Shows & Exhibitions

Revisit the Dawn of the Digital Age Through These 9 Key Works From LACMA's Exhibition on Early Computer Art

"Coded: Art Enters the Computer Age" traces the how technological progress has shaped artistic practice.

Min Chen, February 17, 2023

Hans Haacke, News (1969/2008). Photo: © 2023 Hans Haacke/Artists Rights Society (ARS), New York/VG Bild-Kunst, Bonn; courtesy of the artist and Paula Cooper Gallery, New York.

"Coded: Art Enters the Computer Age," an exhibition gathering 100 works that illustrate how artistic practices shifted with the emergence of computer technology beginning in the 1950s, opens at the Los Angeles County Museum of Art at a fortuitous moment. Running through July 2, the show arrives as digital art, with the help of blockchain technology, has acquired new currency, and as A.I. is freshly ascendant as a tool in image-making.

But as curator Leslie Jones told Artnet News, the exhibition was some 10 years in the making. Its spark was not NFT art, but the gift to LACMA of a series of witty computer drawings created by geometric painter Frederick Hammersley in 1969.

"Being a curious curator, I wanted to know more about their context," she said. "The seed of the exhibition was about looking back on a period that I felt had been somewhat overlooked and needed to be recontextualized in relation to what was going on at the time."

Installation view of "Coded: Art Enters the Computer Age, 1952–1982." Photo: © Museum Associates/LACMA.

"Coded," then, takes as its starting point 1952, when programming was in its infancy and computers were room-sized mainframes (see: HAL9000 in *2001: Space Odyssey*). However unwieldy the technology, early practitioners such as mathematician Ben F. Laposky and engineer A. Michael Noll, though not artists by practice, saw opportunities to use computational sequences to generate fine art.

Their work paved the way for the generative artists in the following decades—the likes of Vera Molnár, Harold Cohen, and François Morellet, who addressed the matter of art

production systematically. Conceptual and Op art, too, owed a debt to these computational approaches, with such artists as Sol LeWitt and Bridget Riley using algorithmic calculations to determine outcomes of their work.

The exhibition's scope ends in 1982, when personal computers arrived on the scene—closing out a period during which, Jones points out, artists had to go to some lengths to create any kind of computer art. Without home computers, they had to seek out machines at universities or corporations like Bell Labs, which were friendly to artistic experimentation. Even with access, creators had to learn to program (or find someone who could), then wait hours for the mainframes to generate outputs.

