ChatGTP And The People Who Taunt It Have A Lot To Learn From These Pioneering Computer Artists

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On election night in 1952, Adlai Stevenson conceded to Dwight D. Eisenhower, ending twenty years of Democratic rule. Eisenhower's victory was not unexpected, but nobody imagined it would be a landslide, least of all the technicians operating the mainframe enlisted by CBS News to predict the results. Assuming the computer must be hallucinating, the programmers underreported what the UNIVAC I foretold. When the machine was vindicated – missing the final tally by just four electoral votes – the UNIVAC's operators confessed their lies. Eisenhower spent the next eight years in office. But in terms of influence over culture, the computer was arguably the night's biggest winner.

Edward Kienholz, The Friendly Grey Computer—Star Gauge Model #54, 1965, aluminum painted rocking ... [+]

In short order, the UNIVAC expanded from politics to the even fickler realm of relationships, landing a spot matching couples on a TV gameshow. Through savvy use of statistical analysis, the machine appeared omniscient and invincible. Challenges were inevitable, though even the UNIVAC couldn't possibly have predicted that one of the most significant would originate in the Paris studio of a Hungarian artist.

Vera Molnár was methodical in her work from an early age. She would draw the sunset every night, subtly varying the appearance of dusk by cycling through the spectrum of colors in her pastel box. When Molnár learned about computers, she had no chance of accessing a mainframe, so she conjured one in her mind. Beginning in 1959, her *machine imaginaire* produced a vast body of work by generating algorithmic variations on her hand-drawn compositions. Without question, the UNIVAC was faster at processing data – sorting surveys submitted by the lonely-hearted with breathtaking speed – but the underlying computational principles were equivalent. Molnár's art demystified the technology that gave mainframes the status of gods.

As an important new [exhibition at the Los Angeles County Museum of Art](#) shows, Molnár was one of numerous artists who subjected early computers to scrutiny while the media merely touted their merits. Artistic approaches ranged from investigatory to satirical, but most all of them were distinguished by penetrating insight into what computers could become given different human inputs. Many decades later, long after the last UNIVAC was unplugged, the artwork retains the ability to evoke what could have been and what might still happen.

As early as 1965, the American artist Ed Kienholz showed the power of satire with *The Friendly Grey Computer*. Anthropomorphic in form and seated in a rocking chair, the ersatz mainframe was made from surplus electronics and billed as an all-purpose electrical oracle. Any question could be asked by speaking into a telephone receiver and would be answered by flashing colored lights. (Primed by the UNIVAC's matchmaking prowess – and the repressive social conditions of '60s America –young women were especially inclined to ask, "Will I ever get a boyfriend?") Although the responses were arbitrary, Kienholz showed almost preternatural foresight in his instructions to users: "Computers sometimes get fatigued and have nervous breakdowns," he wrote. "Remember that if you treat your computer well it will treat you well." If only Microsoft had shared those words of wisdom before fortifying Bing with AI, the search engine might not have [lost its mind](#).

As artists gained access to mainframes, their work probed more deeply. Art proved an especially challenging activity given the many technical constraints of early computers. Attempts at artistic expression revealed qualities of the machines that engineers had never had reason to consider.

Colette Bangert was one of the most persistent early interlocutors. Trained as a landscape painter, Bangert moved to eastern Kansas in 1965 when her husband got a job working on the University of Kansas mainframe. Together with her spouse, Bangert started to explore the possibilities of drawing landscapes using the plotter, a machine designed to graph data on large sheets of paper. Through trial and error, the Bangerts figured out how to capture the visual texture of the midwestern prairie, an effect achieved by offsetting the precision of programming with random perturbances, effectively adding noise to the system. The persuasiveness of what Colette Bangert saw – the resemblance of lines on the plotter to the fields around her – led her to declare that "computer grass is natural grass". Contradicting the received wisdom that the computer was an otherworldly invention operating outside the realm of human experience, Bangert provocatively sought to ground it: to assimilate the mainframe into the natural environment.

