



Artistic Research on Life Forms: Exploring the Intersections of Science, Art and Life in the Context of Globalization

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Contemporary art contextualizes a radical shift in art's boundaries that began in the last century. The art world has increasingly assimilated artists' experiments with new media and new contexts. Some of this artistic experimentation includes movements into non-artistic fields and the exploration of technological and scientific innovations. Experiments combining science, art and life often confuse art theorists, art critics and the public at large.

A primary issue highlighted by some artists who work with contemporary science and technology is the relative scientific illiteracy among a large part of the population. These projects often confront the achievements of the biotechnology industry. The Critical Art Ensemble (CAE), for example, is a group known for its critical commentary on biotechnological research. In 2004, the group's leader was accused of bioterrorism, and later charged with mail fraud. Although the case was dismissed in 2008, it has come to represent the challenges artistic activists must come to terms with in their efforts to expose the mechanisms and public metaphors dictated by multinational corporations and other economic-political interests [1]. Techno-scientific and art productions have become very intertwined, and thus there are strong indices for developing specialized institutions that allow collaboration [2]. One question raised by the development of these institutions is what kind of role those new scientific-artistic communities will play in the production of knowledge, imagination and practice. A second question is how contemporary society can discover the possibilities of art as a research activity, through which artists develop a new kind of knowledge.

ART AND "LIFE-SCIENCE"

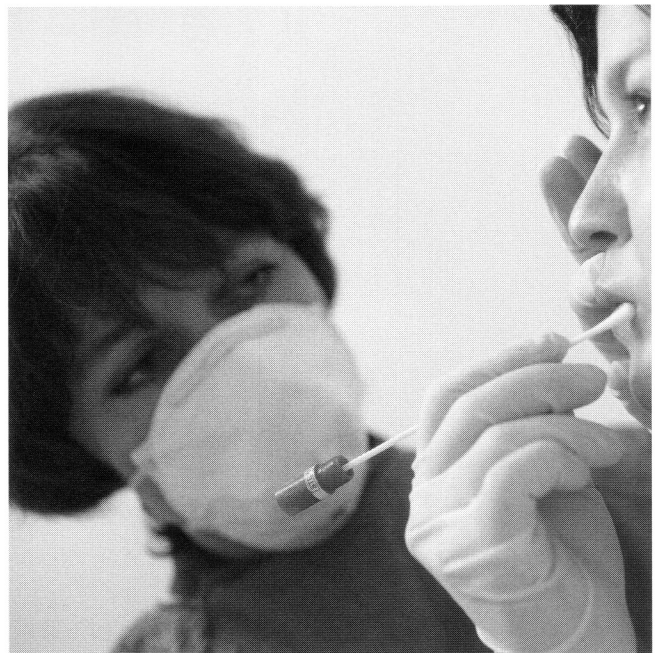
A crucial element of contemporary art is its urge to critique science, new technologies and new sociopolitical and economic conditions. This impulse leads to an explicit tension with multinational and multidisciplinary entities, regardless of the media or subject matter used. Products of this com-

mentary include hybridizations that offer new aesthetic models, new types of knowledge and new life forms. Noteworthy examples include computer-generated hybrids by Sims and Bec [3]; live hybrids by Steichen and Gessert [4]; Grünfeld's chimeras [5] and chimeras created through the collective vision of the SymbioticA group [6]; transgenic forms (Kac [7]); the *demonstration* of the human body, with results somewhere between degenerated and deformed beings—monsters, mutants (e.g. the transgenre mutations of Orlan [8]); and reservoirs of organs, or bionic hybrids (Stelarc: artist and cyborg [9]). Additional examples

ABSTRACT

Contemporary art practices are characterized by the transformation of completed or finalized objects into open works, fluid spatial situations and relations in the social field. Art processes raise the question: Can the complex structure of artworks provide an analogy and methodology that art researchers can use to co-design our culture from anthropological, philosophical, aesthetic and sociopolitical perspectives? This paper addresses this question through an examination of the artistic use of, and critical commentary on, media and available technologies, and of the artistic treatment of life forms found in the work of the younger generation of Slovenian artists (Tratnik, Berlot, Peljhan, Lovšin and others). The strategies these artists employ in their projects significantly strengthen the case for a re-articulation of the aesthetic, the ethical and the political, through a transition in various territories: art, (biotechnological) science, technology, new media and everyday reality.

Fig. 1. Polona Tratnik, *Unique*, multimedia project, 2006 [32]. (© Kapelica Gallery. Photo © Damjan Švarc. Photo courtesy of Kapelica Gallery archive.) Samples of observers' microorganisms are taken for examination and presentation in the form of an installation that enables the proper conditions for their growth.



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Article Frontispiece. Polona Tratnik, *Unique*, multimedia project, 2006 [32]. (© Kapelica Gallery. Photo © Damjan Švarc. Photo courtesy of Kapelica Gallery archive.) Microorganisms contributed by the visitors are gathered as if in a DNA bank.

include clones of plants and other “entities” (Jeremijenko’s cloning of a tree [10], the cloned sheep “Dolly” [11]), viruses, parasitic structures and symbiosis [12], etc.

Biology, meaning literally “life-science,” has historically been the study of organisms. Recent technological advances have allowed biologists to manufacture objects for study, which has contributed to the blurring of the line between humans and animals. Today biology has become a powerful engineering science, and biologists can redesign living materials and processes; this has revolutionary

implications for industry. When working in connection with the communications sciences, biologists can also construct natural-technical objects of knowledge that blur the difference between machine and organism. The subversive ideas of theorist Donna Haraway [13], particularly her cyborg theory, illuminate the significant interweaving of biology and technology today. She defines a cyborg as a “hybrid creature made of organism and machine.” Cyborgs are hybrid entities and are found in contemporary artistic practices. “These boundary creatures are, literally, *monsters*, a word that shares

more than its roots with the word *demonstrate*” [14]. As “monsters,” they have a destabilizing position in the great Western narratives about evolution, technology and biology.

Nevertheless, artistic and scientific approaches share a deep fascination with the productive and creative aspects of “nature,” “life” and “body.” We see this in models adopted for exploration in high-tech environments (e.g. A-life [15]). What happens when artists choose to work with biology at the level of living material and use these discoveries in creating new art/life forms?

