In this book, Miško Šuvaković reflects on the very topical question of so-called 'surplus life and forms of life', through the lens of groundbreaking theoretical and artistic articulations, including the artistic productions of the Slovenian bio-artist Polona Tratnik. With his concise analyses of relations between art, politics, and (mainly bio-technological) science, the author shows how forms of life can be visualised or 'spectacularised' in contemporaneity through the mediation of art. As Šuvaković demonstrates, by means of intersecting with complex trans-disciplinary research projects, art is able to produce transitional situations in which highly specialised scientific knowledge about life is elevated onto the level of sensory, affective, and bodily experiences. The author compellingly identifies the effects of collapsing the barriers that used to demarcate separate spheres and disciplines under the conditions of globalised culture. The book thus encourages us to keep re-examining the concepts of life that the tradition of Western thought has bequeathed to us, in light of the discontinuities, turning points, and potentialities of forms of life, with which and through which we must live and co-exist.

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Surplus LIFE

Miško Šuvaković
SURPLUS LIFE: THE PHILOSOPHY OF CONTEMPORARY TRANSITIONAL ART AND *FORM OF LIFE*
WITH REGARDS TO THE ARTISTIC PRODUCTIONS OF POLONA TRATNIK

Damjan Švarc
HAIR IN VITRO *photography*

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INTRODUCTION: CONTEXTUALISATIONS

This text is about understanding philosophically and theoretically the conditions of thinking and acting in different registers of art, science, technology, and politics in contemporary transitional cultures. In the context of *abstract knowledge*, the central problem of the following discussion will be to articulate the understanding and presenting of thinking and acting immanent to multiplicity.[1]

My intent is to theorise both the immediate and broader contexts of Polona Tratnik's work in art and theory within the larger context of concrete knowledge.[2] Tratnik's work offers an occasion to explore structural potentialities and modifications at various intersections of technology, science, politics, and art in contemporary culture. In what follows, both the immediate and wider contexts of the interdisciplinary relations between politics, technology, science, and art in contemporary culture will be explored and interpreted. Also, I will show that contemporary technology, science, and politics are spectacularised and brought to bodily-individual and collective-social visibility by means of art. Polona Tratnik's work aims at procedures of exemplifying relations between politics, science, and the technology of shaping, modifying, or controlling 'life' by means of artistic productions. Therefore,

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1 Peter Hallward, 'Badiou's Ontology', in *Badiou: A Subject to Truth*, Minneapolis: University of Minnesota Press, 2003, pp. 81–106.

2 Polona Tratnik was born in 1976. She majored in painting and received a Master's degree from the Academy of Fine Art in Ljubljana. She received a doctorate in philosophy and theory of visual culture from the University of Primorska in 2007. She is currently a research associate at the Science and Research Centre and an assistant professor (*docent*) at the Faculty of the Humanities of the University of Primorska in Koper, Slovenia. In her art, Tratnik explores relations between art and science; in other words, she is a protagonist of BioArt.

her art practice does not constitute 'art for art's sake' or 'art *qua* art' in the modernist sense; rather, it concerns using tools of contemporary art to mediate, whereby the political, the scientific, and the technological lend visibility to forms of life. It is about art endowed with the specific functions of cultural spectacularisation. In the case of Polona Tratnik's productions, spectacularisation denotes those art practices by which the biotechnological, bioscientific, and biopolitical practices of contemporary culture become visible in relation to forms of life. The visibility of their mutual relations suggests three different regimes that should be examined and interpreted:

- the regime of sensory recognition, i.e. the regime of preparing 'forms of life' for sensory perception, followed by cognitive processing,
- the regime of presenting and representing the visibility of forms of life by means of media and post-media in the information channels of culture and art, and
- the regime of impacting the spectator's individual or *collective body*, whereby the impact of the visible emerges as an event that results in that body's attraction and affectation.

In its broadest sense, the overall context of Polona Tratnik's interests and works is life and living matter. More precisely, the specific context of her work concerns living matter in contemporary art. That means that her explorations in art and theory move across an interdisciplinary field delineated by BioArt, post-Fordist production, and new-media and post-media presentations.

BioArt denotes those contemporary art practices that interventionally present the potentialities and actualities of real or fictionally conceived life, by means of their choice of subjects or media. BioArt emerges from the re-articulations of science, technology, politics, and art in contemporary culture. Those re-articulations are associated with presenting, representing, and performing most diverse forms of life, i.e. conditions of living matter. Polona Tratnik, for instance, works with bacteria and living cells. She works with systems of locating, identifying, appropriating, and surveying, i.e. controlling bacteria and cellular living matter.

The context of BioArt is a hybrid one and encompasses rather diverse fields: the art of micro-organisms, the art of macro-organisms, the art of mutations of living matter, genetic

art, living art, environmental art, radical body art, eccentric bodies, art and disease, cyber-art, etc.[3]

Post-Fordist production denotes those stages of capitalist socio-economic production that are based on an informational derivation, production, and postproduction of abstract knowledge within the global social and cultural market.[4] Post-Fordism features an essential transformation of the production of goods and accumulation of value into the production and postproduction of services, that is, a transition of relations, which is indexically marked and introduced into the economy by abstract scientific-theoretical knowledge *qua* commodity. Post-Fordism denotes a permanent transition in the production of living situations and the knowledge of living situations, life, and living matter. Polona Tratnik's work in art is post-Fordist inasmuch as she does not offer complete works *qua* 'pieces of art', but displays research processes and situations with living matter. She works with concrete and abstract scientific-technobiological knowledge, which leads to a transition of forms of life and their spectacularisations by means of exemplifying situations.

'New-media presentations' denotes those technologies that are used to generate and mediate abstract knowledge in the field of attraction and affectation.[5] New media denotes those digital technologies that are based on 'abstract software knowledge'. These technologies serve to transfer every kind of concrete and practical knowledge into the abstract instrumental knowledge of mediation and exchange in human contemporary life.

Post-media knowledge denotes a variety of artistic and cultural practices that are not associated with any particular medium, i.e. technology of art, but use different media, situational models, and forms of life to perform various functions of information and spectacularisation.[6] Polona Tratnik works with post-media situations involving living

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3 Eduardo Kac (ed.), *Signs of Life: Bio Art and Beyond*, Cambridge, MA: The MIT Press, 2007; Ivana Bago, Olga Majcen Linn, and Sunčica Ostoić (eds.), *Kontejner: Curatorial Perspectives on the Body, Science and Technology*, Zagreb: Kontejner – Bureau of Contemporary Art Praxis, 2010.

4 Gal Kirn (ed.), *Postfordizem: Razprave o sodobnemu kapitalizmu*, Ljubljana: Mirovni inštitut, 2010.

5 Miško Šuvaković, 'Epistemology of New Media', in *Epistemology of Art*, Belgrade: TkH Beograd; Vienna: Tanzquartier; St. Erme, France: PAF; and Antwerp: Advanced Performance Training, 2008, pp. 139–145.

6 Rosalind Krauss, *'A Voyage on the North Sea': Art in the Age of the Post-Medium Condition,* London: Thames and Hudson, 1999.

matter – bacteria, human cells – which may become visible by being exemplified in an event, for instance, by exhibiting a simulation of a laboratory or a laboratory archive containing bacteria and cells. On the other hand, her approach to new media is a mediatory one. A digital photograph or video footage is a documentary system of mediating information, spectacularisations, and knowledge of her concrete work with forms of life. Living matter becomes visible only thanks to the mediatory role of presenting and documenting situations, processes, and events in the transition of forms of life forms into forms of life in different media and post-media.

FORM OF LIFE

Form of life is a basic concept in biology, biopolitical philosophy, as well as contemporary BioArt. In Polona Tratnik's art, her work with forms of life appears as an artistic, aesthetical, and theoretical problem of constructing and performing transitional situations.

The usage of the concepts of 'life' and 'form of life' is indebted to analyses and discussions of the differences and contradictions between the undisplayable-silent presence in nature, the undisplayable-silent life of nature, and the displayable-sayable life of society, i.e. culture and art.

In its broadest sense, biopolitical thinking begins as a critique of poststructuralism's 'textocentrism', by pointing to those existences and phenomena that are beyond the field of intentionality and symbolisation. It shows that there is *something* beyond text as a referent, as a rupture, as that which falls out or that which emerges as a becoming, that is, as that which is an object, situation, or an event. There is *something* that is wild, potent, and immanent, and at the same time fragile, vulnerable, and extremely short-lived – all of this might certainly apply to the life of a bacterium, a cell, a plane tree, a grain, a butterfly, an elephant, or a human. Here is how Gilles Deleuze defined life:

> We will say of pure immanence that it is A LIFE, and nothing else. It is not immanence to life, but the immanent that is in nothing is itself a life. A life is the immanence of immanence, absolute immanence: it is complete power, complete bliss.[7]

[7] Gilles Deleuze, 'Immanence: A Life', in *Pure Immanence: Essays on A Life*, trans. Anne Boyman, New York: Zone Books, 2001, p. 27.

On the other hand, according to Giorgio Agamben, the *Ancient Greeks* had no generic term for what we mean by the word *life*.[8] They used two semantically and morphologically different terms: *zoé*, which signified the very fact of the living together of all living things (animals, people, and gods) and *bios*, which signified the form or specific way of life of a particular individual or group. Over the centuries, this distinction gradually disappeared from the vocabulary of modern languages; in those places where it still survives, as in *biology* or *zoology*, it no longer denotes a significant difference whatsoever. One single term – 'life' – is used in such a way that its ambiguity grows in proportion to the sacralisation of its referent. 'Alive' signifies a mere common assumption that is almost always possible to isolate in any one of numerous distinct forms of life.

Form of life, however, refers to life that can never be separated from its form, life in which it is impossible to isolate such a thing as *mere* or *bare* life. This is where a fundamental difference emerges between cultural-studies theorisations of 'life' and the philosophical interpretations of life that biopolitical philosophy has provoked. Cultural studies have advanced the post-poststructuralist assertion that there is no such thing as *bare life*, but that, rather, life invariably exists through its presentations and representations by textual *agents* within closed systems of culture. Cultural studies posit life as a text, or 'non-bare life'. On the other hand, the philosophy of biopolitics posits the claim of an analytic-critical separation of 'natural' from 'human', which means intellectual from political life.[9] Life appears as an event that triggers variable consequences in the world.

Viewed from yet another angle, that of the philosophy of biology, form of life is not only the event of life itself, but also an event and discourse that have their own history, which is projected onto the event of life in constructing and deriving concrete and abstract knowledge of life. In that sense, for the science that goes under the name of biology, life is a heterogeneous set that includes both the linguistic and the non-linguistic, that is, non-intentional events and discourses

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8 Giorgio Agamben, 'Form-of-Life', in *Radical Thought in Italy: A Potential Politics*, eds. Paolo Virno and Michael Hardt, Minneapolis: University of Minnesota Press, 1996, pp. 151–152.

