 1984

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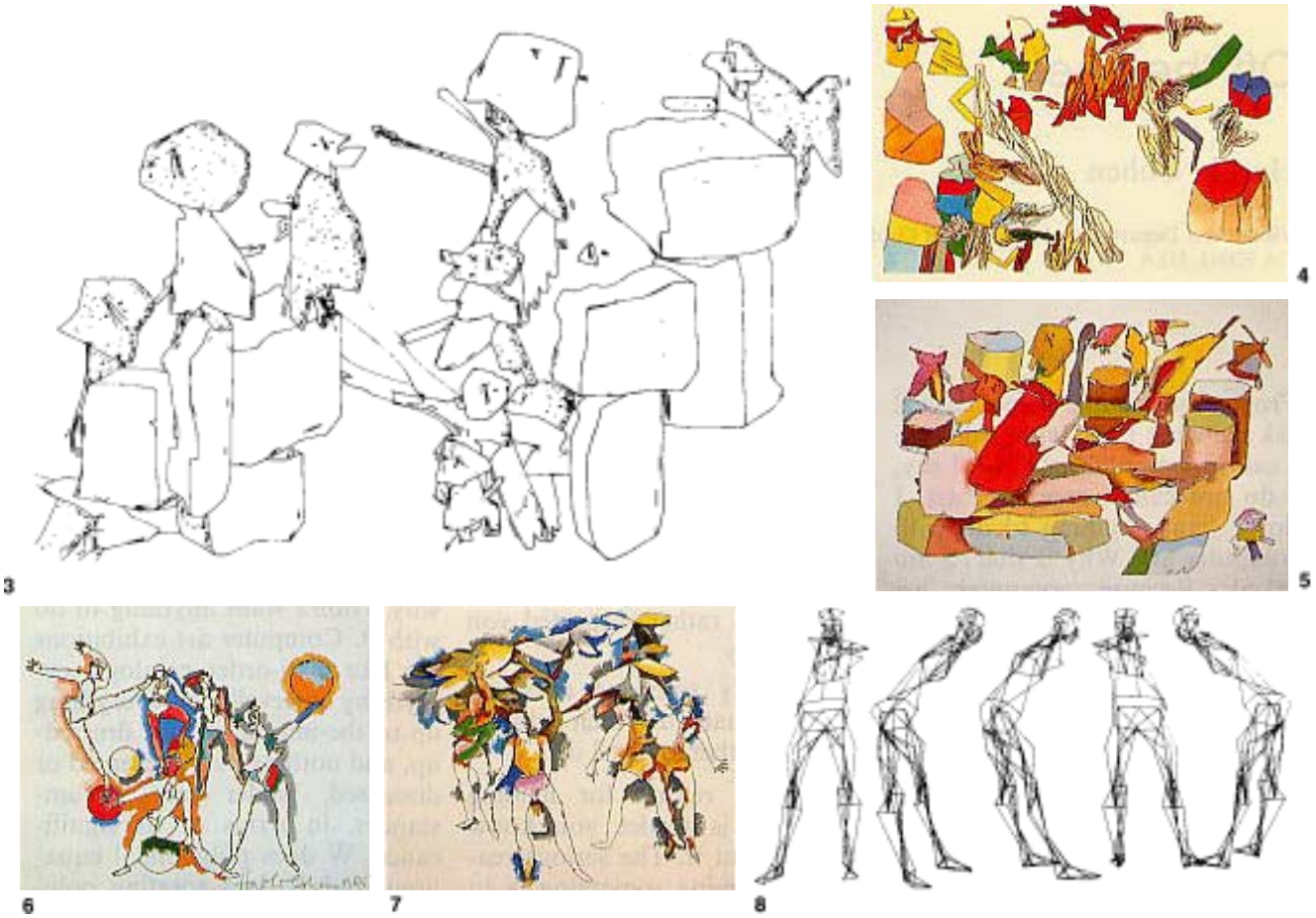

Fig. 3. Computer generated black and white drawing, 1985

Fig. 4. Hand colored computer generated drawing, 1984

Fig. 5. Hand colored computer generated drawing, 1985

Fig. 6. Computer generated drawing. Laser print with colored pencil, 1986

Fig. 7. Computer generated drawing. Laser print with colored pencil, 1986

Fig. 8. Computer generated Figure study. Laser print, 1986

Everything exactly equivalent to everything else and all neatly stacked on the Computer Art shelf in the supermarket.

Shall we blame it on the critics? Not so fast! Critics may be as lazy as the rest of us about coming up to speed on things they don't know about but they make their livings writing about things they find exciting and the things they perceive the rest of the community to find exciting. Computer art hasn't merely failed to stir the imagination of serious critics, it has failed to stir the imagination of any part of the serious art community. Come to think of it, I've never met a computer artist who didn't think that most of computer art has been extremely dreary. In fact what I've never been able to understand is why computer artists want anything to do with each other. They must all be lonely. Better a spot on a shelf identified with all the other innocuous breakfast cereals than no place - no name! - at all. Personally, I would prefer to be placeless and nameless.