"I was just amazed by the artists' commitment to making it happen. They just understood the possibilities and were willing to go through that," she said.
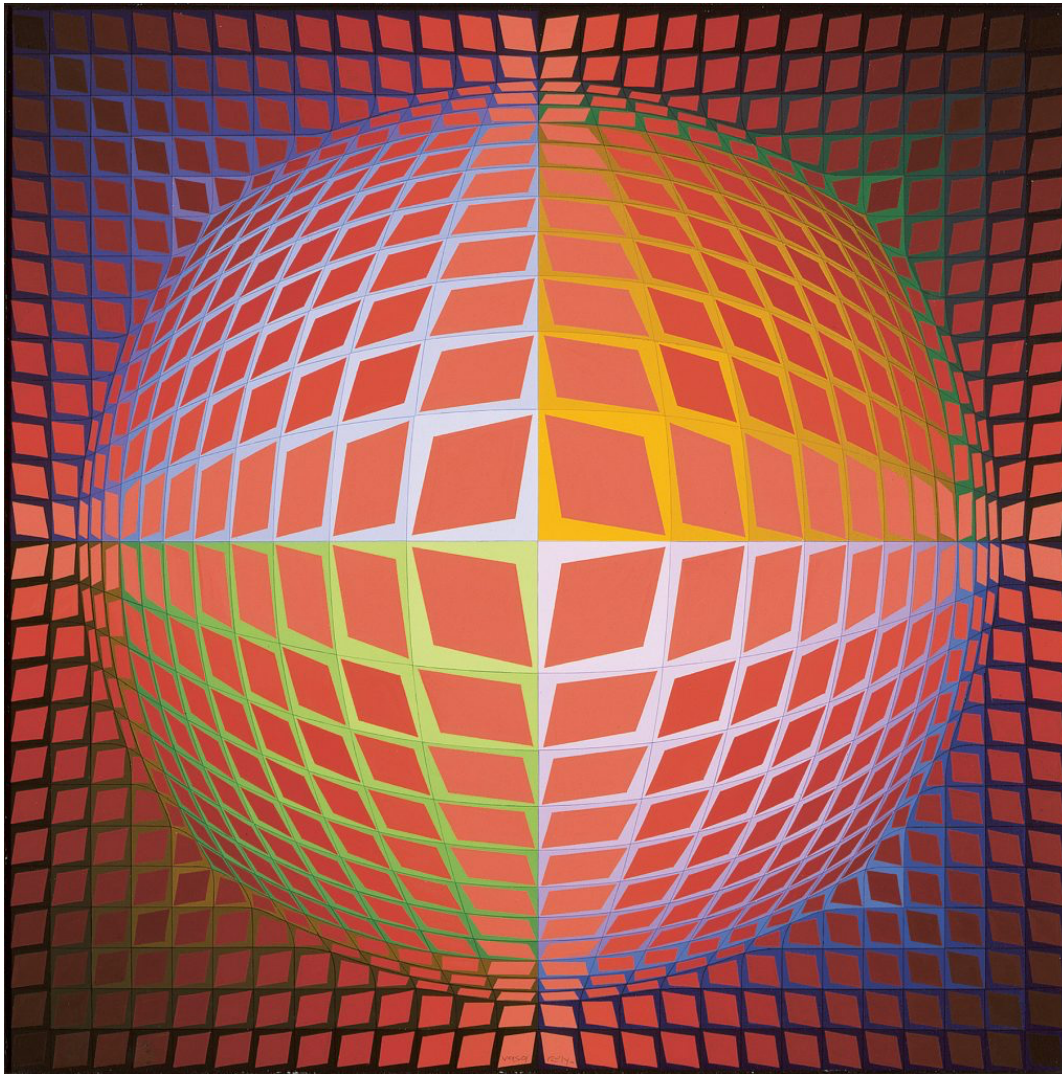
Victor Vasarely, *Vega-Kontosh-Va* (1971). Photo: © Artists Rights Society (ARS), New York/ADAGP, Paris, photo © Museum Associates/LACMA.

The show makes sense for an institution that can claim itself a role in the history of technology-assisted art. In the late '60s, LACMA initiated its Art and Technology program, which paired artists with technology companies to ideate and create cutting-edge art projects. As detailed in the resulting report on the program, the majority of these pairings—Walter de Maria and RCA, Dan Flavin and General Electric, among others—would come to naught, whether due to creative differences, prohibitive costs, or the lack of technological capabilities.

But even amid these failures, the catalog could also be read as a series of yet-to-be-realized proposals. In particular, "Coded" is revisiting Victor Vasarely's 1968 pitch to IBM to create "a lumino-cybernetic screen that can send out millions of different color combinations." The Op art pioneer reckoned there were "endless possibilities" to the project, but the corporation ultimately balked at the price tag of $2 million.

In a companion piece to the exhibition spearheaded by LACMA's Art + Technology Lab, a descendent of the Art and Technology program, Vasarely's proposal for a "multi-colored electric device" will be reimagined by new media artist Casey Reas. His interactive *METAVASARELY*, said Joel Ferree, the program director of the Art + Technology Lab, will contain "similar ideas that are in the original Vasarely proposal, but they'll be executed in a way that has more semblance to Casey's contemporary practice." The work will be on view onsite and online throughout the run of "Coded."


Installation view of "Coded: Art Enters the Computer Age, 1952–1982." Photo: © Museum Associates/LACMA

Reas's installation, however, is the show's only contemporary concession; Jones emphasizes that "Coded" otherwise centers a historical lens on computer art. The point is to examine how computing technology has disrupted and redefined the framework of what we consider art and who we deem an artist—a dialogue that has yet to run its course.