BIOTECHNOLOGICAL ART

The field of A-life studies the functioning of life within artificial environments, while genetic engineering tends to change organisms (creating new phenotypes). Focusing on artistic work with living materials and concepts derived from scientific research, we find that artists approach biology on several levels: the microscopic level (genetic art), the macro level (ecological art) and the level of focusing on the human body and medicine [16]. Recent advances in biotechnology are particularly appealing to those artists who want to create artworks as new life forms. It is not always necessary to modify the genes of an organism to change its phenotype. Still, in some cases, the procedure requires the use of research laboratory as an art studio [17]. These so-called bio-artists, like microbiology researchers, often refer to the importance of “form” in their projects (concepts of beauty, symmetry, etc.). This cross-disciplinary interest in aesthetics is further supported by accessible visualization techniques and technologies.

GENETIC PARADIGM OF ART AND CULTURE

Cloning is one of the biotechnological methods used for the literal creation of a living artwork [18]. Art and culture offer a context for discussing this technique and the metaphorical use of cloning as a specific model of transfer. Most discussions on cloning are greatly influenced by scientific paradigms, which are developed with genetic research. My discussion of art and culture is more conceptual. In developing the conceptual connection, I build on the work of the Slovenian philosopher Marina Gržinić [19], who has discussed the patronizing gesture of First World contemporary art in relation to work from the Second and Third Worlds. In her work, Gržinić refers to Sarah Franklin’s analysis of the

Fig. 2. Polona Tratnik, *Unique*, multimedia project, 2006 [32]. (© Kapelica Gallery. Photo © Damjan Švarc. Photo courtesy of Kapelica Gallery archive.) Glass vitrines, a kind of “incubator,” preliminarily heated up to proper warmth, contain petri dishes in which observers’ microorganisms grow with the help of nutrient substances.



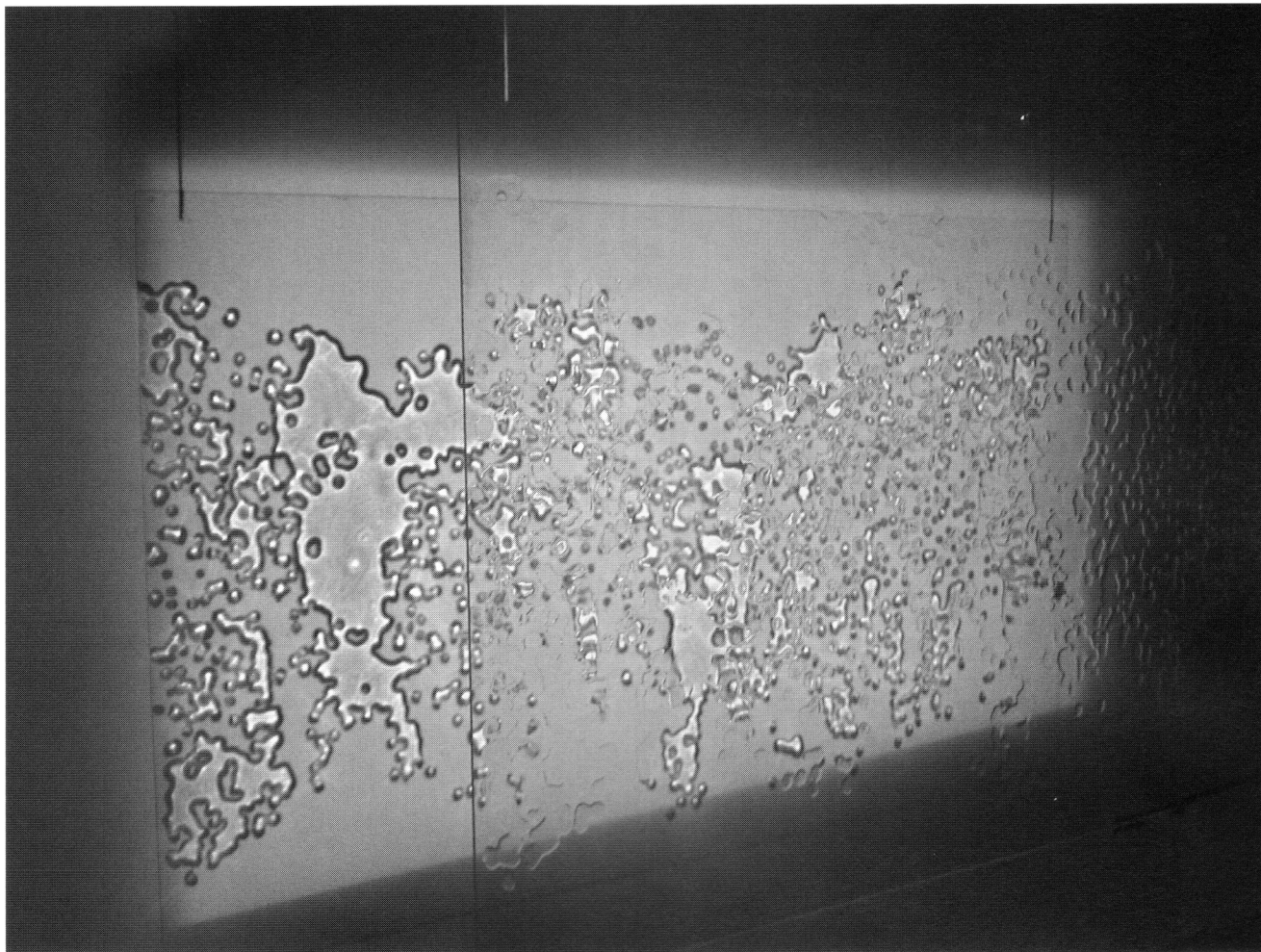
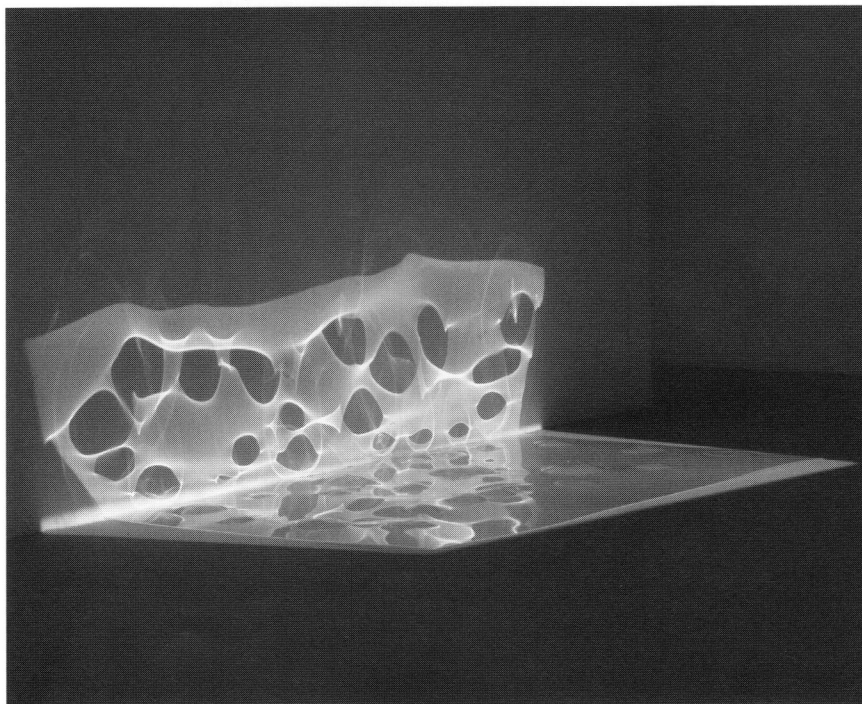