9 Michel Foucault, 'The Birth of Biopolitics', in *Ethics: Subjectivity and Truth*, ed. Paul Rabinow, London: Penguin Books, 1997, pp. 73–79.

of living matter. The concept of life is determined by life as such, i.e. life as the external reference of that discourse. But the concept of life includes the abstract knowledge of life as well. Also, the concept of life includes institutional classifications and divisions of the knowledge of life, as well as surveillance/control of life. Life is a philosophical proposition as well as a legal category. On the other hand, form of life is invariably endowed with its concrete strategic function, which situates it in a human relation, with all the contradictions and conflicts that human relations as such bring. Biology is therefore determined by intersections between relations of power and knowledge in the complex process of human alienation, which means that amid all these contradictions humans must become machines in order to be able to produce the human in themselves. Only humans produced as such, who appear to have abandoned their 'zoé' (biological existence), are those who construct the concept of life as abstract knowledge in relation to the wild, potent, and immanent, and yet fragile, vulnerable, and extremely short-lived duration of organisms. That moving between zoé and bios, that is, from bios, which makes zoé possible as knowledge in the field of power, is an essential marker of every 'form of life'.

American theorist and historian of biology Donna Haraway once said:

> I have always read biology in a double way – as about the way the world works biologically, but also about the way the world works metaphorically. It's the join between the figurative and the factual that I love. This is an example of my Catholic sacramentalism. I think of the intensely physical entities of biological phenomena, and then from them I get these large narratives, these cosmological histories if you will.[10]

The congress of the literally and the metaphorically biological marks the hybrid area of the relations between concrete and abstract knowledges of forms of life that are accessible to cultural orders and art disciplines. Therefore, BioArt does not simply emerge as an artistic fascination with biology as a science, or as an artistic fascination with the technologies involved in the scientific field of applying the insights of biology, that is, in live events. Instead, BioArt plays

[10] Donna Jeanne Haraway, *How Like a Leaf: An Interview with Thyrza Goodeve*, New York: Routledge, 2000, p. 24.

out in between the potentialities of the knowledge and events of life, through tactical media of exemplification. These are the tactical media of transforming abstract, that is, primarily social, cultural, and historical knowledge of life into the field of visibility. And that means spectacularisation, with all of its real and fictional effects, i.e. affects.

According to Hannah Arendt, the difference between the Greek term *bios politikos* and its Mediaeval Latin rendition into *vita activa* is that *bios politikos* explicitly signified only the field of human relations with emphasis on acting, *praxis*, needed to uphold it, whereas *vita activa* signifies three fundamental human activities: labour, work, and action.[11] *Vita activa* signifies the basic markers of human life and conditions under which humans were given life on earth. The human and life are joined in *that* which may be called the *form of life*.

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[11] Hannah Arendt, *The Human Condition*, Chicago: University of Chicago Press, 1958.

ART, POLITICS, TECHNOLOGY, AND SCIENCE – SPECTACULARISATION

Contemporary relations between art, politics, technology, and science may be identified as a field of obsessions and phantasms about representing the 'truth of the world/life', or, alternatively, as a field of obsessions and phantasms about performing the 'regulation of world/life'.[12] The concepts of this representing and performing should be understood as practices of exemplifying generically the conditions of the truth and potentiality of forms of life. Polona Tratnik's work concerns representing the truth conditions and performing the regulation of living, that is, biological material. By means of this representing and performing, the invisible and abstract world of the 'knowledge of life', which science and technology posit before events and situations of life, becomes visible. It is not that art thereby becomes science or technology, but rather that through art, science and technology become visible with all of their effects and consequences in the real, living world. The function of art is to **spectacularise** the complex field of relations between science, politics, and technology with regards to forms of life.

The genealogy of the concept 'spectacularisation' suggests why Polona Tratnik's art practice must be recognised as a spectacularisation of forms of life. 'Spectacularisation' stems from 'spectacle'. Guy Debord claimed that spectacle was *capital* accumulated to the point when it became an image.[13] If one accepts his assertion as the formula of the spectacle, then one may say that the spectacle is *an X* accumulated to the point when it becomes an image. In other words, one might say that through art, different forms of life are accumulated

[12] Jurij Krpan *et al.*, *Art & Science: Creative Fusion*, Brussels: European Commission, 2008.
[13] Guy Debord, *The Society of the Spectacle*, trans. Donald Nicholson-Smith, Canberra: Hobgoblin Press, 2002, p. 11.

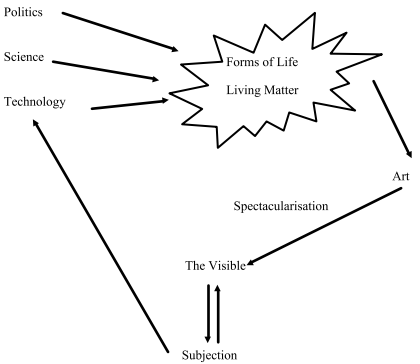
to the point when they become images. Spectacularisation is identified as a recreating[14] of the conditions of sensory/bodily experience in relation to forms of life:

> Spectacle is not primarily concerned with a *looking at* images but rather with the construction of conditions that individuate, immobilize, and separate subjects, even within a world in which mobility and circulation are ubiquitous.[15]

Spectacularisation may thus be understood as performing subjectification by means of the visible in relation to forms of life. With regards to forms of life and living matter, subjectification is the regime of relations between that which is seen and that which may be said, between knowledge and action, activity and passivity. Subjectification is determined not only by nature, but also by history – for example, Walter Benjamin offered an explanation of that essentially socio-historical character of subjection and spectacularisation:

> During long periods of history, the mode of human sense perception changes with humanity's entire mode of existence. The manner in which human sense perception is organized, the medium in which it is accomplished, is determined not only by nature but by historical circumstances as well.[16]

Regarding the above, one might construct a scheme of forms of life brought to visibility by means of art, thereby establishing references to politics, science, and technology. Such a scheme might look like this:



[14] Jonathan Crary, 'Modernity and the Problem of Attention', in *Suspensions of Perception: Attention, Spectacle, and Modern Culture*, Cambridge, MA: The MIT Press, 1999, p. 13.

[15] *Ibid.*, p. 74.

[16] Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction', in *The Continental Aesthetics Reader*, ed. Clive Cazeaux, London: Routledge, 2000, p. 325.

The spectacularisation of relations between politics, science, and technology through art appears in the historical endurance of differences, from tradition, to modernity and postmodernity, through transition and globalism. These are the differences between bodily skill (the ancient tradition), the working of the machine as an extension of, and replacement for, the human body (the modern tradition), transformations of the human body's functions by means of machines (the condition of postmodernity), and, finally, transformations of machines into complex productive, post-productive, and tactical networks of the electronic, techno-biological, and electronic-biological conditions/processes of material exchange (the age of transition and globalisation). These are entirely different ontologies of human labour and its history.

Traditional ontology refers to objectification based on a bodily act that posits an object (a chair, a house, a ship, a sword, a statue, a spoon) into the world of humans. The key notion of traditional ontology is the bodily positing (*Ge-Stell*) of a made object into the world of humans.[17] An object is made by hands and posited into the world of objects among people. This is about longing for an object endowed with a rational structure, which reveals 'rational' planning on the part of its creator. The creator is a master craftsman. The work is an authentic piece that bears its creator's bodily imprint. Therefore is technology so much more than a mere tool: 'Technology is a way of revealing. [...] It is the realm of revealing, i.e., of truth'.[18] By means of exposure, technology is linked to science. But that link may only be seen through the mediation of art, by means of spectacularisation as an event.

Modern ontology, that of the early Industrial Age, speaks of the machine as an extension of the human body *qua* its introduction into the world. By means of machines, humans penetrate the world in order to transform it. Then, modern ontology, that of the advanced Industrial Age, speaks of the machine and machines that replace the human body in production. The extended body and then also the displaced body are two features of modernity. The extended body is *that* which intervenes in the world/life by transforming

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17 Martin Heidegger, 'The Question Concerning Technology', in *Basic Writings from* Being and Time (*1927*) *to* The Task of Thinking (*1964*), ed. David Farrell Krell, London: Routledge & Kegan Paul, 1978, p. 302.

18 *Ibid*., p. 294.

and thereby appropriating it. Appropriating the world/life indicates a situation where the natural world/life ceases to be the only coherent world. The world/life of humans is no longer an event of nature only, but also a modification of nature and life. An **added value** and **potentiality** emerge that were not identified in nature before and that are not identified as nature now. Technology achieves the mass production of pieces. The produced piece emerges through a mechanical reproduction of an exemplary model. The modern machine evolves from a mechanical extension of the human body to an 'abstract machine' (a cognitive machine, a digital device, or a cybernetic system) that is meant to replace the human body/bodies in freeing humans and multiplying their work potential. The machine is a tool, a means, and, at the end of modernity, an *artificial partner* in the production and distribution of goods and information.[19] Modern technology is viewed as applied science, whereby the truth established by science is introduced into the pragmatics achieved by technology. Art spectacularises the relation between the true and the pragmatic regarding the modification of forms of life.

The postmodern machine seeks to take over the human body's functions – from manual through cognitive labour. Cognitive labour becomes dominant over manual and mechanical labour. This constitutes a de-articulation of the anthropology of human productive labour. No longer is labour an anthropological category – *the death* of the subject and author was announced a long time ago. The road led form Barthes's idea of the *death of the author* and an active *role for the reader* to the domination of the consumer.[20] The direct labour of humans is transformed into work effect, which emerges from the dynamic relations of programmed machines that create 'copies without originals'. The anthropology of human labour becomes a techno-theory of machine labour and then later also of cognitive labour. The product is no longer a mass-produced piece by itself, but the plurality of mass-produced pieces in the informational field of communication

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[19] The phenomenology of 'the machine' has been developed by Gerald Raunig in *A Thousand Machines: A Concise Philosophy of the Machine as Social Movement*, Los Angeles: Semiotext(e), 2010, following the path set by Gilles Deleuze and Félix Guattari's theory of the machine.

[20] Boris Groys, 'The Artist as an Exemplary Art Consumer', *Filozofski vestnik*, No. 2: Aesthetics as Philosophy: The Proceedings of the 19th International Congress of Aesthetics, Part I, ed. Aleš Erjavec, Ljubljana, ZRC SAZU, 1999, pp. 87–100.

(production, exchange, and consumption), which in virtual and physical spaces realises an autonomous world in relation to nature and human experience based on a direct, 'innocent' experience. The production of an autonomous informational world as opposed to the world of experience shows that the postmodern product has the status of a produced fiction. Fiction becomes constituent of postmodern social relations. Postmodern technology is established as a plural field, which generates consumers' response to fictional and cognitive products. First and foremost, art spectacularises that field of consumption, as well as modes of fictionalising the 'human condition'.