"Not everyone in the show is celebrating the computer as a device; there are some critical uses of it as well," she said, highlighting that technology remains as much a tool as a barrier to acceptance. "But so much has changed since then. It's not really about who did what first; it's more about having that conversation, or starting the conversation."
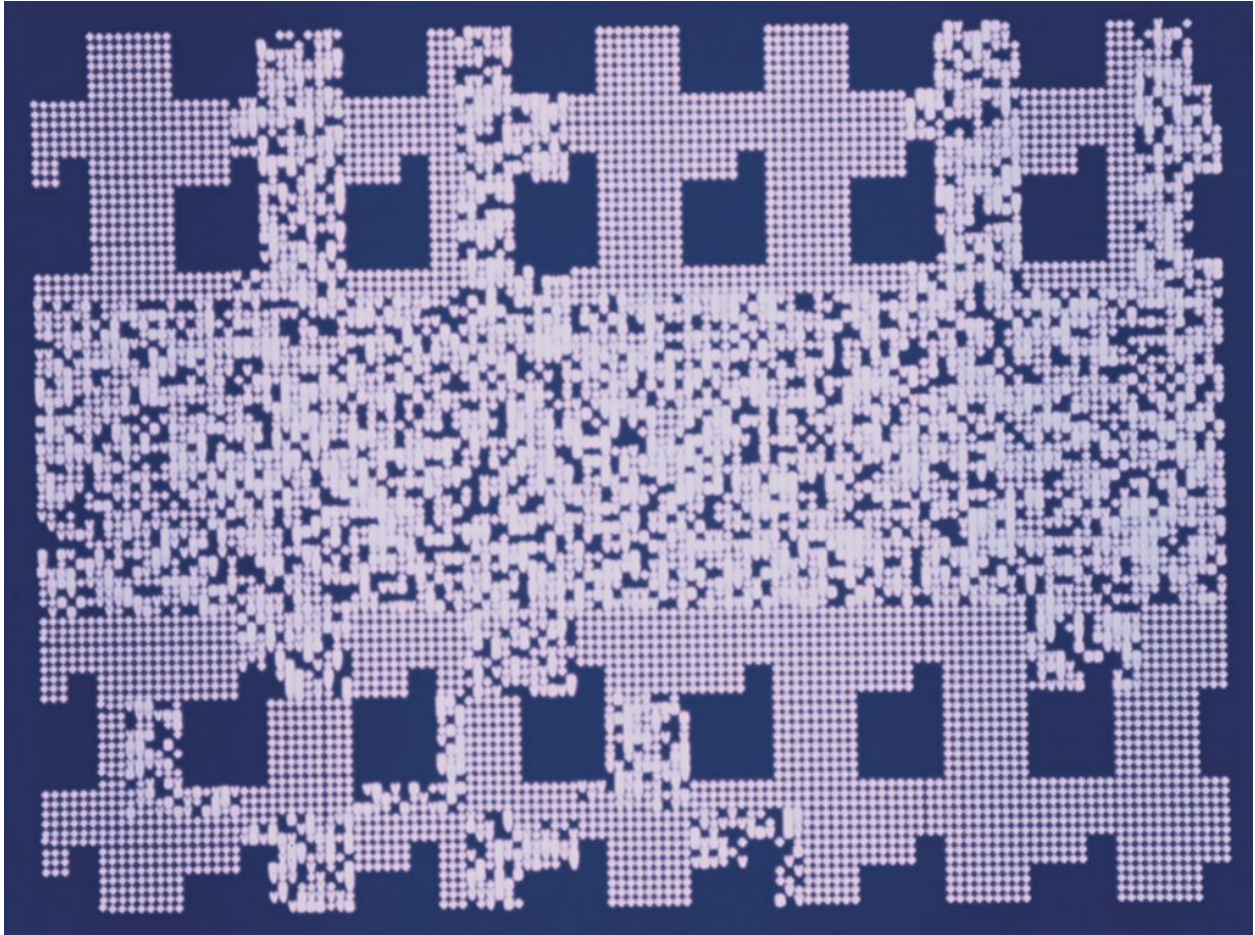
Below, explore nine key works in the exhibition:

