

From the Golem and the Robot to the Machine as Work of Art by Miroslava Hajek

It is over a hundred years now that thanks to the technological revolution we have been surrounded by mechanisms, gadgets and machines that make our life more comfortable, almost without our being aware of it. Despite the fact that there may no longer be a single housewife in Europe who does not use a food processor, the sense of disquiet and conflict between humanity and machine is still felt today, and often expressed by popular culture, especially by certain kind of film. The Robots described in the play R.U.R. by Karel Čapek (the Czech writer who invented the word, deriving it from the Czech term *robota* – “forced labour”) are not mechanical automata but artificial creatures, form by a process somewhere between the chemical and alchemical and inspired both by the *in vitro* creation of a living being along the lines of Paracelsus’s homunculus¹ and by the story of the golem², a robot ahead of its time shaped out of clay and brought to life by a word written on a slip of paper and placed between its teeth. The legend of the golem of Prague has spread all over the world and, like Čapek’s play expresses a warning, a grim omen: the creation of an artificial man, as an attempt to appropriate the creative power of God, leads to rebellion by the machines and eventually to calamity.

On the other hand by the end of 19th century a great trust, almost a *faith*, in the power of mechanization had emerged in part of humanity: the conviction that machines could solve almost all the problems related to the toil of living. This optimism was particularly palpable in the enthusiasm of the early Futurist movement. Balla and Depero’s *Plastic Complexes*, published in the *Futurist Reconstruction of the Universe* (1915) but which unfortunately have not survived, were probably the first artwork *objects*, mechanisms created using new and atypical materials that expressed the sense of joy created by the new technological advances.

It was in the climate of Prague on the other hand that Zdeněk Pešánek (1896-1965) did his work, proclaiming himself a Futurist and ranging from art to theoretical speculations, from advertising to architecture. Pešánek had begun to work on his programme of kinetic art in his youth (in 1941 he published a theoretical volume entitled *Kinetismus*), creating works that anticipated many of the questions investigated over the following decades. As Alica Štefančicova has written, “in short the first luminous-dynamic object (as well as its principle) was not invented by Frank Malina or Nicolas Schöffer. The first luminous-kinetic object was not Moholy-Nagy’s *Lichtrequisit* of 1930, but Pešánek’s first version of the colour piano in 1922”³. Between the 1920s and 1930s Pešánek created luminous kinetic sculpture: corroded human torsos completed by a pulsating neon light that represent the symbiosis between humanity and technology, looking almost like vestiges of Čapek’s robots (perhaps gone extinct after having exterminated the human race, or perhaps, having acquired a soul, developing the capacity to generate).

However Pešánek most historically important undertaking is the one inspired Bruno Munari (1907-1998): the creation of *colour pianos* and *spectrophones*, devices for projecting kinetic compositions of coloured light onto screen, forming true, luminous abstract pictures. Munari was very curious and well-informed about the works of the Russian avant-gardes and Futurists, but he was also familiar with the often neglected artistic situation in Central Europe. The links between Munari’s works and the research of the Czech Futurists are still largely unrecognized (in particular with that of Zdeněk Pešánek and Jiří Kroha).

Munari’s light environments (the *Direct Projections* and *Polarized Light Projections*) are directly connected with Pešánek experiments. Munari’s idea of using a slide projector to create luminous installations takes up an idea of Jiří Kroha’s, who in his architectural

¹ Paracelsus is the pseudonym adopted by the illustrious Swiss scholar Theophrastus Philippus Aureolus Bombastus von Hohenheim (1493-1541). At Pargue University he taught *negormantia*, *carmina* (magical formulas), *veneficia* (sorcery), *vaticinia* (prophecy), *incantationes* (incantation) and the vaticinia that were typical of the Jases (polish gypsies), Shinti (Lithuanian gypsies) and Roma (local Bohemian gypsies).

² According to a legend current in Prague, the best-known golem was created by the rabbi Loew or Maharal, who lived in Prague from 1520 to 1609.

³ Alica Štefančicova, “Posel světla Zdeněk Pešánek”, in *Revolver Revue*, 21, 1992, p. 88.

designs for houses for the less well-off proposed projecting slides of works by major artists onto the walls, instead of hanging pictures on them.

Bruno Munari came onto the art scene at the end of 1920s, in the context of the second wave of Futurism led by Marinetti. The question of his involvement in the movement is however a very complex one: he took up the Futurist idea of dynamism and total art, involving all the senses, but at the same time mocked the exaggerated enthusiasm for mechanization displayed by Futurists.

Munari clearly discerned the possibility of conflict between humanity and its technical devices, but was equally aware of the impossibility of ignoring technological progress and keeping it out of art. He thought that art could become a means of overcoming suspicions and fears. And so he conceived his *useless machines* based on the principle of the lever, a primordial device, in order to arrive at the essence, the spirit of the machine, just as Malevič in painting sought to start over from its beginnings.

In 1938 Munari even created a work called *Machine Breath*, and in his *Manifesto of Machinism* (1952) wrote:

“Today’s machine is a monster!

The machine must become a work of art!

We shall discover the art of machines!”

It is from this perspective that we must consider Munari’s *Arrhythmias*, mobile objects of the 1950s intended to interact with the observer, who had to wind up a spring to set them going. In the *Arrhythmias* what characterizes the artist’s relationship with mechanization and technology is evident: Munari almost always constructed his works out of salvaged, found mechanisms, making use of the movements of clocks for example and turning them into mechanical beings that, when wound up, seem to take on an unpredictable and often ironic life of their own.

The *Useless Machine with a Merry-go-round Movement* (1953) is on the other hand a quite separate experiment: a rotating structure moves with decreasing speed, exploiting the mechanism of the wind-up motor of an old record player; the mobile part turns like a merry-go-round, while at the base of the seats are attached three segments of reflective metal, bent into various geometric shapes. Today the material has become a little opaque, but is still possible to observe in the movement of the machine a deconstructed mirror images of the surroundings and the mutable multiplication of the geometric elements in their reflective facets.

A Czech artist who presents surprising affinities with Munari’s idea of interaction between art and machine is Vratislav Karel Novák (1942): it is hard to view his mechanical art objects solely from a Constructivist perspective, because he almost seems able to bring them to life. Some of his small objects even seem to be self-propelled: they turn round unexpectedly, retrace their steps and turn somersaults, making us smile. Novák’s best-known work is *Metronome*, located on the site of the monument of Stalin that used to overlook Prague, of whose panorama it now constitutes an integral part. This work almost represents a watershed in the city’s history: it marks the end of totalitarian regime and is intended to serve as a warning for the future. The rod that beats time is extended by a laser beam projecting into the sky and accompanied by sound effects that punctuate the hours in parallel to the pealing of the bells of Prague’s churches. In this case the cold and mechanical robot-work of art is there to remind people not to lose their humanity.