Globalisation spectacularises politics, science, technology, and art as post-media or tactical media. Life is posited as 'complexity' and 'complicity', which takes the human condition into transition, whereby local situations are brought into global regimes of visible knowledge. Globalisation is viewed as the most advanced form, i.e. the ultimate structure of the singularisation, standardisation, and homogenisation of cultures for the sake of a fully developed, totalising market capitalism, i.e. politics and ideology of neoliberalism.[21] This global optimistic project's basic features are based on reordering and re-substituting the 'liberal' concept of society into the concept of plurality and non-confrontation among 'global' or 'world' societies and their cultures. The concept of 'reordering' is posited as an essential and profound change of power relations on a global level, which views human relations in 'humanity' not through the lens of 'political criteria' or their *ideological realisations*, but as the global market's self-regulating relations derived through the executive formats of economic and cultural policy. The global financial crisis has questioned the liberal ideal of a global economic self-regulation. The global crisis has brought economic self-regulation back into the field of social contradictions and conflicts at the end of the opening decade of the twenty-first century.

When one crosses from the field of the 'politics of seeing', i.e. spectacularisation into the field of discussing specific formations in the history of art, one may establish the following descriptive model:

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[21] Okwui Enwezor, 'The Postcolonial Constellation: Contemporary Art in a State of Permanent Transition', in *Antinomies of Art and Culture: Modernity, Postmodernity, Contemporaneity*, eds. Terry Smith, Okwui Enwezor, and Nancy Condee, Durham, NC: Duke University Press, 2008, p. 207.

- in the avant-gardes (ranging from futurism to surrealism through constructivism), spectacularisation was projected by means of utopian ideas about realising the revolutionary-new in the industrial society – it concerned progress, speed, and turning from individual to mass consumption,
- in the *neo-avant-gardes* (neo-constructivism, kinetic art, eco-art, robotics in art), spectacularisation was realised by deriving a concrete utopia of a synthesis between science and art, by means of laboratory research conducted by artists and groups of artists modelled after scientific research teams,
- the spectacularisation of *postmodern* culture, the one between high and popular culture, was performed by means of a totalising and eclectic mass consumer culture (nomadic pop, mimesis of mimesis, neo-expressionism, neo-conceptualism) in relation to the ideological suggestions of depoliticising politics with regard to the postmodern meta-languages of power – science, technology, politics, and art are shown as cultural categories of consumption, and
- the spectacularisation of transition and globalism is based on an economically motivated expansion of the scientific and technological infrastructures into the field of 'abstract knowledge' as a source of the production of affective situations in the field of art and culture (BioArt, internet art, cyber-art, digital art).

The artist of the avant-garde was a *techno-messiah* of sorts, who prophesied and projected *that* which was in contemporaneity still otherwise unsayable, unknowable, non-present, and invisible. The artist *qua* prophet. By contrast, the neo-avant-garde artist assumed the functions of the *scientist and technician*. She led art out of the context of aesthetic and artistic autonomy and into the external space of scientific or technological experimentation. The artist *qua* experimentalist. The artist of postmodernism assumed the role of a critical, apologetic, or fascinated *consumer*, i.e. *appropriator* on the plural market of the production, exchange, and consumption of cultural artefacts. The artist *qua* consumer. The artist of globalism and transition is entirely an 'artist of contemporaneity', who becomes a kind of producer or activist in critical spectacularisations of the political contradictions of science and technology, that is, of concrete and abstract living in contemporaneity. The artist *qua* producer or activist.

THEORY OF NEW MEDIA AND POST-MEDIA ART PRACTICES

New media in art denotes those artistic practices that are based on introducing 'new' or 'never used' types of media into the traditionally defined media identity – discourse – of the arts. More precisely, 'new media' denotes different artistic practices that are based on innovative working with artistic or extra-artistic media. 'New-media artistic practice' denotes introducing non-standard media into a standardised and customarily closed art discipline. For instance, new media may signify introducing photography, film, or video into the respective contexts of painting, sculpture, or music.

'New media' also denotes experimental investigations of the relations between various traditional and new media, within traditionally defined mono-medium practices. Therefore, 'new media' likewise denotes all those inter-media and hybrid art practices that emerge in combinations of different kinds of media (*mixed media*, multimedia, poly-media, extended media, art and technology, computer art, cyber art, BioArt, tactical media, etc.). Whereas the hybridisation of media was important for the 1950s and '60s neo-avant-garde practices, it was introduced into art education only in the seventies.

'New media' denotes precisely those art practices that are based on artwork-programming (computer art, digital art, cyber art, BioArt). The category of 'new media' as art practices that are programmable at the level of experimental or user work is a feature of new-media art in the age of globalism, since programmability appears as a globally totalising practice of ordering and performing artistic work between high and popular art. In parallel with 'new media',[22] one may also use the

[22] Johanna Drucker, 'Interactive, Algorithmic, Networked: Aesthetics of New Media Art', in *At a Distance: Precursor to Art and Activism on the Internet*, eds. Annmarie Chandler and Norie Neumark, Cambridge, MA: The MIT Press, 2006, pp. 34–59.

term 'meta-media', as defined by Lev Manovich.[23] Meta-media or post-media are identified with computer multimedia and digital communication networks. New computer multimedia use or refer to old media as the basis or sample of programme simulation. In modernism, the invention of new mechanical and electronic reproduction media (from optic-chemical recording of images in photography and phonographic recording of sound to electromagnetic synchronic recording of sounds and images) brought about an accumulation of media- and technical recordings of reality. The key interest of modernism, as the avant-garde of old media, is finding new forms, i.e. finding various ways to humanise and objectivise the entirely foreign image of the world provided by mechanical and electronic media technologies. The new-media avant-garde is no longer interested in observing and presenting the outer world in a new way but in finding new ways to approach and use data previously accumulated in the media. Meta-media art and culture are based on the digital computer as a technology vital for processing information and representing or simulating, which means imitating and positing the sensory effects of all other media. *Digital art* therefore enables dealing with new ways of approaching and manipulating information. The techniques of digital arts comprise hyper-media, data bases, search engines, data comparers, image-enhancing software, as well as visualisation and simulation software. Digital artists or artists who assume the functional and instrumental competencies of IT experts make no direct approach to material reality, but instead use media recordings and deal with previously accumulated recordings and images, that is, with possibilities of their transformation and transmission. This results in total instability and transfigurativity, in which the arsenal of social struggle is set up under the auspices of politics, science, or an organisation of the everyday by means of a simulated and designed aesthetic experience.

Post-media practices or tactical media denote complex – *multitasking* – compilations, appropriations, simulations, and re-articulations of artistic and extra-artistic political, cultural, everyday, scientific, and technological practices within specific contexts of art. Compilations

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[23] Lev Manovich, *The Language of New Media*, Cambridge, MA: The MIT Press, 2002, p. 33.

signify disciplinary, paradigmatic, and media collage and montage links among artistic and extra-artistic practices within a specific artistic platform. Appropriation denotes different practices of displacing, replacing, and therefore also appropriating extra-artistic practices from the position of artistic platforms. Simulations refer to those artistic practices that project fictions constructed in the world of art as a potential imago of everyday or ideal scientific, technological, or political reality. Re-articulation is conceived of as the practice of articulating extra-artistic practices again, either in the literal or metaphorical sense in the context of art. It comprises complex compilations, appropriations, simulations, and re-articulations, which are also defined as post-media practices, that is, as tactical media. These practices are defined as post-media practices or as tactical media because they are not determined by a specific autonomous medium, but by a conceptually and discursively developed artistic platform, which comprises different 'phenomenal systems' in realising complex interdisciplinary relations between art, politics, science, and technology.

The key consequence of the mass production and use of new-media technologies, tactical media, and protocols of artistic work is a confrontation with the political character of technology. Post-media's work in art is not primarily geared toward a productive transformation of the natural state of matter (of natural objects) into artificial products (commodities and a surplus commodity, aesthetic, and artistic value), but aims at performing events by means of a technological system. The work of art is not a *finished piece*, nor is the performing itself, but the possibility and consequence of an *event*, i.e. of realising an affect. It is about producing, exchanging, and consuming the possibilities of relations.

Realising an affect is an effect of the operation of artistic acting, as opposed to the traditional completeness and fixity of artworks in the world. Performing in the world of digital or biotechnologies constitutes a break with social and individual organic balances and a turn to performing commands among machines, that is, among networked machines in which the subject transforms from a body-centre into a flow of affects around and through the body.[24] These processes have led to the

[24] Félix Guattari, 'Machinic Heterogenesis', in *Rethinking Technologies*, ed. Verena Andermatt Conley, Minneapolis: University of Minnesota Press, 1993, p. 25

disappearance of any difference whatsoever between artworks and other kinds of scientific, technological, political, cultural, and social artefacts, that is, performing, that is, practice. Affect and affectation have become more important than ideological effects, because ideology has always remained around *us* – like a kind of mirror that shows *reality itself* – whereas affect is that which plays out in each individual body, in an interaction with the dynamic and volatile world of events that discipline the body to make it liveable. Artistic acting within these practices switches from exploring aesthetics, poetics, and technologies to a *politics of affect*,[25] which means publicly confronting the potentialities of regulating and deregulating forms of life. Acting in public has essentially changed. It occurs simultaneously in entirely incommensurable regimes, from that of the traditional public (to be, to speak, and to act in the street, among people), to the indeterminate mass-cultural modes of bourgeois-society 'public opinion', through the media hybridity and incomparability of screen culture. Screen culture is at once entirely alienated and individualised down to the level of an isolated unit and then to a multitude of isolated units 'promiscuously' linked in a plurality of communication and representation networks, that is, platforms.

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[25] Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation*, Durham, NC: Duke University Press, 2002.

BIOTECHNOPOLITICS

Biotechnology or biotechnopolitics is a set of apparatuses, i.e. institutions, platforms, protocols, objects, attitudes, values, decisions, procedures, techniques, and effects that are represented and produced in global transitional culture. It performs the spectacularisation of complex regulative and de-regulative technological relations between forms of life and biological material. It leads to articulating and re-articulating the relations between real and fictional – physical and virtual – organisms and machines. It explores relations between organisms and bodies; between organisms, bodies, and individuality; between individuals and society; between social groups and individuals; between social groups and society as a totality; between individuals, bodies, and disease; between disease and social groups; between disease and society; between bodies, organisms, and machines; between the human and the animal body; between the animal body and plants; between the human body and plants; between natural and cloned bodies; between natural and genetically modified bodies; between bodies and microorganisms, bacteria, viruses, etc...

Biotechnological discourses are constituted around different sets of convictions, technologies, and practices that destabilise the traditional symbolic privilege, hierarchical structuring, and position of the exclusive organic body. The biomedical and biotechnical body becomes a *cyber-system*, a complex area of producing material effects, meaning, sense, and values. The organic, the technological, and the textual intersect to determine the biotechnical subject. In global-capitalist societies, biotechnopolitics becomes a mode of determining the subject's status in society, of

power distribution, of establishing control, surveillance, regulation, and criteria of discrimination (healthy-ill, healthy-good-moral-politically positive and, conversely, ill-evil-immoral-politically negative).