1. Vera Molnár's computerized ode to Paul Klee
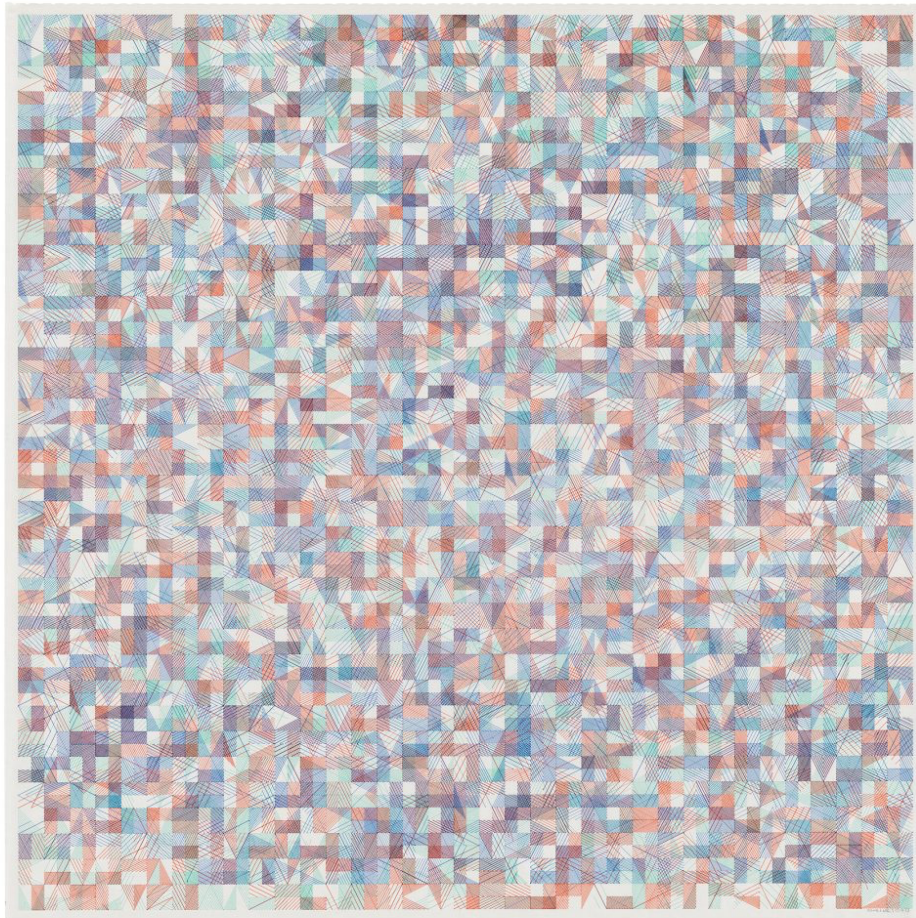
Vera Molnár, *À la recherche de Paul Klee* (1970), ink plotter drawing. Photo: © Vera Molnár, © Museum Associates/LACMA.

2. Filmmaker Stan VanDerBeek's early experiments in computer animation

Stan VanDerBeek, *Poemfield No. 1 (Blue Version)* (1967), realized with Kenneth C. Knowlton. Photo: © Estate of Stan VanDerBeek, all rights reserved, digital images courtesy of The Box, Los Angeles.

3. Edward Kienholz's patchwork computer
(which worked!)

Edward Kienholz, *The Friendly Grey Computer—Star Gauge Model #54* (1965). Photo: © Estate of Nancy Reddin Kienholz, courtesy of L.A. Louver, Venice, California, digital image © The Museum of Modern Art/licensed by SCALA/Art Resource, NY.

4. Analivia Cordeiro's dance compositions, choreographed by a digital computer

Analivia Cordeiro, still from *M 3×3* (1973). Photo: © Analivia Cordeiro, digital image courtesy of the artist.

