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RHIZOMATIC BODY: THE SHIFT IN COMPREHENSION OF LIFE AND BODY WITH THE TURN OF THE BIOTECHNOLOGICAL PARADIGMS

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In the beginning of the 1950s molecular biology and then genetic engineering were those branches of life sciences that were reckoned as to bring the revolution. The development of the discipline was tremendous: the double helix structure of DNA was identified in 1953, in the 60s the new biology and especially the development in the molecular biology promised that mankind is soon to become the "master of evolution" in the 80s it was believed that the new field is truly bringing a revolution comparable to those in microelectronics and computers, in 1997 Dolly, the first cloned sheep was born, and in June 2000 (5 years earlier than it was predicted) a rough sketch of human genome was sequenced. Jeremy Rifkin, the first name of the movement against uncritical acceptance of genetic technology, noticed already in the 70s (but most noted in 1998 with the book *The Biotech Century*)[1] that industrial age has finished and that we are entering a new era, radically marked with biotechnology, and one in which the perception of ourselves and the society will completely change. "The 20th century was shaped by spectacular breakthroughs in physics and chemistry, but the stars of the 21st century will be the biological sciences, and those deciphering the genetic code of life. After thousands of years of fusing, melting, soldering and forging, we are not splicing, recombining, inserting, and stitching living material."[2] According to Herbert Gottweis's synoptic review of the chronology of life sciences for the Ars Electronica 1999 symposium on this topic, (1.) the 70s present the phase of hopes and fears, (2.) the 80s the phase of exaggerations and (3.) the 90s the fantasies being overtaken by contradictory realities.[3]

In the 90s the computer paradigm made an impact on life science: biology started to uncover the complexity of (bio)coding and gained the character of information science -bioinformatics with gene code as it focal point came to the foreground. In the times of computer culture the mechanisms of life were considered as the options of programmability and "artificial life ought not to be understood as a simulation but rather as a preliminary stage of hardware versions."[4] Computers, with a remarkable expansion in the 80s, introduced thinking about the logical structure of an organism and changed the cultural perception of life.

In the 80s computer scientist Christopher Lengton, one of the founders of artificial life field, developed cellular automation loops capable of reproduction taking place similarly as in living structures, DNA molecules. It has become possible to create "living systems" which were able to grow, multiply, develop and accommodate to the environment (digital ants, birds and other virtual creatures or organisms), with computers. Types of artificial life were developed that were visually mimicking human and animal appearance: robots and highly developed automats appeared. Peter Weibel, the curator of the 1993 Ars Electronica festival, which was devoted to the question of artificial life and to genetic art, offered a comprehension of life, strongly determinate with computer-logic: "Life, death, immortality, reproduction, heredity, development, evolution, growth, adaption -all these concepts have been given a new dimension by the computer culture. Computer culture enforced the shift of paradigm from defining life as a substance, material hardware or mechanism to conceiving life as a