Introduced into everyday life, biotechnology, politics, and science become dominant in identifying the subjectification of human existence. Subjectification takes place in those functional fields of society that were once controlled by religion and politics (tradition) and political ideology (modernism).

Biotechnopolitics is interpreted not as a rationalised system of treating the body and organism of the subject of society and culture, but as a pragmatic, instrumental, and functional system that produces bodies and organisms as subjects of society and culture (the functions of dieting, jogging, aerobics, the family rituals of taking vitamins, mass immunisation, mass body-building in fitness centres, etc.). Biotechnopolitics is associated with different forms of social control and standardisation. It is said that the body is not born but produced. Every organism that becomes a subject of society is produced in accordance with the discourses and institutional collaboration that give it meaning, sense, and a place on the map of social relations, production, exchange, and consumption.

BIOART ...

BioArt denotes those art practices that are based on a spectacularising working with biological and biopolitical systems and practices. Biotechnopolitical conceptions may be identified in the performances of Hanna Wilke (*Intra-Venus,* her medically spectacularised work from 1993), Stelarc (his *Third Hand*, 1976–80, a cybernetic hand), Orlan (*Omnipresence*, plastic-surgery procedures conducted on the artist's body in 1993), in the performances and video works by Matthew Barney (regulating the body and an electronic system in *Blind Perineum*, a 1991 work of his), in the performances of Zoran Todorović (the use of the human body for food, 1998), the organic, living tapestry and sculpture of Oron Catts, Ionat Zurr, and Guy Ben-Ary (performing sculptures with fibrillar microorganisms that reproduce, develop, and spread, 1990), the installations of Eduardo Kac (*Genza,* his work with a fluorescent rabbit from 2000), as well as in works by Heli Rekula, Lucy Orta, Egle Rakauskaite, Ron Athey, Polona Tratnik, Andreja Kulunčić, and others.

Live art is primarily the practice of performing an artwork, i.e. an event live, in the presence of an audience. The concept of 'live art' is synonymous with the concepts of performance art and body art. The idea of synthesising life and art was first given in the project of the *total work of art* (*Gesamtkunstwerk*). The notion of performing an interactive relation between 'life' and art signifies procedures, processes, situations, and events of presenting an artistic concept live before an audience, or in collaboration with the audience. This primarily concerns all forms of 'the performing arts' and, more narrowly, 'performance art' and its twentieth-century modifications. Those modifications led from avant-garde

artists' private and public actions to German and Austrian actionism, social sculpture, masculine and feminist body art, conceptual performance, photo- and video performance, as well as cultural activism, techno-performance, cyber-performance, bio-performance, radical body art, and 'device art'. Performing live is determined by distinguishing the event of presenting an artistic concept from a produced piece of art. At a time of transition and globalism, live performance poses some obvious questions about the relation between 'life' and the 'functioning of machines' in complex interactions between organic and machinic, inorganic acting.

However, live art is also an expression of the spectacularisation of relations between forms of life and contemporary art practices. It concerns relations at a time of transition and globalisation, whereby the conception of 'live art' is entirely modified. According to Yves Michaud:

> Here it is a new field of acts and works that employ the materials and processes of life.[26]

Relations between life and art are founded on the position that forms of life may be spectacularised as qualitatively new phenomena in art and culture. Analysing relations between art and life leads toward modes of representing, i.e. spectacularising life through art. In addition, forms of life thereby become a kind of post-media in artistic acting. Forms of life become tactical media for exploring the fields of visibility of those forms of life themselves.

Human culture is a specific form of life. Forms of life are spectacularised in cultural formations. For instance, the commune in Šempas, Slovenia,[27] emerged through a critique of modernist and urban alienation. It posited itself as a symptom, or even as an experimental ground for exploring 'natural', i.e. non-urban forms of life. Non-urban forms of life are spectacularised there through models of rites, rituals, and ceremonies in everyday living in nature.

Then, another important position in live-art practices is the distinguishing between the human body as a biological organism and the behavioural body. For instance, American

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[26] Yves Michaud, 'Art and Biotechnology', in *Signs of Life*, p. 387.

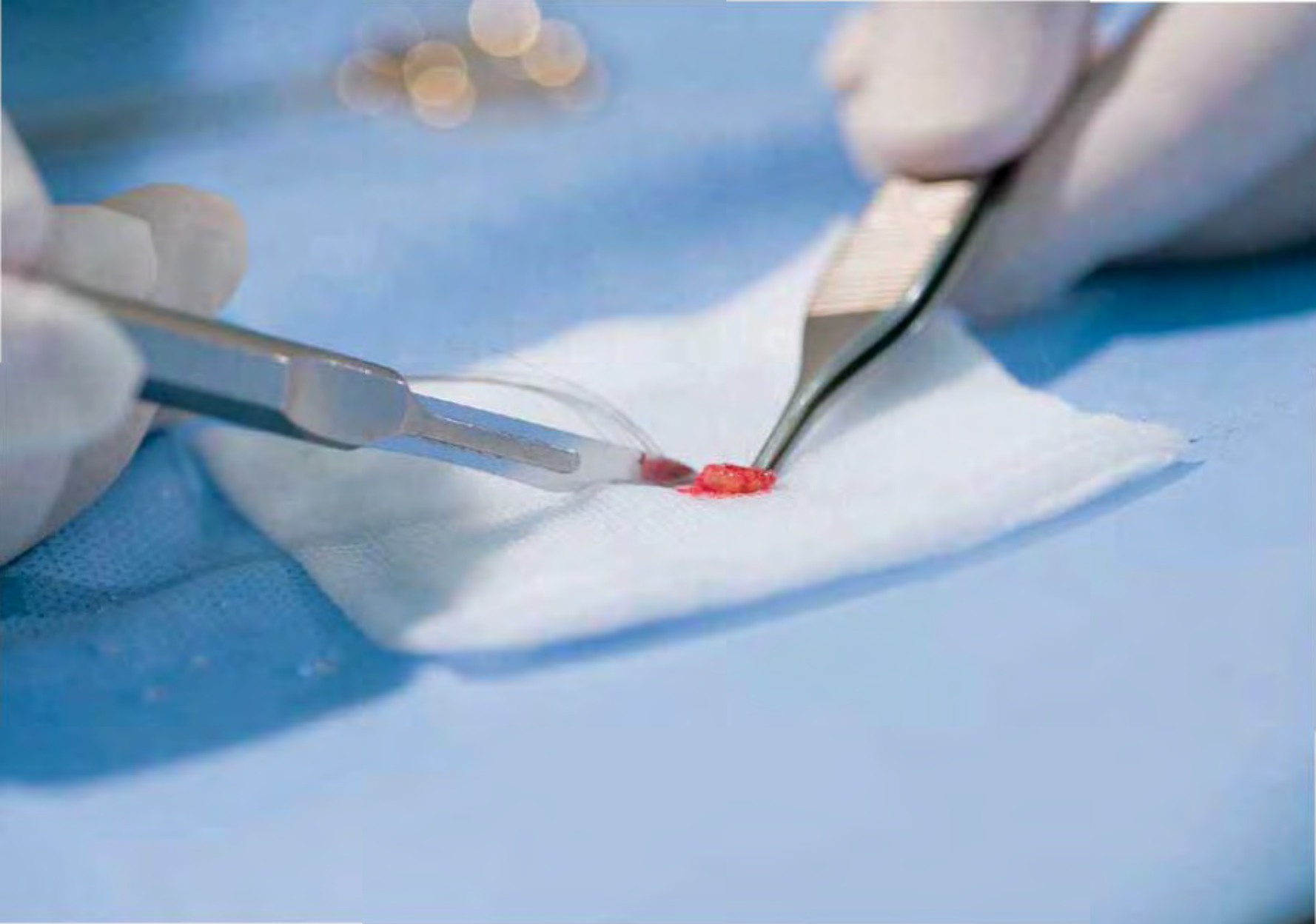
[27] The Šempas commune grew out of the OHO group in 1971. See Taras Kermauner and Marko Pogačnik, 'OHO – Šempas 1963–1985', in Zmajeve črte, ekologija in umetnost, ed. Marko Pogačnik, Maribor, Slovenia: Založba Obzorja, 1986, pp. 109–123.

body artist Dennis Oppenheim worked with his double-action body. In *Parallel Stress* (1970), he used his body as an instrument to measure physical urban and natural space. In that project, the human body was used as a behavioural measuring instrument. By means of his own behaviour, the artist determines the situation of his body and the environment in which it acts. In *Stills from Gingerbread Man* (1970–71) and *The Residue (Waste Products) Becomes the Finished Work Micro-Projection-Feces* (1970), Oppenheim worked with two different types of his body's phenomenality. With a behavioural body in the process of consuming gingerbread. The photo shows the artist eating. With a body in the process of digesting the consumed gingerbread. The work also comprises a graphic medical representation of the cake being digested inside the artist's organism. These two levels of presenting the artist's relating to the cake point to two divergent understandings of 'live art' – as behavioural and biological.

Models of representing human or animal bodies as biological organisms are likewise characteristic of live art. That is, characteristic are performances of biological metaphors for the human body. Representations of the body *qua* biological have a long tradition in the West, from Dürer and Leonardo's scientific/artistic work in the Renaissance, to Rembrandt's *The Anatomy Lesson of Dr. Nicolaes Tulp* (1632), through the natural-history museums of the late Baroque and Enlightenment – for instance, Florence's *La Specola* museum. *La Specola* features anatomical wax figures, which display the human body and its biological structures. In one of his studies, French art historian Georges Didi-Huberman offered a Foucaultian historicisation of medical photography. He has developed an elaborate discussion of photographic representations of the diseased body in French nineteenth-century medical journals. The role of medical photography was to visualise illness.[28] American performance artist Carolee Schneemann has spectacularised her body in menstrual cycle (*Interior Scroll*, 1975), whereas British artist Franko B has mounted performances in which he spilled blood from his own veins (*Oh Lover Boy*, 2001).

On the more dramatic end of the scale, artists of different epochs have attempted to represent 'death' as the limit of life or as *that* condition after life. Death itself could

[28] Georges Didi-Huberman, *Invention of Hysteria: Charcot and the Photographic Iconography of the Salpêtrière*, trans. Alisa Hartz, Cambridge, MA: The MIT Press, 2003.