5. Eduardo Paolozzi's mechanistic silkscreens

Eduardo Paolozzi, *Universal Electronic Vacuum: Computer-Epoch* (1967). Photo: © The Paolozzi Foundation, licensed by DACS/ARS 2023, courtesy of the University of California, Berkeley Art Museum and Pacific Film Archive.

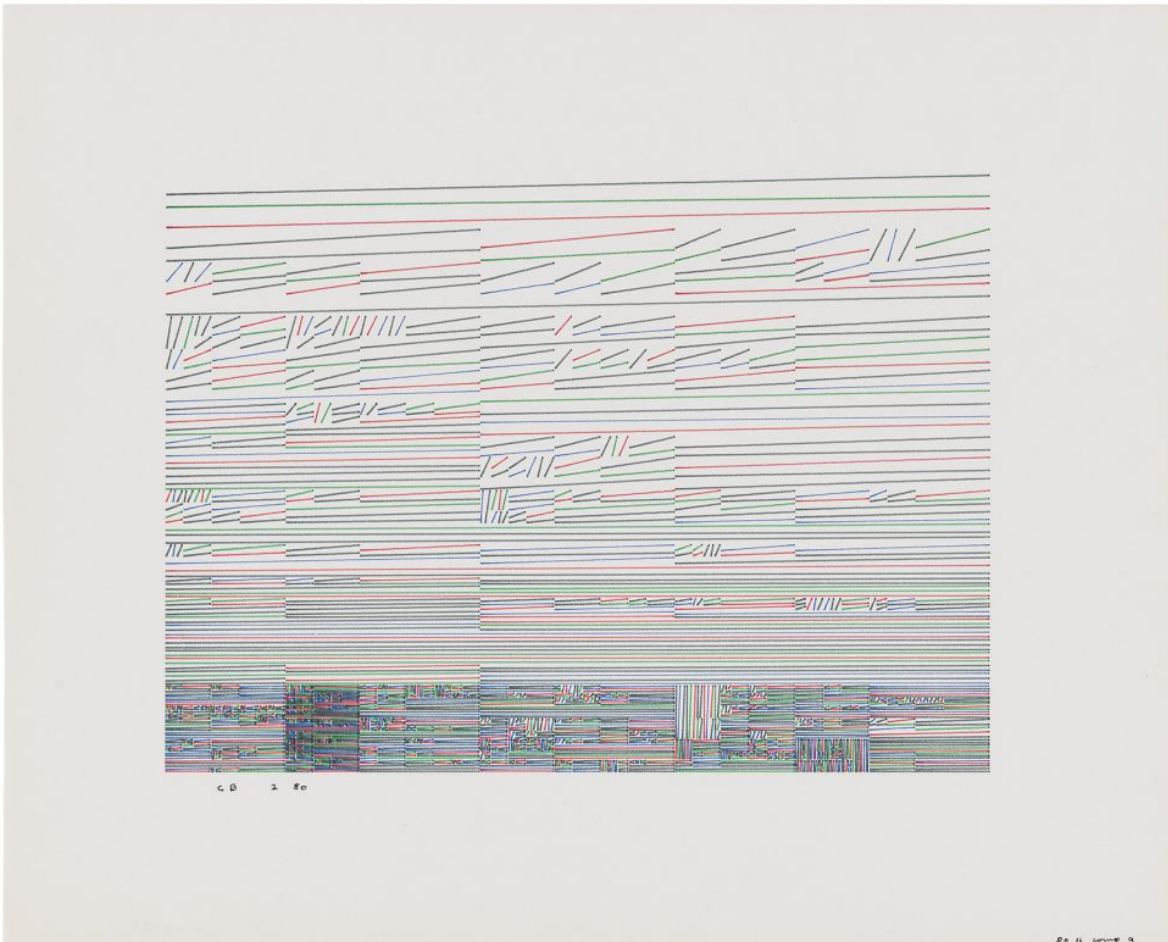## 6. Sonya Rapoport's hand-drawn data visualizations

Sonya Rapoport, page 4 from "Anasazi Series II" (1977). Photo: © Estate of Sonya Rapoport, © Museum Associates/LACMA.