Fig. 3. Uršula Berlot, *Translucent Membrane—Micronature* [32], Plexiglas, artificial resin, 100 × 180 cm, 2002. (© Uršula Berlot)

cultural effects of the cloning of the sheep Dolly (1997) [20]. According to Franklin, there is a specific mechanism of transfer of genetic material based on the scientific discourse of cloning, and the viability (ability to survive) of a cloned entity as well as of the technique itself is introduced by this particular scientific result (the cloning of Dolly) and is the source of new genetic capital (biowealth). Gržinić asserts that we can similarly see non-Western artworks as cloned (removed from the source and transferred) when we view them at the major world exhibitions (*Documenta 11, In Search of Balkania* [21], etc.). This is a specific form of cloning, and it functions as an exclusion/inclusion operation. Gržinić's analysis also shows that biotechnology is a form of capitalistic domination over bare life (*biopolitics* [22]). Thus, she argues, it is possible to consider contemporary art by means of a genetic cultural paradigm: "This cultural capital is connected to the instruments of biopolitics, such as cloning and the technology of transferring the selected aesthetic characteristics, the motive of which ... is dictated by the

Fig. 4. Uršula Berlot, *Reflection* [33], bent Plexiglas, reflected light, 100 × 200 × 60 cm, 2002. (© Uršula Berlot)



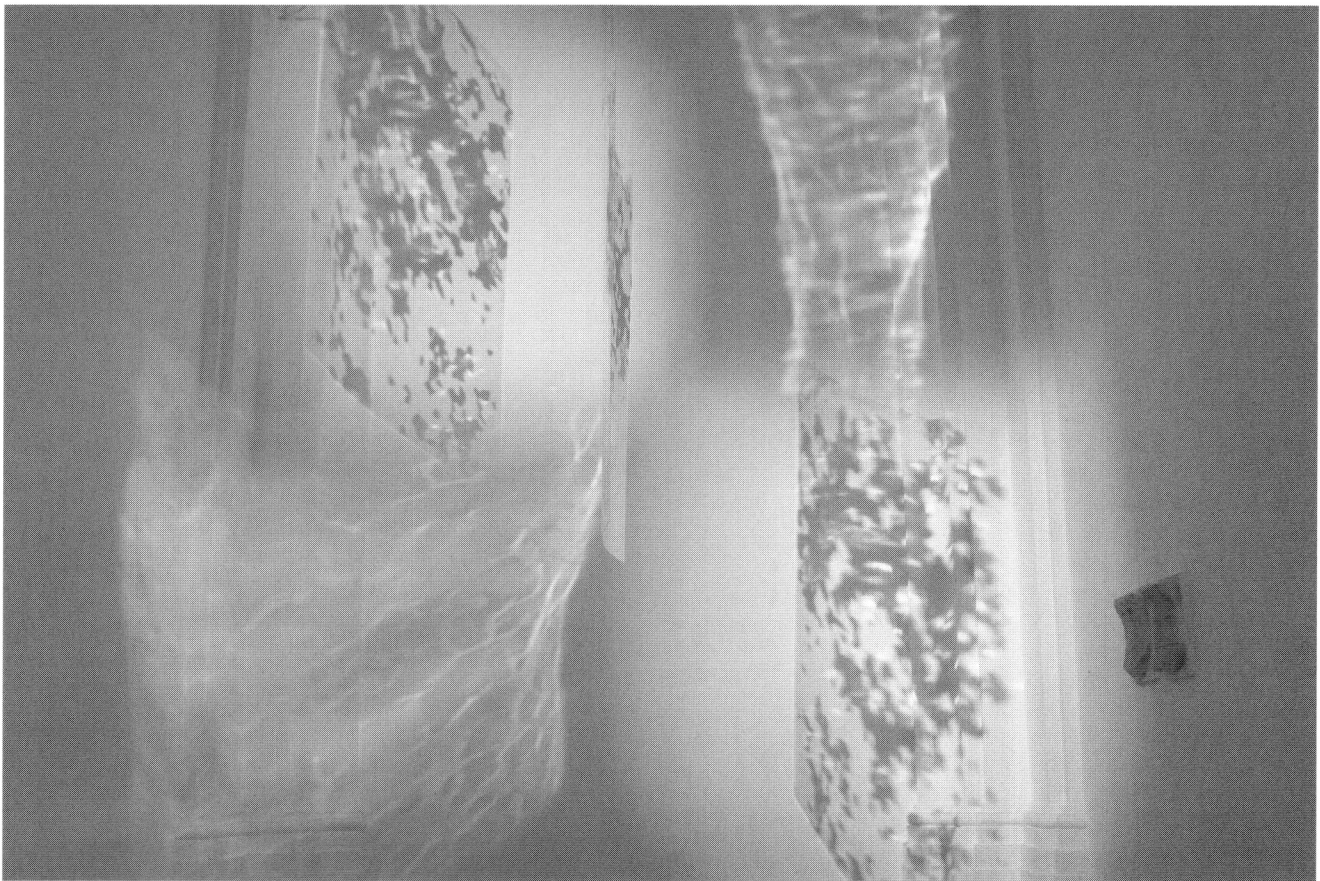
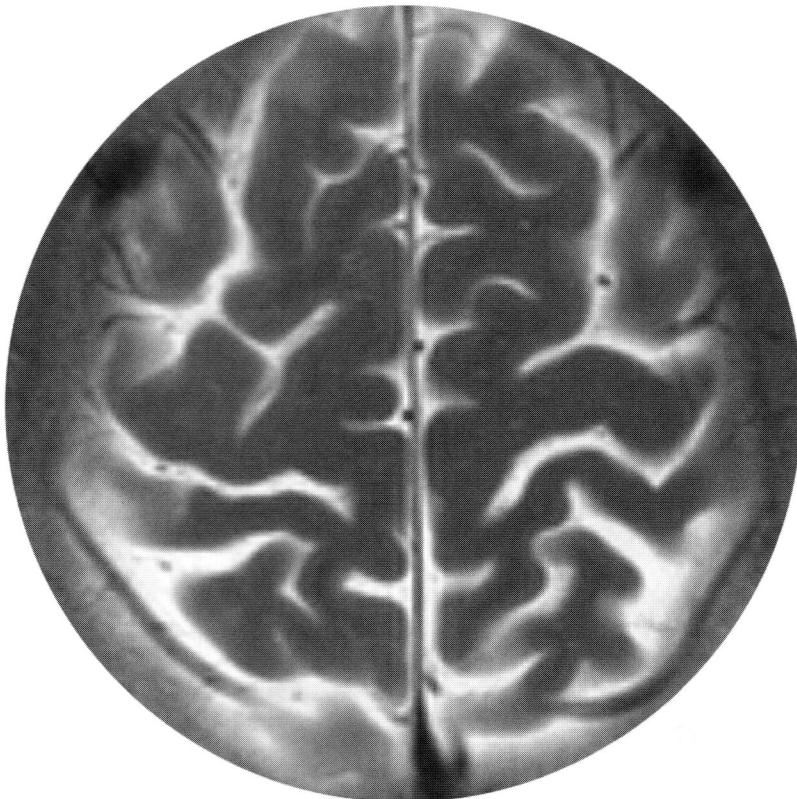