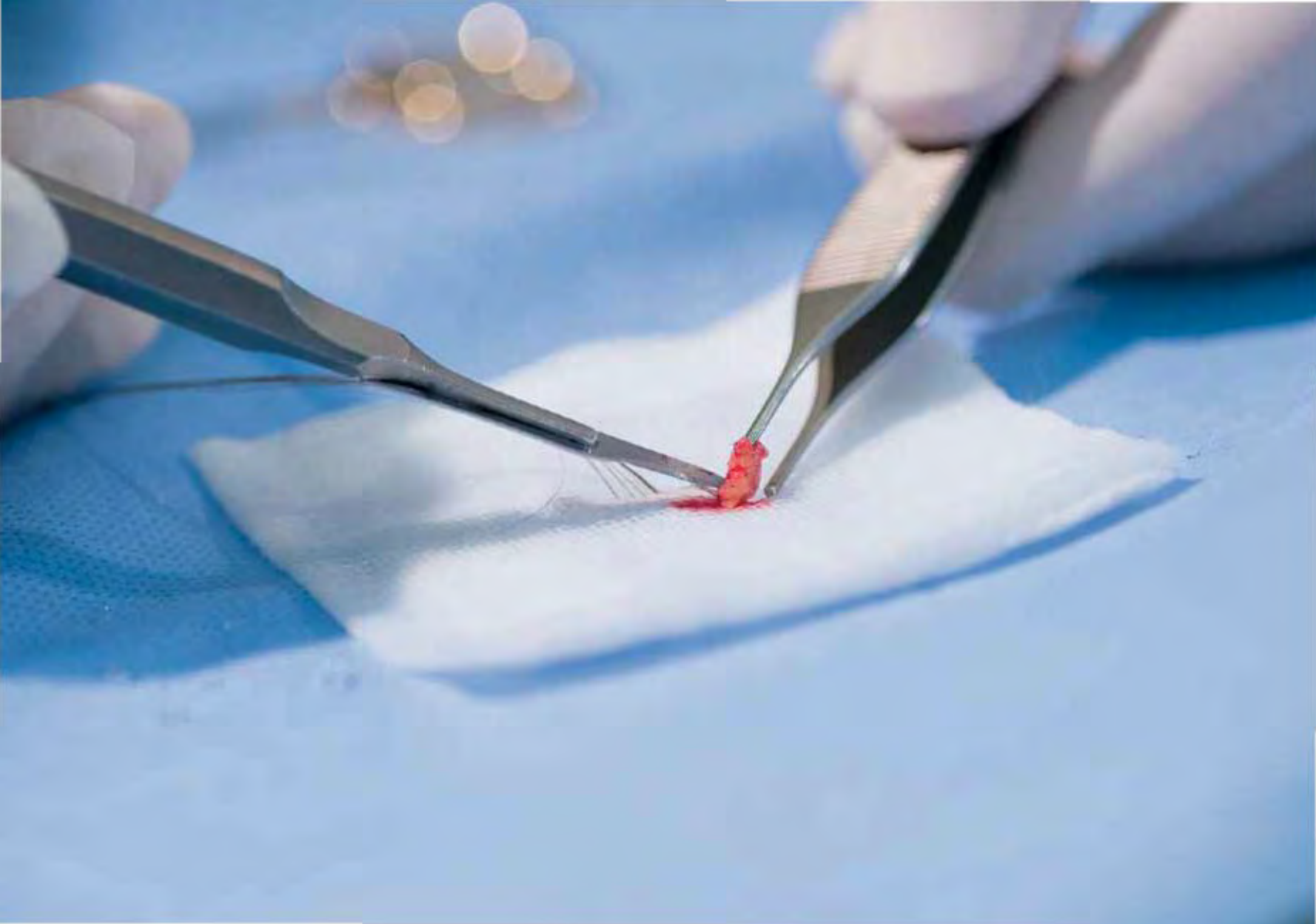


never be represented. Instead, artists developed different iconographies to represent dying (e.g. Jacques-Louis David, *The Death of Joseph Bara*, 1794), the dead body (e.g. Marlene Dumas, *Waiting (for Meaning)*, 1988 and Gerhard Richter, *Dead*, 1988), and metaphorical or allegorical representations of death as a humanoid figure (e.g. Dürer, *The Four Horsemen of the Apocalypse*, 1498; Damien Hirst, *For the Love of God*, 2007). Death was always able to elude entirely different aspects of its spectacularisation and attempts to achieve it. Similarly to love, death does not yield to literal visual representations – even in such cases as photographs of Friedrich Nietzsche's dying body (25 August 1900) or that of painter Olga Rozanova on her deathbed (7 November 1918). Death is the limit of all forms of life and may be spectacularised only through the signifying practices of the un-literal and fictional mediation of signs, texts, or images of death.[29] In 1993, Derek Jarman made *Blue*, a film that shows a blue screen for the entire 75 minutes of its duration. This is accompanied by a voice that speaks of living with AIDS, dying, and death: 'My retina is a distant planet. I played this scenario for the last six years... My vision will never come back... The virus rages, I have no friends now. I lost the sight... I shall not win the battle with the virus...'[30]

In contemporary art, live art has become conceivable by politicising forms of life, which means all those forms that show 'life' in its social contingency and spectacularisation. Life is viewed there not as a prehuman event, but as an event that is determined by the limits of performing human relations, i.e. sociality. Initially, politicising forms of life was associated with environmentalist and feminist art activism and later, in the 1990s and 2000s, it spread to other fields of art activism. For instance, that means that bio-activists have focused on critiquing and subverting the political power of corporate genetic engineering. In *Free Range Grain* (2000–2004), the Critical Art Ensemble sought to spectacularise, i.e. face the public with the production of genetically modified food:

> What CAE / da Costa / Shyu see in this particular example of GM good distribution is a means to visualize the material reality of theories of global trade. On the one hand, there is the global economy of smooth space, where the commodity

[29] Louis Marin, *Art Press*, No. 177: Louis Marin: Figure, Disfigure, Transfigure, Paris: 1993.
[30] Derek Jarman (dir.), *Blue*, 1993.



> moves relatively freely. On the other hand, there is a belief that markets can be locked down by using traditional forms of blockage typically used to preserve or strengthen nation-state economies. The EU is often perceived both as open (a major architect in the development of open markets and free trade as well as producers of global consensus) and yet locked down (Fortress Europe). Our belief, however impressionistic, is that the EU tends toward the global (smooth space). Since processed corn and soy products are being imported into Europe in large quantities, we are quite skeptical that the EU will be able to maintain its borders against such contaminated commodities.[31]

The CAE thereby opened the field of biological production and politics to social critique, by means of spectacularisation through artistic tactical media. For them, the problem is not 'biological technology' itself, but the profit that comes out of it and grounds political strategies of dominating and controlling forms of life.[32]

To call certain art practices 'medical' or 'pharmaceutical' means to point out that concepts that developed out of artistic representations toward bio-activism developed in the direction of medical and pharmaceutical science, institutions, and their political discourses that participate in the construction of individual and social reality. Such art practices become a 'symptom' of the conditions and circumstances in which medical and pharmaceutical industries establish their bio-power, control the difference between health and disease, survey and regulate forms of life, and set out to do business and presuppose economic interests to human health. Controlling the difference between disease and good health has given rise to the genre potentialities of spectacularising reactions to medicines, of using medicines to modify forms of life, and of treating and surveying the living body, maintaining and ending its life, as well as problematising pharmaceutical production.

Symptom is a construct of signification that, unlike phantasm, can be analysed. The artist *qua* symptom

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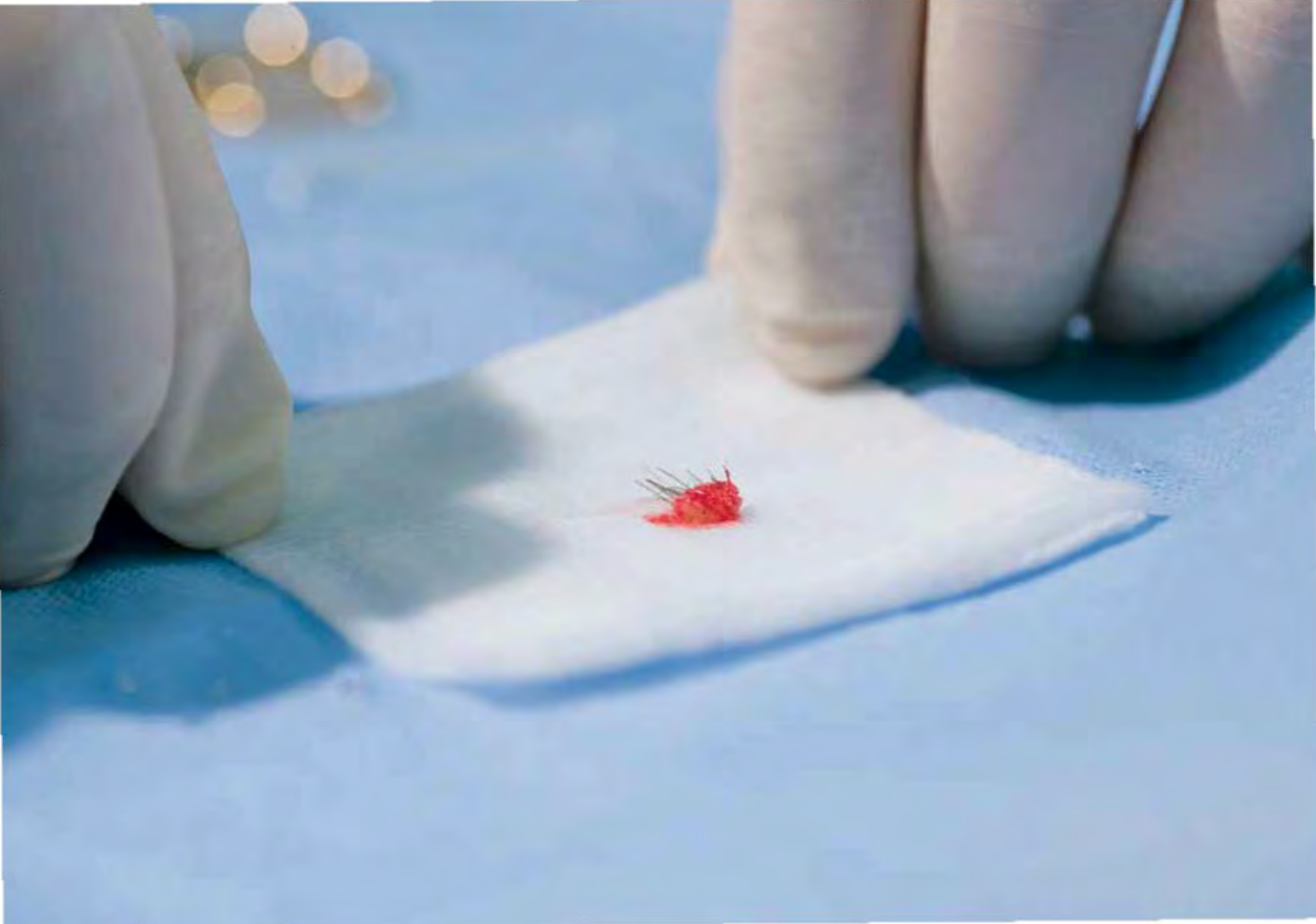
[31] Critical Art Ensemble with Beatriz da Costa and Shyh-shiun Shyu, *Free Range Grain* (2000–2004), <http://www.critical-art.net/FRG.html> 18 July 2011.
[32] Critical Art Ensemble, 'Introduction / Contestational Biology', in *The Molecular Invasion*, New York: Autonomedia, 2002, pp. 3–4.



addresses an uncrossed and consistent big Other (medical and pharmaceutical bio-power) that will retroactively assign the artist a certain meaning and role in the individual and social organisation of everyday reality. For instance, Hannah Wilke performed her private *rituals* for photographer Donald Goddard in her hospital bed. She had cancer and posited her 'medically treated body' as a symptom of the relations between disease, medicine, and art. Lacanian psychoanalysis treats the symptom as a defect of symbolisation, i.e. as the centre of opacity and the unverbalised in the subject.[33] The symptom is an element where the concealed appears, the repressed truth of a field, of a totality. The symptom is a *point* where totality necessarily *slides*. Symptoms are resolved in interpretation by assigning them meanings, by situating them in a symbolic network and thereby *depriving* them of their absurd and traumatic contents. In Lacanian psychoanalysis, psychoanalytic treatment ends when the subject identifies with his symptom. The subject identifies with the place where the symptom used to be and recognises the element that lends it consistency. Medical and pharmaceutical discourse must be brought to symbolisation in all its opacity – which is not only a matter of 'semantics' but also of 'visibility'. Confronting the visibility of medical and pharmaceutical mechanisms occurs on a spectrum between 'subjective feeling' and social institutionalisations of bio-power, which directly or indirectly decides about the status of the healthy and the status of the diseased, that is, about life and death.