7. Bauhaus designer Angelo Testa's tape reel-inspired textile, commissioned by IBM
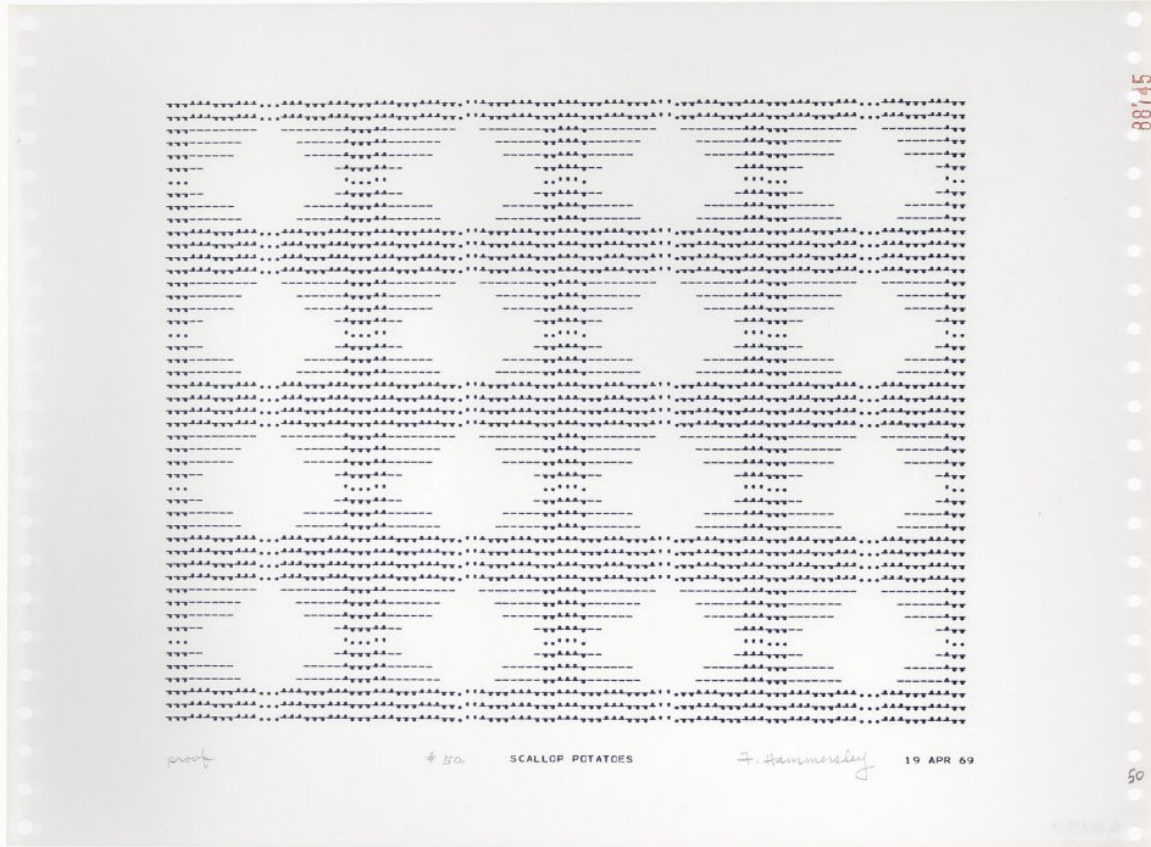

Angelo Testa, *IBM Disks textile* (1952–56). Photo: © Museum Associates/LACMA.

8. The Bangerts' "computer grass" plotter drawings

Colette Stuebe Bangert and Charles Jeffries Bangert, *GRASS SERIES II 80-11-comp-a* (1980).
Photo: © Colette Stuebe Bangert and Charles Jeffries Bangert, © Museum Associates/LACMA.

9. Frederick Hammersley's clever dot matrix print-outs

Frederick Hammersley, *SCALLOP POTATOES, #50* (1969). Photo: © New Mexico Museum of Art, © Museum Associates/LACMA.

"Coded: Art Enters the Computer Age" is on view at LACMA, 5905 Wilshire Blvd., Los Angeles, through July 2, 2023.