Fig. 5. Ursula Berlot, *Reflective Transitoriness*, kinetic light installation, variable dimensions, detail [34]; reflective folio, artificial resin, rotation motor, light, 2006. (© Ursula Berlot)

Fig. 6. Ursula Berlot, *Introspection*, video [34], radiology, magnetic resonance imaging, 2006. (© Ursula Berlot) Medical imaging of the artist's brain presents insight into the pulsatile brain tissue as a visual equivalent to the flow of not yet articulated, abstract states of cognitive processes.



Western art market" [23]. It is important to discuss the relevant questions in a broader context, since the Western project of the technological modernization of the world has become a threat to cultural diversity, a threat that is heightened due to the global spread of mass media. Any given discourse "needs structural changes when extended to other cultures and cannot simply be exported such as it is to other parts of the world" [24]. How art and culture spread globally depends on the connections between institutions, investments and the market, and whether the transfer into a new context is a source for new cultural capital. We can speak of special kinds of promiscuities, in Baudrillard's sense [25]—of the enormous capacity of hybridization—through (con)fusing and (re)composing—with the emphasis on the wanted (aesthetic) characteristics of the exhibited artwork.

Using the genetic paradigm in art, we can also talk literally about new hybrids, species or even breeds as artworks. Most of the plant and animal breeding that artists from Steichen on have engaged in involves genetic re-shuffling, which is a kind of modification. Most of these projects are conceived outside of research laboratories and without the assistance