The notion of the visibility of illness, for instance, of mental illness, was an obsession among romantic and later expressionist painters. Géricault's portraits of mental patients (1818–24) spectacularised human mental life by showing visible behaviourality (facial expressions and contortions, positions of the body, etc.). Individual behaviouralities were posited as different types of human pathology. Spectacularising inner life was a constructive act of locating and positing identification matrices in French modern culture.[34]

A different example of an artist's engagement with medical and pharmaceutical subjectification is Marina

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[33] Jacques-Alain Miller, 'Two Critical Dimensions: Symptom and Fantasm', 2009), <http://pablobenavides2.blogspot.com/2010/09/two-clinical-dimensions-symptom-and.html> 18 July 2011.

[34] Michel Foucault, *Madness and Civilization: A History of Insanity in the Age of Reason*, trans. Richard Howard, New York: Vintage Books, 1973.

Abramović's performance *Ritam 2* (Rhythm 2) from 1974. The artist used her body exclusively as a means to manifest psychophysical reactions to acute schizophrenia medication. The working of these medicines brought her body into unpredictable conditions. The work recorded the changes on her body caused by the medication. Her body was spectacularising the effects of the medication.

The General Idea group – two of whose members died as a result of AIDS – produced a series of projects to follow the syndrome's emergence. The emergence of AIDS constituted not only the emergence of a new disease, but also of a pathology complex that carried social and political effects, first and foremost in the US.[35] The associations of homophobic campaigns in the late 1980s and '90s turned an issue of an epidemic and medical intervention to contain it into a political issue, one of labelling specific gender identities as suitable or unsuitable. The cultural climate around AIDS showed how medical policies turn into social policies. In that context the General Idea group started a series of 'symptom' projects (*The Imagevirus Series*, 1989–91; *Blue (Cobalt) Placebo*, 1991; *Pharmacopia*, 1992; *Infections*, 1994). With these projects, they confronted the experience with the understanding of individual and collective attitudes on AIDS.

Genetics was then anticipated as a scientific – empirical and theoretical – discipline founded on observing and generalising rules regarding living organisms' hereditary features. As a scientific discipline, genetics traversed a number of stages over the course of the twentieth century, which shaped its political history.[36] In philosophical terms, during modernism genetics was characterised by an essentialist and universalist stance on the hereditary predetermination of all living organisms. It was posited in opposition to Darwinism *qua* theory of living organisms' adaptation to their environment and struggle to survive. It had empirical and pragmatic characteristics in selecting and modifying different species of plant and animal life used in human diet. In political terms, genetic metaphorisation formed the ground of many racial theories, racist politics, and, especially, eugenics as the study of 'pure' racial species.

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35 Douglas Crimp, *AIDS: Cultural Analysis, Cultural Activism*, Cambridge, MA: The MIT Press, 1988.

36 Raphael Falk, Genetic Analysis: *A History of Genetic Thinking*, Cambridge: Cambridge University Press, 2009.

Later, genetics became a discipline of molecular biology. It was defined as the study of communicating inside 'living material'. Genes were theoretically posited as carriers of information or informational constructs that participate in the construction of every organism's living cells. The communicational character of genes guided the subsequent development of genetics as a theoretical, experimental, and technological discipline. Its extraordinary development began during the final third of the twentieth century.[37] What essentially changed the status of genetics in the field of sociality was its entry into the field of commercial engineering. On the neoliberal market, genetic engineering opens up to those areas that are not only pragmatic activities, e.g. developing new types of healthy and cheap foods or treating hereditary diseases, but also those of predicting and constructing new or modifying existing forms of life, as well as integrating genetic engineering and genetic narratives into contemporary cultural and artistic practices.

Genetic art begins as a laboratory research art of new forms of life. The ideal of shaping life has forged a tight bond between genetic engineering and artistic explorations of genetic technologies. It concerns obsessing and fancying that art may open up to new post-media, i.e. genetic technologies, which modify forms of life, i.e. formation principles that ground the derivation of new forms of life. On the other hand, it concerns extending human perception, which is brought into a relation with the visibility of forms of life and their modifications. For instance, Joe Davis has pointed to the following change in art and its potentiality regarding forms of life:

> In a relatively short period of time, artists have moved from the traditions of naturalism as mimetic representation to the direct manipulation of life itself. To date, the extent of these artistic manipulations has been work with single genes (or sets of genes) and their expression or disposition within the cells of host organisms.[38]

There are many works that make use of strategies and tactics of genetic transformations in metaphorical ways, such

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[37] Joe Davis, 'Cases for Genetic Art', in *Signs of Life*, p. 249.
[38] *Ibid.*, p. 262

as 'Dolly', *Act III* of Steve Reich and Beryl Korot's video opera *Three Tales* (1997) and Eduardo Kac's post-production project *GFP Bunny* from 2000. The following works also use strategies and tactics of genetic engineering with living materials in an interventional way: *Hybrid: Streptocarpus Hybrid* (2002) by George Gessert, Marta de Menezes's *Heliconius Butterfly* (1999), Eduardo Kac's *The Eighth Day* (2001), Al Wunderlich's *Living Paintings*, etc. Oron Catts and Ionat Zurr have likewise realised projects involving 'semi-living sculptures', which are inanimate objects colonised by living cells.[39]

Over time, genetic art expanded to cover not only the firm and idealised, often also fascinating 'science-technology-art' collusion, but also the fields of cultural and then also political analysis of the discourse, institutions, and certainly effects and affects of 'genetic products' in contemporary society. The Critical Art Ensemble's activist productions, such as *The Flesh Machine* (1997–98) are characteristic of this strand in genetic art. Politicising genetics by means of genetic art and cultural activism has been established as a practice of cultural analysis and also often of subverting genetics as a science and technological engineering in the service of bio-power and the neoliberal totalising market. This no longer concerned being fascinated about intervening in the field of primary forms of life, but also about politicising different contexts of genetics as a science, technology, and art. The issues that genetic art raises today address not only new or modified forms of life, but also re-examine those statuses and functions of genetics that relate to the field of sociality: artistic work with the platforms, protocols, and procedures, i.e. institutional potentialities and limits of medical genetics, as well as with the market in genetics, which is determined by the commercialisation of genetic engineering on the global market. Genetic engineering or genetic technology are therefore treated as artistic or tactical post-media and used to realise concepts and projects in literal working with forms of life. Spectacularising the politicisation of 'genetic engineering' exposes its constructs and systems of control as instruments in the ongoing performance of today's hyper-technologised reality, i.e. ideology of life control.

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[39] Oron Catts and Ionat Zurr, 'An Emergence of the Semi-Living', in *The Aesthetics of Care*?, ed. Oron Catts, Perth, Australia: Symbiotica, 2002, pp. 63–68.

The respective jargons of cybernetics, cultural studies, and art theory distinguish between three different structural concepts of an 'artificial organism'. A *robot* is an autonomous artificial body directed by algorhithms, which enable it to simulate the bodily behaviour – working and acting – of a human being. A *cyborg* is an artificial 'organism', made by articulating the hardware of a machine linked with a biological organism.[40] In a general sense, an android is an artificially derived organism that reminds one of a human being by its corporeality. Copies of men are called androids, whereas copies of women are called genoids. More narrowly, a genoid/android is an artificial technobiologically generated being, the appearance and behaviour of which remind one of a female or male human.

Metaphorically, a cyborg is any artificial, i.e. machinic body that features a regulative hardware connection with a biological organism: this would include such concoctions as video-bio-computer installations, bio-mechanical dolls, prosthetically extended biological bodies, cybernetic products (biologised robotics), and various science-fiction *projections* of para-mythological creatures. Cyborgs are metaphorical creatures endowed with unlimited possibilities of *transvesting*, i.e. of a regulating kind of *cross-dressing* and disguising in the world of bio-electronic simulated realities.

Philosophically, a cyborg is a creature made by synthesising a *creature* with a *non-creature* (the metaphysics of machines, the metaphysics of bodies *other* than biological bodies and of life *other* than biological life). This anticipates the basic metaphysical question of natural and unnatural forms of life – i.e. of forms and anti-forms of life. A cyborg may also be defined as an *analytical creature* that is the result, i.e. consequence of a biological-hardware realisation of analytical technological propositions. Phenomenologically, a cyborg is *that* which shows the interactive links between the presence (ontology), appearance (morphology), and phenomenality (of labour, production, acting, reception, exchange, and consumption) of every spatio-temporal event in the world.

In cyber-technologies, relations between cause and consequence, that is, destinies and fatalities in the regulative relation between biological and mechanic organisms are

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[40] Chris H. Gray (ed.), *The Cyborg Handbook*, New York: Routledge, 1995.

subject to change. Establishing (*Her-stellen*) and representing (*Dar-stellen*) overlap on a screen that shows how the *prosthetic* conjunction of the biological and the electronic simultaneously occurs in real and machine time. Not only is the paradigm of positing, i.e. performing presence thereby cancelled, but so is also that of presenting, i.e. deferring, which constitutes the situation of absence. The issue of the border between the organism and the machine is thereby reduced to that of where the biological organism ends and the machine begins. All borders are thus relativised and the *human being* no longer feels like a finished (complete, i.e. organically accomplished and unified) body, but as an extended body, as well as one that grows out of a machine. It is an event between a body and a machine. That something 'in between' is the founding epistemological difference that grounds not only the ontology, but also the sociology of cyborgs.