"The computer," Vera Molnár wrote in 1980, "frees the painter from the weight of a sclerotic artistic legacy. Its immense combinatorial capacity facilitates the systematic investigation of the entire field of possibilities. By ridding the artist's head of clichés, or cultural 'mental ready-mades,' it enables the production of assemblages of shapes and colors never seen in nature or in museums. Pictures that we never could have imagined, pictures unimaginable."
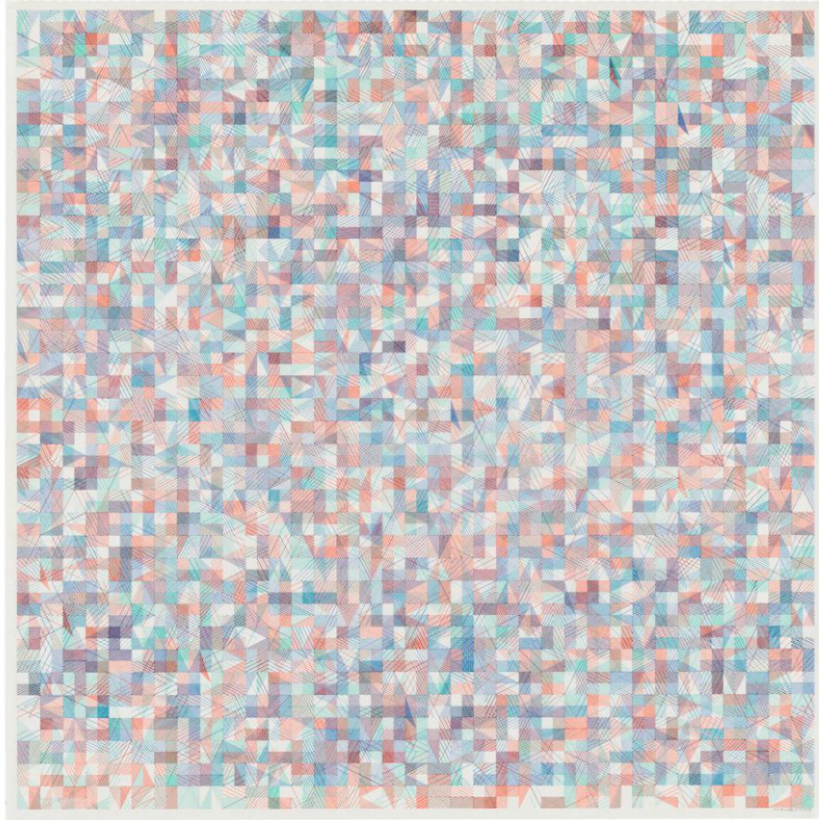
Vera Molnár, À la recherche de Paul Klee, 1970, ink plotter drawing, 29⅛ × 29⅛ in., Los Angeles ... [+] © MUSEUM ASSOCIATES/LACMA

Although Molnár's observation could have applied to computer grass, what she had in mind was considerably more ambitious, and in the same period that the Bangerts plotted prairie and Kienholz's friendly grey computer dispensed advice, Molnár led both technology and art into territory that remains underexplored to this day.

Having run computers in her imagination, Molnár was singularly prepared to approach the mainframe as an equal. Using a machine at the Sorbonne, and programming in FORTRAN, she deconstructed art by past masters and subjected their work to countless variations. She found the abstract compositions of Paul Klee to be especially suited to this process. The permutations she produced with the computer effectively expanded the oeuvre of an artist who had been dead for three decades.

À la recherche de Paul Klee is not parody or pastiche or plagiarism. It isn't a parlor trick. It represents a new kind of collaboration between two artists, one of them deceased, and a computer that had never been alive in the first place. In other words, what Molnár established was a relationship. Even more than the works on paper – dazzlingly complex compositions produced on a plotter – the interaction Molnár pioneered represented a way in which to live with technology that was neither subservient nor condescending. Together they could create pictures unimaginable, and the pictures could testify to an arrangement unimaginable before the mainframe met the artist.

Today, as we struggle to keep up with AI and react to the threat by rejecting its potential, we need new models for human connection with machines. Acting as free agents, artists can establish relationships that technologists cannot. Until contemporary artists do so, there remains much to learn from and to emulate in the artistic practices that emerged with the UNIVAC.