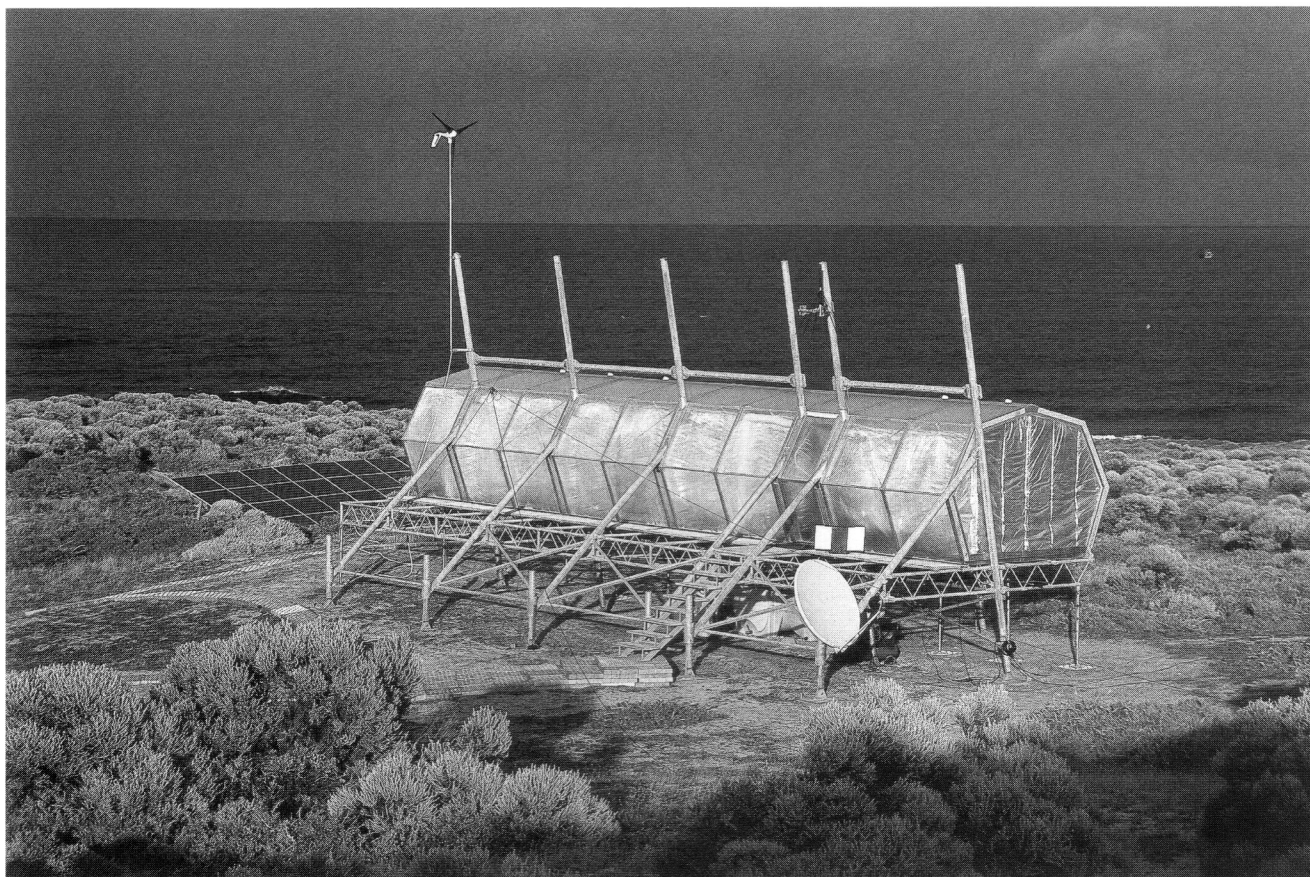


Fig. 7. Marko Peljhan, *Makrolab* [36], environment, various technologies, 1997–2007. (© Zavod Projekt Atol archive) A mobile and ecologically sustainable living, research and communication unit was also placed on Rottmest Island, Australia, 2000.

of scientists, although an artist can hire experts or can appropriate already existing genetically engineered organisms to use in the work (e.g. Kac). Hybrid work includes flowers (Steichen, Gessert) and ideas for creating new mammals in the context of art (Kac's *GFP Bunny*). Since the end of the 1980s many artworks have also used living organisms. Created by following scientific procedures, these projects formed from living materials blurred the dividing-line between art and science (e.g. Marta de Menezes, the artists associated with SymbioticA, and others).

This type of bio art, and in particular genetic art, operates on different levels. Some bio-artists challenge the uncritical glorification of scientific advances and the transfer of techno-scientific inventions into the social field, often seeing them as First World or Western. This type of critical endeavor challenges the Western edifice of humanity and humanism. When dealing with living beings, ethical questions arise. These are particularly evident when artists combine art and science. Incisive decision-making is critical in these instances, since biologically based artwork is not comparable to artistic experimentation with genres, functions and concepts. For bio-artistic research

and experimentation in life forms, it is essential that bioethical considerations be brought to bear on the development of techno-scientific progress.

ARTISTIC RESEARCH ON LIFE FORMS: EXAMPLES BY SLOVENIAN ARTISTS

Generally speaking, artists do not act exactly like scientists. Artistic “research” and “experiments,” through their communicative power, aim to move audiences toward new perspectives. My analyses here of selected artists and artworks introduce several models of artistic exploration of life forms. These models are grounded in understandings gained from directly dealing with biological life, from the creation of “artificial nature” and from creating an autonomous mobile living and research unit. I also draw upon experimentation with everyday life. How the latter is influenced by (bio)technology is one of the crucial questions here.

In her work *37°C* (2001) [26], Slovenian multimedia artist Polona Tratnik first actualized the idea of covering a sculpture with living matter—live tissue derived from human skin cells. After this, and with expert assistance by the Blood

Transfusion Centre of Slovenia, she explored the issue of the conceptualization of biological life. Her projects pose questions in relation to intimate human experience, to the material and sensual structure of the body, and to the individual's ability to make analogue connections in the field of vision. The latter is brought to the limits of the phenomenal, where the eye collides with chaotic and monstrous extensions of the human body. The use of visual technology does not provide appeasement of the gaze. On the contrary, it prepares a discreet meeting with the excremental, i.e. the “Other,” thus dematerializing our common, abstract relations with the artistic as well as the scientific approach to living matter. Rather than solving the problem of essentialism, we are dealing here with the turn from the ever-expanding coding of techno-science—and paradoxically with its own means—back to the fragility and the specific dynamic of the material body in its permanent and fluid contact with the world. The artist, exploring the idea of a body as an ecosystem rather than mere biological organism, implies—as in Merleau-Ponty's chiasmus—a questioning of the body as a subject [27]. Tratnik's works continue to discuss “the interweav-



Fig. 8. *Ready 2 Change* [37], curated by Urška Jurman and Polonca Lovšin, Gallery P74, Ljubljana, 2004. (© P74 Centre and Gallery. Photo © Polonca Lovšin. Photo courtesy of Ready 2 Change archive.) A research platform. Shown here: a presentation of the functioning solar electric systems.

ing of the individual in the common microbiological flesh of the world and to question the boundaries of the individual's intimacy and privacy" [28]. We can also talk about her attempt to present a kind of micro/bio/techno/logical self-portrait, transferred into the art world (magnifying microorganisms from the artist's body or hair). There is something like a disturbance, which gives evidence of the metamorphosis from subject to *object* [29]. It is a disturbance or "mistake, error," which "because of its senseless, obscene intervention can be understood as a new (but also always failed) statement of the subject" [30]. This statement has a lot to do with the phenomenological body, for it sometimes seems to exist only as a metaphor, disembodied fragment or trace. The latter is well illustrated by the project *Private Bowls* (2004): Displayed in glass cases, porcelain cups made using imprints of the artist's body parts on which (her) microorganisms have been grown serve to question the function of the museum [31] (Color Plate B). Her more recent projects, such as *Hair* (2005) and *Unique* (2006) [32], comment on how the body is linked with the biotech industry, which is supported by the intertwining of scientific, aesthetic and com-

mercial aspects (Figs 1 and 2 and Article Frontispiece). The scientific-artistic gaze at/into the body is not only interesting as a mere "object." It also becomes a metaphor of how Western visual culture functions.