The history of cyber-art is linked with 1960s neo-constructivism.[41] Enrique Castro-Cid, of Chile, organised the first exhibition of robots in 1965. The pioneers of robotic, cybernetic, regulative ecological, and cyber-art include Nam June Paik (*Robot-K56 with 20-Channel Radio Control and 10-Channel Data Recorder*, 1965), Charles Mattox (*Act of Love*, 1965), Thomas Shannon (*Squat*, 1966), David von Schlegell (*Radio-Controlled Sculpture*, 1966), and Hans Haacke (*Grass Cube*, 1967). Also, a number of artists worked in association with the Californian *Art and Technology* movement, which during the late sixties and seventies brought together pro-scientific tendencies toward analysing and synthesising science, technology, and art: visual explorations, kinetic, computer, and cybernetic art, robotic art, ecologic art, etc. Edward Ihnatowicz was the first 'robotic artist' in the full sense of the term. He worked with interactive situations between robots, the audience, and the environment. One of his works is *The Senster* (1969–70) – a hydraulic robot that responded to the voices and movements of people walking around it. *The Senster* was the first robotic sculpture controlled by a computer. Notable robotic artists today include Stelarc, Julie Wilson, Eduardo Kac, Kevin Warwick, Guillermo Gómez-Peña, Juan Ybarra, and the Electronic Defence Theater group, among

[41] Jack Burnham, 'Robot and Cyborg Art', in *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century*, New York: George Braziller, 1975, pp. 312–376.

others.

In feminist theory, cyber-technologies have become an important critical metaphor, because they facilitate the deconstruction of gender *qua* sexual, i.e. biological essentialism. Feminist theory/philosophy views the cyborg as an ontological sample that enables the hybridisation of the biological human body, that is, of human forms of life. Biologically standardised and identified, the human body is thereby modified in a functional, sensorial, and spatio-temporal sense. This means that the completeness and tightness of the human body that is present there and then is thereby relativised and brought to a degree of bio-machinic processed-ness that turns the fiction of a different body into an event and the event into a new human experience. To experience oneself as a bio-machine is a novel subversive identification that destabilises universal humanoidity and the humanistically situated division of gender roles:

> The Cyborg is resolutely committed to partiality, irony, intimacy, and perversity. It is oppositional, utopian, and completely without innocence. No longer structured by the polarity of public and private, the cyborg defines a technological polis based partly on a revolution of social relations in the *oikos,* the household. Nature and culture are reworked; the one can no longer be the resource for appropriation or incorporation by the other. The relationships for forming wholes from parts, including those of polarity and hierarchical domination, are at issue in the cyborg work.[42]

Feminist-oriented cyborg theory has introduced gender transgressivity in utopian idealisations of different, relativised, and transitional bio-technologically produced bodies. This transgressivity has led to a relativisation of gender identity, as well as to a restructuring of the affectivity of drive and desire. Drive and desire thereby turn into affect (enjoyment, abjection, or horror) in relation to the machine and the biological organism.

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[42] Dona J. Haraway, 'A Cyborg Manifesto', in *Simians, Cyborgs, and Women: The Reinvention of Nature*, New York: Routledge, 1991, p. 151.

THE PREHUMAN / THE HUMAN / THE POSTHUMAN

A separate problem in understanding and performing biotechnopolitical art or, more succinctly, Bio-Art, concerns the metaphysical, technological, scientific, and political relations between the prehuman, human, and posthuman. This is not about a simple line of transformation from the prehuman via human to posthuman, but an uncertain 'tangle' of lines of performing the prehuman, human, and posthuman.

The 'pre' in 'prehuman' signifies primarily that there are forms of life that precede the human form of life. It suggests, in the spirit of evolutionism, that human forms of life stem, perhaps, from prehuman forms of life. Darwin's theory of evolution points to such a chronology of development, from *lower* forms of life to the human form of life. However, using 'prehuman' might also signify all those simpler forms of life that are independent and unaffiliated with human forms of life. The entire living world that surrounds humans, even those segments of it that are subject to technological interventions by humans, comprises a plurality of forms of life that may be called pre- or extra-human. Hence the definition that prehuman and/or extra-human forms of life are those that are outside human forms of life. Some of those external forms of life form a constituent part of human forms of life, for instance, bacteria, which inhabit the human organism and participate in its *operation*, or viruses, which inhabit and 'colonise' it in order to attack it. Finally, all those teachings that precede the philosophy, politics, and ideology of humanism may also be considered 'prehuman' in a philosophical sense. As one of the fundamental pre- or para-human philosophies,

politics, and ideologies in the West, Christianity is in its essence – with one God the Creator – driven by prehuman motives. The Christian concept of man who is a work of God is s/he whose appearance resembles God's, but God's essence does not resemble man's. Man is determined by a prehuman – i.e. God's work. Also, an irresolvable aporia in Christian philosophy is its narrative of the Son of God who is both God and man.[43] That means that the identity of the Son – Jesus Christ – is determined by prehuman and human attributes both at once. The philosophical concept of the Son of God, Jesus Christ, thereby emerges as a transitional concept that moves us away from God as principle to man as principle and that means away from Christian theology as the basis of Christian ideology to humanist philosophy as the basis of modern ideology.[44]

The human is literally the property of being human, that is, the phenomenality and presence of being human in the world. In a derived sense, the human is an expression or construct of the ideology of humanism. The human is a construct of an epistemology that posits the human and humanity as the basis of any understanding of man, culture, society, and even the world itself. Man is imagined as the source of all thinking and intentional acting in the world. Humanism is therefore posited as the universal code, language, and linguistic system that enables *us* to communicate at all.[45] As an ideology, political theory, and philosophic dogma, humanism constitutes itself between the Renaissance, of course, the late Baroque, and finally the Enlightenment, in which this explicit-differential 'I' of the liberal, modern man is constructed and performed. Humanism is an ideology because it offers material conditions and circumstances to identification, whereby a creature by means of an event manages to recognise and determine itself as 'human' (a child, woman, man, gay, lesbian, transsexual, queer, etc.). Man is viewed as the agent of the world – the world is identified as such, i.e. as the real inasmuch as man appears in it as the agent who reflects and brings it from concrete to abstract

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43 Jean-Luc Nancy, 'Atheism and Monotheism', in *Dis-Enclosure: The Deconstruction of Christianity*, trans. Bettina Bergo, Gabriel Malenfant, and Michael B. Smith, New York: Fordham University Press, 2008, pp. 23–24.

44 Jean-Paul Sartre, *Existentialism Is a Humanism*, trans. Carol Macomber, New Haven, CT: Yale University Press, 2007.

45 Dušan Pirjevec, 'Svijet u svjetlosti kraja humanizma' (The World in Light of the End of Humanism), in *Smrt i niština*: odabrani spisi (Death and Nothingness: Selected Writings), ed. Mario Kopić Zagreb: Demetra, 2009, p. 7.

knowledge. Humanism is also a political theory because it theorises the ontological basis of every existing world as a 'human world' based on performing entirely different social relations. It is also a philosophical dogma that centres human knowledge – the power of producing and deriving concepts – at the core of every knowledge. The source as well as the abyss of knowledge is man. Man is he who thinks, i.e. knows, and knowledge is estranged from him by being written down or mediated through various means, ranging from speech and writing to mechanical, electronic, and digital systems of acting. The notion of estrangement occupies an important position in humanism. It occurs when the 'human' is relayed or transformed by extra-human means, i.e. technologies, which are still human – since they are manmade. And yet, they are less human than human acting itself, because they detach themselves from man. In his critique of humanism, Slovenian scholar and thinker Dušan Pirjevec noticed a link between humanism and technocratism in their common desire to rule to world:

> What does it mean that man rules nature by means of technique? To rule nature is the goal of the subject that was long ago determined by Europe's first thinker of the subject, René Descartes, saying 'se rendre comme maitres et possesseurs de la nature' (to make oneself ruler and proprietor of nature). To be lord, to rule, is *kratein* in Greek, so one must say that a man who uses technique to rule nature is a technocrat. Technocrat is the complete man-subject. Man-subject forms the foundation of humanism, therefore humanism, victorious and realised as subjectivism, is in fact technocratism.[46]

Re-examining the subject, which is an essential effect of humanist ideology, politics, and philosophy, brings about a reversal: by re-examining itself, the subject becomes an object. The border between subject and object, which resides at the centre of humanist discourse, is re-examined, and that brings humanism into question. Heidegger questioned humanism by means of the traditional doubt regarding the 'originality' or 'primacy' of the subject:

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[46] *Ibid*., p. 28.

> Man is never first and foremost man on the hither side of the world, as a 'subject', weather this is taken as 'I' or 'We'.[47]

By contrast, structuralist theory advanced its own critique of humanism from the standpoint of an ideological critique and conceptualisation of the subject inside the structure. The ideological critique of humanism strives to show that humanism is not a 'commonsensical' or 'self-evident' view of the world or of itself as the source of the world/worldliness. If humanism is not self-evident, if it is structured as a discourse, then it is a complex and complicit way of deriving an image, i.e. a fictional representative that suggests that it is a self-evident reality. If humanism is a fictional mediating representative between the individuum and collectivity in the world, then it is an ideology. From Claude Lévi-Strauss to Michel Foucault and Jacques Derrida, the structuralist claim emphasised that the subject was not the source of or in itself, but instead, that the individuum *qua* subject became possible only by positioning itself in the order of a structure that is given in the same way as language is. The claim is that the subject results from a structural relation within culture or society, not that structural relations result from the subject.

Re-examining the borders of humanism, that is, treating the subject as an object of epistemological work, leads to conceptions of transhumanism.[48] Transhumanism is established around issues concerning the limits of human forms of life, that is, it explores those limits as concrete and abstract knowledges. Transhumanism seeks to explore and develop concrete knowledge of human forms of life, which usually means technical knowledge and skill, in order to enhance mental and physical capabilities of humans. A range of different techniques, such as bioscience (genetics, neurology), medicine (electronic orthopaedics, nanotechnologies), pharmacology, and cybernetics (artificial reality, artificial intelligence), are used to enhance human forms of life. In a utopian sense, transhumanism may also be understood as using technology to transfer one form of life into another, hoping not only to extend human life, but to preserve it

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47 Martin Heidegger, 'Letter on Humanism', in *Basic Writings*, p. 229.

