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## WILL THERE BE "COMPUTER ART" IN 2020?

It is ironic that the more computers infiltrate our daily lives, the more they seem to disappear. Computer-driven technologies like ATMs and email are part of the subconscious landscape of modern life and require no more attention to use than, say, tuning the radio while driving the car. As the science of computer graphics continues to progress, will computer art become a more prominent feature of the art world? Or will it, like the technology it uses, merge, at least in part, with the background of other art materials and methods?

No other art-making technology in history has progressed as rapidly and changed as dramatically as the computer. In the 1970s, only artists associated with large institutions had access to a computer, and using one was no walk on the beach. Less than 20 years later, "personal" computers had arrived in offices, schools, and homes. Today, the cost of a computer and associated peripherals is no different from equipment for any other technically intensive art form, such as video or traditional printmaking. In this same timespan, computer art courses and new-media concentrations have popped up in virtually every art school and many liberal arts colleges and universities around the United States. This very prevalence is one of the factors that are shifting our perceptions of the identity of computer art.

### PREDICTIONS

**Two-dimensional computer prints:** As traditional printmaking courses begin to use computers in image creation and output, the separation between "computer" printmaking and "traditional" printmaking will disappear. The skills needed to use basic graphics software such as Adobe Photoshop will simply be assumed, or may be taught as part of introductory art courses. (Incredibly, when I first began teaching, I had a whole class session devoted to how to use a mouse.) Already, traditional artists have begun to use Iris and other *giclée* printers for professional output.

**Three-dimensional computer sculpture:** Rapid prototyping devices will become cheaper, following the same trajectory as color printers. As recently as the mid-1980s, it was practically inconceivable to have one's own high-quality color printer. Today you can get one for opening a bank account. The use of rapid prototyping for traditional mold-making will help unite traditional and "new media" approaches to 3D art works.

**Animation:** Just as in graphic design, animation students already learn computer skills as a matter of course. You have to work hard to see a recent movie in which computer animation has played no role. For many years, companies like Disney and Pixar have looked for employees who have a strong traditional portfolio and high-quality drawing skills, not merely computer skills per se. Instead of being just a new and exciting element in animation, use of the computer is now clearly necessary but not sufficient.

**Photography:** As prices continue to plummet and quality continues to soar, traditional film cameras will become obsolete collectors' items, and digital photography will be the norm. Photographs have always been retouched for publication, and the computer is a natural extension of the darkroom. Who would have thought that only 50 years after succeeding in the struggle to have photography accepted by the art world, it may already be transforming into something quite different from its original incarnation?

Once enough painters, printmakers, photographers, and animators embrace computer graphics, stalwart supporters of computer art will have a new task on their hands. Instead of trying to get computer art seen and understood by the traditional art world, we will have to make "traditional" artists aware that they

are now just like us – making art using the computer. While they may accept the computer in its low-cost and easy-to-use form into their studios, we must be sure that they understand that the ramifications of the "universal machine" remain enormous. Ignoring the issues of computer-generated and computer-modified visual imagery will not decrease their impact, and artists and critics still need education in this vital area.

What aspects, if any, of what we have come to think of as "computer art" will survive? A distinction is sometimes made between works that an artist has programmed (as in all early computer art work and current work done by groups such as the algorists) and works created with the tools in an off-the-shelf application. But past algorithmically created art works (not using the computer but done according to a strict "recipe"), such as those produced by the Dadaists or the Surrealists, certainly have been fully integrated into traditional art history and are not thought of as a separate line of endeavor.

Artists programming today use sophisticated simulations, biological growth patterns, and, perhaps most importantly, new levels of interactivity: web art, interactive installations, robotics, and artificial intelligence may be the chief drivers of a next round of "computer art" that is highly interactive. There is a difference, though, between the printmaking, sculpture, and photographic efforts and those of interactive and more performance-based works. The first are chiefly visual. Although there are certainly important visual elements to most interactive computer pieces, the artistic message often depends more on the interactivity than the images. We may be seeing a shift in the identity of computer art from predominantly visual art to more highly interactive and participatory forms. Although there are historical precedents for many aspects of this work, from Situationist International to performance art, the technology cannot help but call attention to itself, just as it did when first used in static pieces.

**Interactive art:** As with the more traditional, visual art forms, given time, virtually all artists engaged in creating interactive works will consider the computer a useful tool and incorporate it routinely. In the near future, static 2D and 3D visual computer pieces will seem to relate more to their traditional counterparts than they will to, say, an interactive and AI-based installation experience.

The integration of "computer art" into different aspects of the more traditional analog art canon is not, however, a one-way process in which computer-aided work is simply subsumed. Bringing the computer into the studio only reduces the identity of "computer art," because it shifts the fulcrum of the larger art world. In T.S. Elliot's influential piece "Tradition and the Individual Talent," he says that "what happens when a new work of art is created is something that happens simultaneously to all the works of art which preceded it." As more and more artists work with the computer without calling themselves computer artists or their work computer art, they contribute to the inevitable adjustment and reordering of nothing less than art history.

Will there be computer art in 2020? Yes and no. It will be everywhere, although it may seem to be nowhere. It will be part of a larger art world – not the same art world we have today, but one changed by the impact of a machine that has broadened artistic discourse and enabled fundamentally new tools for human expression.

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