In this section, I extend the questions Tratnik raises about transfer/translation of the material world into artwork (from the microbiological view) by examining the work of the Slovenian visual artist Uršula Berlot [33]. Berlot's interest is abstraction from organic, living matter and the creation of so-called "artificial nature." She relates her art to the notion of nature by investigating scientific research into physical phenomena upon which the biological life processes in nature are based. The crucial point in creating "artificial nature" is the meeting of art, science, technology and industry. This includes finding adequate procedures and materials to transpose natural, physical-chemical processes such as gravity, coagulation, crystallization, etc. into her artwork. These passing, fluid, natural states are re-presented through a stable industrial material, such as Plexiglas and synthetic resin (Fig. 3). The results are pictures that are also fragile sensors of light. Of great importance is their place-

ment in the gallery. The goal is to create an ambience of shadows and reflections, which functions as a tool of experimentation with technologies for ephemeral visualization and plays with the perception of the viewer (Fig. 4). The metamorphic states of light and matter draw analogies with the mental phenomena involved with human perception. These phenomena are further explored in her kinetic light installations (Fig. 5). Her recent video works and crystalline, fractal compositions are also of interest. One is formally based on an X-ray scan of the artist's brain, in particular the cerebral tissues that present the unique, indivisible link between the organic, "natural" body and abstract mental processes. The artwork becomes a bodily/organic and technologically generated hybrid, which manifests the energetic mental, immaterial but nevertheless bodily constituted topologies [34] (Fig. 6).

Berlot's more ecology-oriented artworks include various projects exploring the relations between art and science [35]. Through an artwork, a large geographic area can become a fragile relic, a nature-culture hybrid, a fragment surrounded by a complex web of political, economic, techno-scientific, ecological,



Fig. 9. *Ready 2 Change* [37], curated by Urška Jurman and Polonca Lovšin, Gallery P74, Ljubljana, 2004. (© P74 Centre and Gallery. Photo © Polonca Lovšin. Photo courtesy of Ready 2 Change archive.) A research platform. For a month-long artist-in-residence program in a trailer parked on the lawn in front of the gallery, a natural purification device for cleaning the wastewater from the trailer was constructed.

artistic and aesthetic issues. An aesthetic appreciation of nature, embedded in the complex world of the artwork, is cognitively informed by scientific knowledge as well as by particular cultural traditions.

Artists have also rediscovered the importance of telecommunication. In these works, their individual, private, subjective communications are juxtaposed with network communications of national and international purposes. For example, *Makrolab* (1997–2007) (Fig. 7), by the Slovenian intermedia artist Marko

Peljhan [36], is a fusion of art, science and communication technology that enables a mobile and ecologically sustainable mode of living (sustainable sources of energy: solar and wind power). It is a research and communication unit dealing with weather, climate and migration. Telecommunication, the main aspect of the project, is enabled through the invisible supports of power systems, which mark the borders of territories detectable by the technology. Peljhan's work is based on modular architecture, commu-

nication via signals and waves, sustainable energy and food production, networks systems, publications and lectures.

Ready 2 Change (2004) [37], a curated project of Gallery P74 in Ljubljana, is another research platform from Slovenia. This work is composed of an exhibition, lectures, presentations and workshops. Its intention was to provide a multi-layered insight into the issues of possible life alternatives and individual approaches to all kinds of systems that rule our everyday lives. The project focuses on the principles of informal, temporary and self-sustaining architecture, the alternative use of energy, the "do-it-yourself" principle, and collaboration. The project also includes a functioning solar electric system (Fig. 8) and a temporary residence, which was installed in the garden in front of the gallery, to which a water-purifying device (Fig. 9) was connected. These features were based on the idea that the establishment of innovative structural and organizational models is essential not only for everyday living but also for the development of experimental artistic and cultural production. Polonca Lovšin [38], a co-organizer of *Ready 2 Change*, explores some possible living alternatives in her artistic work. One example of an al-



Fig. 10. Polonca Lovšin, *The Solar Collection* [38], 2002. (© Polonca Lovšin. Photo © Tomaž Tomažin.) Japanese sandals with solar cells, batteries and Walkman are an example of alternative usage of energy; they use solar energy in order to allow the wearer to be more independent of the city power grid.

ternative source of energy is a device that uses solar energy (inventively combining high- and low-tech production) in order to attain more independence from the city power grid (Fig. 10).

In summary, artistic experimentation can liberate us from the rigidity of scientific procedures. Enterprises such as *Ready 2 Change* or founding a gallery in your own bedroom [39] can operate as a field for research. These types of projects also establish laboratories for performing embodied subjectivity in the fluid zone between art and everyday reality. As artistic projects, they bring to mind tendencies associated with neo-avant-garde practices (e.g. Beuys), which introduced our everyday life into art institutions, striving for a new ecological sensibility and the creation of alternative life forms.

CONCLUSION

Potentialities of knowledge that emerge from the intersections of art, science and life push our awareness of scientific work in new directions. Those artists who respond to the questions raised by biotechnology help us frame our comprehension of scientific advances, although their intentions are not identical with the profit motive of the biotechnology industry.

Foucault [40] pointed out that our understanding of the discipline of the body and the regulation of the population are the two poles around which the system of power over life is structured. With the appearance of modern “bio-power,” control is related to various investments into the living body. The life of the body is discovered in the minute details—according to the growing complexity of life-oriented technologies of power.