For several years now voices on the telephone have been explaining to me that I *owe* it to the computer art community to exhibit with them: after all, I am told, we all believe in the same things, don't we? No, I try to explain, we do *not* believe in the same things, we are *not* on the same side, I do *not* owe it to anyone to go sit on their shelf. One of the things concerning which our beliefs differ profoundly is the desirability of sitting on shelves with big labels to tell people what kind of cereal you are. But I do use

computers, don't I? I do. I also pick my nose when no-one is looking, try with only moderate success to keep my weight down and tend to snore if I sleep on my back. I do not assert fellowship with other nose-pickers, weight-watchers or snorers. There are important similarities and there are trivial similarities. My work has no fellowship with polynomial equations, rotating polygons, abstract expressionism - with or without a computer - or solids modeling. Leave me alone. I don't owe you anything. Let me tell you what I believe.

Let me tell you what I do.
Let me tell you, in the first place,

that those two questions are extremely closely linked for me: not simply by virtue of the fact that I do the things I do because I believe the things I believe, but because the doing of those things involves the examination and the modification of my beliefs. Art is one of the ways the individual has of bringing belief under scrutiny and under the authority of his/her intelligence. Belief which is not brought under the authority of the individual's intelligence is dogma, prejudice.

I have always felt that if you want to test the validity of a belief, you bash it up against a wall as hard as you can to see if it breaks.

I write programs which are intended to throw some light upon what people do, in a cognitive sense, when they make images: not upon what their images look like. Art is a series of acts, not a series of objects. From which it follows that nobody ever made original art - with or without a computer - by mimicking the appearances of existing original art. My programs function as models of the things people do - the things I believe they do, that is to say - when they make images. The way the programs perform tells me something about the plausibility of the things I believe. I came to computing in 1968, after twenty years as a painter. In career terms I was doing just Fine as a painter, and in those same career terms a painter had to be crazy to get involved in computing in 1968. I will not pretend that I had any very clear idea why I chose to embark upon this particular craziness, or what I expected of it. I have never believed that the artist has any *a priori* obligation to be on the culture's technological cutting edge and I am not particularly interested in machines. What I did know was that painting was no longer providing me with a hard enough wall against which to bash my beliefs. I suppose I sensed - not more than that, but that was enough - that programming would provide a harder one: and it has.

I do not believe there is any other worthwhile thing I get from the computer that I really need.

In the early days my work was limited to the modeling of a small subset of cognitive "primitives:" closure, repetition, figure-ground and a few things of that sort. Much of what gets written about my program, AARON, still discusses it in those terms, as if nothing has happened in the past decade. I see AARON as a single program, not as a series of different programs: but it is a program that has gone through several stages of something corresponding to human cognitive development, so that it currently has a relationship to the AARON of 1972 analogous to that of an adult to a small child. (Where AARON could make a drawing in about two minutes on a PDPII/45 Five or six years ago, today it takes all of twenty minutes on a MicroVaxII with 5 Megabytes of memory and 200 Megabytes of disk.)

The cognitive "primitives" of the earlier work still stand as the basis of AARON's representational modes, just as the human cognitive apparatus provides the basis for the ways that people make representations. However, I was never able to identify more than a very small number of these "primitives," and it started to dawn upon me around 1983 that there was another determinant to the nature of cognition that I had not considered. The human cognitive apparatus develops in the context of a real world: so that in some sense cognition is the way it is because the world is the way it is. The result of considering this proposition is that, where the earlier AARON had been limited to knowledge of image-making strategies, the new AARON is more explicitly concerned with knowledge of the external world and the function of that knowledge in image-making. And it has a modest body of knowledge of its own about the outside world, as its drawings of 1985 and '86 demonstrate.

AARON is an autonomous intelligent entity: not *very* autonomous, or *very* intelligent, or *very* knowledgeable, but *very* different, fundamentally different, from programs designed to be "just" tools. Electronic paint boxes, for example. And its use is equally different from the way computer artists *use* electronic paint boxes:

I don't work *with* the program, that is to say, I work *on* the program. The goal is the program's autonomy, not the making of a better - orthodox - tool. (I've been insisting publicly on the need to program for so many years now that it's time to insist upon something else: if all you want is a "better" version of a orthodox tool that exists already, don't bother.)

I've been aware all along that my own work has barely scratched the surface of an array of potentially interesting and valuable ideas. Yet I am convinced that all of those potentials will necessarily face the same question that I have faced, because it is really the only question which differentiates the computer *fundamentally* from other tools. It is not, what can you do *with* a program, but, what can the *program* do? For the artist, the essence of the computer is its autonomy.

AARON is autonomous to the degree that it can generate original drawings in large numbers without my assistance or interference. It can call upon its knowledge of image-making - and, more recently, its knowledge of the world - to provide the basis for what it does. And it is smart enough to wiggle out of difficulties in much the way an intelligent human being would. It is not yet capable of self-modification: it is not able, that is to say, to modify its given knowledge on the results of its own experience. I look forward to the day when AARON will surprise me with its drawings: not in the simple sense that it does something I had not anticipated when I wrote the program, but in the more profound sense that it does something which could not have been done by the program as I wrote it. It will take some time to do that, but it has to come.

No, I do not have a name for what I do and I don't feel any the worse for it. I am reasonably sure that if I had one to offer I would see it subverted into a supermarket label before I could turn around. I've noticed that the computer art telephone callers are starting to profess a deep involvement with Artificial Intelligence: I surely cannot deny my fellowship with *that*, can I? Oh, but I can! I know where I stand with respect to Artificial Intelligence. I also know the difference between a name that differentiates and a label that prevents differentiation. And I know a supermarket shelf when I see one. If you think you can do anything worthwhile sitting on a supermarket shelf - whatever the label says - go for it. I'll just keep doing what I do.