

# Computers and Programmed Arts in the Sixties in Italy

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Italian Programmed and Cinetic Art has been the focus of a renewed interest in the last years. The work of Bruno Munari, Gruppo T (Giovanni Anceschi, Davide Boriani, Gianni Colombo, Gabriele Devecchi, Grazia Varisco), Gruppo N and others has been shown in a series of books and exhibitions in Venice, Milan and Rome (Meneguzzo). It has also inspired a new action research project, under the title "Re-programmed Art", involving a group of contemporary digital artists and interaction designers with the task of re-programming a number of works by Gruppo T (Cangiano).

The aim of this research is to explore the nature of the relationship between Programmed Art and the diffusion of computers in Italy in the Sixties, from the history of computer science perspective. Were the electronic computing machines involved in any way to produce the works? What was the notion these artists had of "programming"? What was the market of computers in Italy at that time?

Olivetti was the very first Italian company to design and build serially produced mainframe computers, beginning its production in the late Fifties. The company had had a commercial agreement with the Compagnie des Machines Bull to be the Italian reseller of the French machines (Olivetti-Bull joint venture). Other foreign companies with a commercial diffusion in Italy in those days were IBM, Burroughs, International Computers and Tabula-

tors Limited (ICT), National Cash Register (NCR), Ferranti and Remington (Zandrino, Lhoste). Their clients were mainly banks, big industries and universities. Computers were not easily accessible to the general public and to artists as well.

It is not just a coincidence that the very first exhibition of "Arte programmata. Arte cinetica. Opera moltiplicata. Opera aperta" was presented in the Olivetti showroom in Milan in May 1962, first stage of a tour passing by Venice, Rome and Düsseldorf, ending in the United States. The company entirely funded the exhibition – as a part of its impressive cultural program of supporting art and literature. The promotion of the exhibition coincided with the development of a second generation of computer of the ELEA series, after the launch on the market of ELEA 9003, the very first Olivetti mainframe computer in 1959 (Mori).

Since the late Fifties Olivetti had assigned the design of its computing machines (ELEA series) to the architect Ettore Sottsass Jr. (1917–2007), who worked in collaboration with the Dutch industrial designer Andries Van Onck (b. 1928). While Sottsass firm was in charge of the aesthetic and ergonomic design of the machines (Sottsass, Van Onck) Olivetti assigned the development of a symbols system for the computer consoles to the Hochschule für Gestaltung in Ulm, Germany. Internationally known as the "Ulm School of

Design”, HfG was one of the most progressive educational institutions of design in the Fifties and Sixties and a pioneer in the study of semiotics. The sign system was designed by the director of HfG, Tomás Maldonado, together with Gui Bonsiepe, in 1960, as an attempt of man-machine interaction through a system of logograms and ideograms. (Anceschi, Bonsiepe).

Olivetti ELEA series included several models in different sizes and capabilities: 9003, 6001, 4001 and 4115. A new generation of mainframe computers was prototyped in the early Sixties (ELEA 9004, ELEA 9104) but they never went on the market. Some parts of these prototypes eventually became a part of CINAC (Computer-INAC) in 1967 (Vittorelli) and nowadays they are in the collection of the Museo degli Strumenti per il Calcolo in Pisa.

Olivetti Electronic Department was entirely sold to General Electric in 1964 (Soria). Sottsass went on designing computers, hired by Olivetti General Electric: in those years he was the responsible for the design of GE 100 series, together with David L. Higgins e John L. Monk (Savina).

Moreover, in 1964, a team of Olivetti employees who decided not to move to Olivetti General Electric designed the Programma 101 (Perotto), a desktop computer of a typewriter size, also known as “Perottina” because of its inventor Pier Giorgio Perotto (1930–2002). The architect in charge was Mario Bellini (b. 1935).

Despite the title of the exhibition, the works exhibition of Programmed Art contained no electronic components nor involved computing machines. Many of the sculptures and structures of Arte Programmata were driven by simple motors or could be manipulated by the spectator. The authorship of the name of “Arte Programmata” is universally attributed to Bruno Munari (1907–1998). Al-

though, it was the Italian philosopher and literary scholar Umberto Eco (b. 1932) who introduced the main concepts of Programmed Art in 1961, in the essay “La forma del disordine”, published in the Almanacco Letterario Bompiani 1962, where a collection of images by Anceschi, Colombo, Mari, Boriani, Munari, Devecchi, Castellani, Varisco, Soto, Roth and Gerstner were also published (Morando). The idea of “Programming” was not conceived as a process of methodical design: it involved the relation between the artist and the viewer, trying to undermine the traditional passive role of the viewer. The movement, position and interaction of the spectator were the random factors to be “programmed” by the artist in certain boundaries. The work of art didn’t consist on the best set of elements, chosen among the others. It consisted in the simultaneous presence of possibilities and permutations the work was capable of.

It is interesting to notice that in Italy, during the same years, musicians and poets were more involved in experimenting the use of computers, by programming the machines to achieve their piece of works. “Tape Mark” poems were computationally collaged compositions by Nanni Balestrini (b. 1935), obtained by from combinations of texts by three different authors (Michichito Hachiya, Paul Goldwin and Lao Tse). The computer used was an IBM 7070 hosted in the Electronic Center of Cassa di Risparmio delle Province Lombarde, a bank in Milan (Morando, p. 146). In 1968 *Tape Mark I* was selected to be part of *Cybernetics Serendipity*, international exhibition taking place in London, as an example of relationship between technology and creativity.

On the music side, Pietro Grossi (1917–2002), started his experimentations with electronic music in 1962, after paying a visit to an Olivetti ELEA 9003 in Siena. Later on, in 1967, invited by Olivetti General Electric, he record-

ed the very first LP composed and played by a computer (GE 115) in Italy (Giomi).

The presentation will show the diffusion of computers in Italy throughout the Sixties, in a parallel reflection between the evolution

of the works of Arte Programmata and a recognition of the computer machines available in Italy in those years, through rare images, drawing and publications, collected from several archives of companies and institutions.

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