Today the body is in fact under surveillance through the use of biopolitical instruments. Biotechnology can be seen as a form of the capitalistic domination over life. If we follow the logic of capital, we find we can easily fall into the uncertain position of incessant bargaining with our bodies, our memories, our experiences, our personal histories and ourselves. Should we search for the “ultimate answers” [41], accepting the techno-scientific display of power, supported by the great economic and political interests, or turn to a utopian way of searching for a kind of balance or “alternative forms of life”? Under these conditions, art might become a marginalized (and also utopian) asylum of alternative economy of bodies and pleasures, sexuality and subjectivity. When art explores life forms, the main question is, how can

it be the actual mobilizer of alternatives? How can art mobilize its audience in a capital-oriented reality, where the aestheticization of excess is one of the most developed commodity forms [42]? Finally, in light of how biotechnology has confused the boundaries between life and manufactured alterations, we must ask which barriers artists can legitimately transgress in stimulating people to question scientific knowledge and the pleasures derived from technological advances. Our answers must not allow us to forget there are responsibilities when we cross boundaries. Artistic research of life forms allows us to deal with different connections between the aesthetic and the political, including those that explicitly call for ethical re-examination. The democratization of aesthetic, cognitive, technological, scientific and other elements of artistic expression allows the involvement of these elements in life situations and in everyday sensual experiences.

References and Notes

Unedited references as provided by author.

1. Critical Art Ensemble (CAE, founded in 1987) is a collective of five artists/activists exploring the intersection between art, technologies, radical politics and critical theory, <www.critical-art.net>. In the spring of 2004, the founder of the collective, Steven Kurtz, became involved in a court process that brought forth some crucial questions about the freedom of artistic creativity and interdisciplinary research, as well as the right of inexpert audience to knowledge about scientific discoveries, products of biotechnological industry, etc.; see <www.caedefensefund.org>. This case was dismissed on 21 April 2008, see <http://caedefensefund.org/releases/042108_Release.html>.
2. An example in Slovenia is the *ArtNetLab* initiative, a small but for Slovenia important forum and meeting space where young artists, scientists and engineers can collaborate; see Franc Solina, “ArtNetLab—The Essential Connection between Art and Science,” in *The Future of Computer Arts*, Marina Gržinič, ed. (Ljubljana: Maska, Maribor: MKC, 2004) pp. 148–153.
3. See, for example, the interactive media installations of Karl Sims (*Galápagos*, 1997: visualization of Darwin’s mechanisms of evolution, creating various virtual creatures); and the so-called technozoo-semiotics of Louis Bec, the goal of which is to be the medium for different codes of life. See Oliver Grau, *Virtual Art. From Illusion to Immersion* (Cambridge, MA: MIT Press, 2003) pp. 310–313.
4. The first genetically manipulated life forms presented in the art context were the flowers of American photographer and flower breeder Edward Steichen (1879–1973), *Delphiniums*, exhibited at the Museum of Modern Art in New York in 1936. Flowers were not exhibited as art until 1988, when George Gessert exhibited his *Iris Project* at New Langton Arts, San Francisco. See George Gessert, “Notes on Genetic Art,” *Leonardo* 26, No. 3, 205–211 (1993).
5. *Chimera* (an imaginary monster compounded of incongruous parts; an organ or part consisting of tissues of diverse genetic constitution). In the work of artist Thomas Grünfeld (*Misfit*, 1998) we can see realistic renderings of chimeras in a literal, scientific sense.
6. SymbioticA is scientific-artistic lab in Australia, pioneered by Oron Catts and Ionat Zurr, who are also founders of the Tissue Culture and Art Project (TC&A) from 1996. See <<http://www.tca.uwa.edu.au>>; <<http://www.symbiotica.uwa.edu.au>>.

7. Brazilian artist Eduardo Kac proposes a new kind of “transgenic art” to create unique living beings (*GFP Bunny*, 2000); <<http://www.ekac.org/gfpbunny.html>>.
8. French artist Orlan is doing experiments with surgery on her own body (*Omnipresence*, 1993); <<http://www.orlan.net/>>.
9. Stelarc is an Australian-based performance artist. In his works, he explores the relations of the body with technology; <<http://www.stelarc.va.com.au>>.
10. Australian design engineer and techno-artist Natalie Jeremijenko poses her statement about genetics in terms of cloning a walnut-tree into 1,000 examples (*One Tree*). The trees were first exhibited (*Ecotopias*, 1998–1999) and later planted in the San Francisco Bay Area (2001); <<http://www.onetrees.org/>>.
11. Regarding the metaphorical use of cloning see Marina Gržinič, “Global Capitalism and the Genetic Paradigm of Culture,” in *The Future of Computer Arts* [2] pp. 69–80.
12. Stelarc offers a parasitic view on the human body: he wants to re-engineer the body to make it meld with machines, a symbiosis of biological cells and technology. As he has described it, the “cyborged body enters a symbiotic/parasitic connection with information”; see <<http://www.stelarc.va.com.au/parasite/index.htm>>.
13. Donna Haraway, *Simians, Cyborgs, and Women. The Reinvention of Nature* (New York: Routledge, 1991).
14. Haraway [13] p. 2.
15. Christopher G. Langton, “Artificial Life,” in *Ars Electronica: Facing the Future: A Survey of Two Decades*, Timothy Druckrey, ed. (Cambridge, MA, and London: MIT Press, 1999) pp. 261–268.
16. Stephen Wilson, *Information Arts: Intersection of Art, Science, and Technology* (Cambridge, MA: MIT Press, 2002).
17. For example, Marta de Menezes: *Nature?*, *Ars Electronica* 2000; Kapelica Gallery, Ljubljana, *Break 2.3*, November 2005; see Marta de Menezes, “The Artificial Natural: Manipulating Butterfly Wing Patterns for Artistic Purposes,” *Leonardo* 36, No. 1, 29–32 (2003).
18. For example, Jeremijenko’s *One Tree(s)* [10].
19. Marina Gržinič [11], *Estetika kibersveta in Gržinič derealizacije* (Ljubljana: ZRC SAZU, 2003) pp. 92–103.
20. Sarah Franklin: “Dolly’s Body: Gender, Genetics and the New Genetic Capital,” *Filozofski vestnik* 23, No. 2 (Marina Gržinič, ed.), 119–136 (2002).
21. See <http://www.neuegalerie.at/02/balkania/balkania_e.html>; <<http://www.ljudmila.org/scca/platforma4/intro.htm>>.
22. According to Foucault and, especially, Agamben, biopolitics is understood as a form of domination over bare life. The private “interior” emphatically enters into politics, when the biologically given becomes a political issue (therapeutic cloning, euthanasia, abortion, gay marriages etc.)—or, after Foucault and Agamben, when politics deals with issues touching upon life itself (bare life), it becomes biopolitics. See Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life* (Stanford: Stanford University Press, 1998). See also Boris Groys, “Art in the Age of Biopolitics: From Artwork to Art Documentation,” in *Documenta 11* (Kassel: Hatje Cantz Verlag, 2002) pp. 108–114.
23. Gržinič [19] p. 14.
24. Hans Belting, “Global Art and Minorities: A New Geography of Art History,” in Belting, *Art History after Modernism* (Chicago, London: The University of Chicago Press, 2003, pp. 62–73) p. 64.
25. Jean Baudrillard, “Telemorphosis,” in *CTRL Space. Rhetorics of Surveillance from Bentham to Big Brother*, T.Y.

- Levine, U. Frohne, P. Weibel, eds. (Karlsruhe: ZKM, and Cambridge, MA, and London: MIT Press, 2002) pp. 480–485.
26. Polona Tratnik, *37°C*, Kapelica Gallery, Ljubljana 2001–2002; *L'art biotech*, Le lieu unique, Nantes, 2003. See Polona Tratnik, "37°C: From the Inside of a Being to the Thin Line of Life," *Leonardo* 38, No. 2, 102–108 (2005); <<http://www.ars-tratnik.si>>.
27. Maurice Merleau-Ponty, "L'entrelacs—le chiasme," in Merleau-Ponty, *Le visible et l'invisible* (Paris: Gallimard, 1964) pp. 172–204.
28. Polona Tratnik, "Flesh of the World" in *A minima*, No. 18, 6–21 (2006) p. 19.
29. This is derived from Kristeva's notion of the abject; see Julia Kristeva, *Powers of Horror: An Essay on Abjection* (New York: Columbia University Press, 1982). Judith Butler can be added to the list of those who explore the abject, as she claims that "abject beings ... form a constitutive outside to the domain of the subject." See Judith Butler, *Bodies That Matter* (New York and London: Routledge, 1993, p. 3).
30. Gržinič [19] p. 48.
31. Polona Tratnik, *Private Bowls*, first presented at the group exhibition *Breakthrough*, Grote Kerk, Den Haag, Netherlands, 2004 (version appeared also at BEAP, Australia, 2004). The second part of the project *Private Microorganism* (beside *Private Bowls*) is *Microcosmos*, first shown as a solo exhibition, Municipal Gallery Nova Gorica, Slovenia, 2004.
32. Polona Tratnik, multimedia project *Hair*, Small Gallery of Museum of Modern Art, Ljubljana, and Gallery Miklova hiša, Ribnica, 2005. *Unique* was first realized in February 2006, *In Vivo in Vitro* show, Athens, Greece; it was presented also at U3—5th Triennial of Contemporary Slovenian, Museum of Modern Art, Ljubljana, 2006/2007.
33. Uršula Berlot, *Nature*, a solo exhibition at the Equrna Gallery, Ljubljana, 2001; *Translucent Membrane and Reflection*—both pieces were first presented at the solo exhibition *Reflection* at Small Gallery of Museum of Modern Art, Ljubljana, 2002; <<http://www.ljudmila.org/~berlotur/>>.
34. *Introspection* (together with *Reflective Transitoriness*) by Uršula Berlot was first presented at the solo exhibition *Transitoriness*, Kostanjevica na Krki, Slovenia, Božidar Jakac Gallery, 2006.
35. For example, the projects of Finnish-Brazilian artistic tandem Henna Asikainen and Silvana Macêdo (*air*, Finland, Brazil, 2001–2004); see paper "Intimate Immensity," presented at the XVIIth International Congress of Aesthetics, Brazil, 2004.
36. With *Project Atol* (1992) and *Makrolab* (first presented 1997 during *Documenta X*) Peljhan started to create an autonomous communication and distribution system; <<http://makrolab.ljudmila.org/>>. Peljhan's artistic engagement is inspired by the techno-utopian ideas of the Russian historical avant-garde, especially the Futurism of Velimir Hlebnikov.
37. *Ready 2 Change*, curated by Urška Jurman and Polonca Lovšin, the Centre and Gallery P74, Ljubljana, 2004. The concept of the project is the continuation of the book by Lovšin in 2003 as part of the 25th International Graphics Biennial in Ljubljana; <<http://www.zavod-parasite.si/arhiv/lovsin/ready2change/eng/prva.htm>>; *Ready 2 Change*, Urška Jurman and Polonca Lovšin, eds. (Ljubljana: Maska, Zavod P.A.R.A.S.I.T.E., 2005).
38. See <<http://www.lovsin.org/>>.
39. Ulla Karttunen, *Boudoir News* (Paris, Helsinki: Rio de Janeiro Special Issue, 2004). Finnish art critic, theorist and artist Ulla Karttunen established *Bedroom Gallery Bathroom Gallery*—BGBG in Paris and Helsinki (1997–); in 2002 BGBG manufactured the cosmetic collection *Dog in Bed* with a booklet "What Is Sex: The Ultimate Answer." The aim of the use of impossible brand name was to make a fault as a form of cultural criticism.
40. Michel Foucault, *The History of Sexuality: Volume One, An Introduction* (New York: Pantheon Books, 1977).
41. Karttunen [39].
42. Lev Kreft, "The Work of Art in the Epoch of Hegemony of Commodities," paper presented at the International Colloquium of Slovenian Society of Aesthetics, October 22–25, Ljubljana, 2003; see *Filozofski vestnik* 24, No. 3, 35–51 (2003); see also Gržinič [19] p. 41.

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Polona Tratnik, *Private Bowls*, 2004. (© Polona Tratnik) The porcelain bowls, made from imprints of the artist's body and filled with microorganisms on the growth medium, are exhibited as precious antiques in the museum glass vitrines. See General Article by Mojca Puncer.