48 Oliver Krüger, 'Smrt i besmrtnost u posthumanizmu i transhumanizmu' (Death and Immortality in Post-humanism and Transhumanism), Europski glasnik, No. 15: 'Posthumanizam i suvremena umjetnost' (Post-humanism and Contemporary Art), ed. Žarko Paić, Zagreb: 2010, pp. 516–519.

and eventually bring it to 'immortality'. As an epistemology of abstract knowledge, transhumanism offers two roughly varying approaches: utopian fiction, and a philosophically motivated discussion of potential ways out of the 'catastrophe of natural evolution', therefore also of life the forms of which can be technologically 'preserved'.[49]

The posthuman comes out of theorisations and predictions that may be labelled as effects of posthumanism.[50] The concept of 'posthumanism' may not be strictly determined. Posthumanism may be discussed as a collection of theoretical platforms of advance structuralism and post-structuralism that question the 'concept of the subject' and the 'discourse of the subject', that is, the ideology of modern humanism. Those theorisations that aim at materialist naturalism and biologism, that is, at discussions of non-intentional forms of life, may also be considered posthumanist. Posthumanism labels predictions, that is, speculations about life after death or the forms of life that may be identified after death. Finally, posthumanism labels those technologies whereby the 'posthuman world' of robots, cyborgs, artificial intelligence, genetically constructed forms of life as well as their roles in extending, enhancing, and immortalising human forms of life are realised.[51] It concerns transferring or simulating or generating human forms or life in artificially constructed and derived digital, biological, and digital-biological systems. Artificial forms of life independent of human existence at the same time pose fictional, philosophic, predictive, and technological questions, which are raised in the context of posthumanist thought.

When the concepts of the prehuman, human, and posthuman are identified in contemporary art, especially with regards to biotechnopolitically oriented art, three characteristic concepts may be distinguished:

1. The *prehuman* signifies those art practices that are based on working with 'non-human', i.e. organic or living materials, organisms, creatures, or phenomena as with post-media or tactical media of art,

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49 *Ibid*., p. 518.
50 *Ibid.*, pp. 512–516.
51 Hans Moravec, *Mind Children: The Future of Robot and Human Intelligence*, Cambridge, MA: Harvard University Press, 1988.

2. The *human* signifies those art practices that are based on working with 'human' creatures in the biological, psychobiological, cultural-biological, or socio-biological sense as with post-media or tactical media, and
3. The *posthuman* signifies those art practices that are based on working with what comes after the human (death, life after death, eternal life, machine analogies or metaphors of life, robotics, digital simulacra, cybernetics, virtual art, cyber systems, artificial intelligence, biological computers, genetic engineering, cloning, etc.) as with post-media or tactical media.

Certain artworks have been realised through the mediation of literal or metaphoric exemplifications of the prehuman, human, and posthuman, that is, through different combinations of them. These three models were then posited as realisations of concepts derived by artists in relation to forms of life. These works' respective forms of life at the same time formed the 'contents of the work' and the 'post-media', that is tactical-media set of apparatuses, by which the work was realised.

On one occasion,[52] I applied the scheme outlined above to the works of three artists: the *posthuman* in relation to the human and the prehuman in the work of Nataša Teofilović,[53] the *human* in relation to the prehuman and the posthuman in the works of Zoran Todorović,[54] and the *prehuman* in relation to the human and posthuman in the projects of Polona Tratnik.[55] Their respective art projects are linked by their shared fascination with life as a singular event that should be explored in its finitude, individuality, relativist stance on truth or construction, that is, on the relative formations of life, and with life that is finite and mortal at every moment, in fact, with life that may not be determined as true or false but only as constant changing in the world. This points to the contemporary transitional relation to the conceptualising of

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52 The exhibition *Europa^N – Scenario 1*, Museum of Contemporary Art in Leipzig (GfZK), 9 September 2011.

53 Nataša Teofilović, *Umetnost pokreta u prostoru praznine (tehnologija i praksa virtuelnih karaktera)* (The Art of Moving in Empty Space (the Technology and Practice of Virtual Characters)), unpublished manuscript.

54 Miško Šuvaković (ed.), *Intensity of Affect: Performances, Actions*, Instalations; A Retrospective of Zoran Todorović, Novi Sad, Serbia: The Museum of Contemporary Art of Vojvodina, 2009.

55 Polona Tratnik, *In vitro. Živo onostran telesa in umetnosti* (In Vitro. Live Beyond Body and Art), Ljubljana: Horizonti (Transars, 1), 2010.

life, conceived in an entirely different fashion from the *ideal forms of life* grounded in the tradition of Western philosophy from Hegel through Derrida:

> But the absolute Idea in its infinite truth is still determined as Life, true life, absolute life, life without death, imperishable life, the life of truth.[56]

Life as an individual event in changing, i.e. 'life as transition' has become a kind of post-media and tactical art practice. Artists perform practices constructed around incommensurable singularities, which are realised around a 'core' that is projected as a random form of life.

Nataša Teofilović has been acting in the context of digital art and screen installations. She has realised two characteristic works: *s.h.e.* (2007) and *1:1* (2010). Her works are software-generated representations of artificial humanoid bodies. They are 3D digital animations, followed by screen presentations of humanoid figures in motion. Whereas *s.h.e.* is projected onto five monitors, *1:1* consists of a single projection of a 3D animation from the ceiling onto the gallery floor. In her works, Nataša Teofilović spectacularises the relation between physical and the space onscreen, enabling a 'physical' confrontation between human beings (spectators present at the gallery) and the digital figure generated onscreen (a posthumanly conceived body). This spectacularised confrontation establishes the respective situations of the observer and the observed. *1:1* performs the *event* of the crossing of one body over, that is, through another. The principle of the 'post-human' is posited in such a way that it generates a figure that looks like a living body (it moves and emulates human behaviour), but its abstractness at the same time thwarts any illusion of the 'human'. A metaphysical suggestion is thereby made that the generated figure reminds one of a human body, but is not a human body. This is about constructing a fiction in motion and action. What is seen is a figure and a figure is an object. The object assumes the role of the visual phenomenality, that is, behaviourality of the human form of life. The generated and animated figure's assumption of human functions opens its potentiality to suggest the post-human metaphorically.

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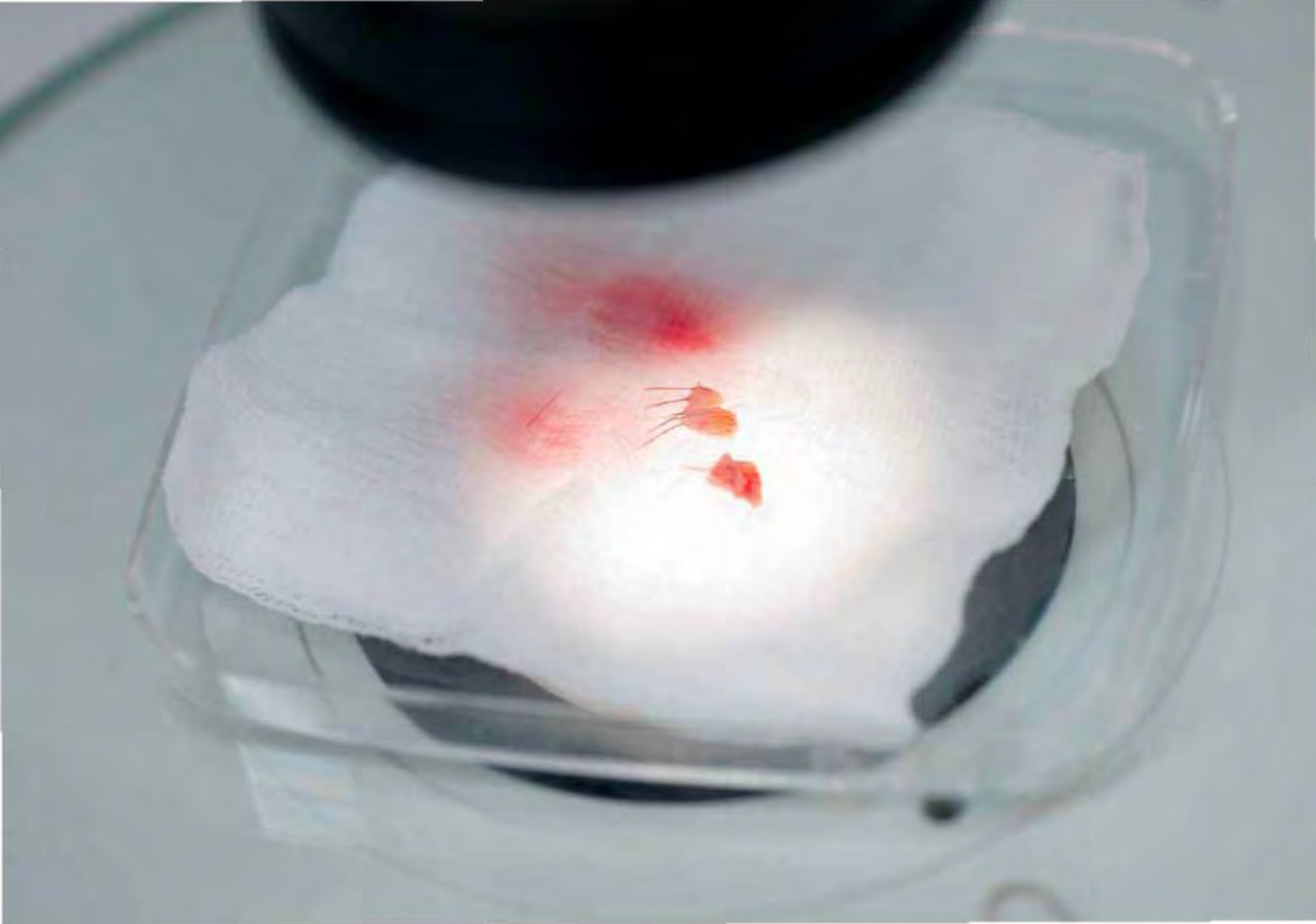
[56] Jacques Derrida, Glas, trans. John P. Leavey, Jr. and Richard Rand, Lincoln: University of Nebraska Press, 1986, p. 82 and John Schad, 'Epilogue. Coming Back to "Life": "Leavis Sells Pianos"', in *Life after Theory*, eds. Michael Payne and John Schad, London: Continuum, 2003, p. 172.



Zoran Todorović is an artist who uses new media or performance platforms as apparatuses for exploring critical and border human situations – forms of life and their limits in the biological, social, cultural, technological, and political sense. He is not *fascinated* with the capabilities of new technologies and their effects in art. Rather, Todorović is an introverted *user* or *consumer* of new-media or *socio-technological* practices in performing critical and singular behavioural events, the intensity and affect of which are presented live or documented and mediated in the systems of communicating and presenting in the worlds of art. For him, tactical media appear as products of mass social technologies, that is, as performances of hypnosis, serum injections, taking medicines, processing plastic-surgery waste, performing plastic surgery on human bodies, dieting, as well as behavioural relations on the street or in private and confrontations with racial contradictions, indexing sexual user work, etc. For instance, *Zurenje* (Staring, 1998) confronts the inverting of gazing – gazing at the genitals and gazing out from the genitals. A project of many years, *Asimilacija 1–3* (Assimilation 1–3, 1998–2009) is a series of events based on offering dishes made of human tissues discarded as waste in plastic surgery. *Agama 1–3* (2003–2005) is based on washing with soap made of human fat. The video installation *Cigani i psi* (Gypsies and Dogs, 2007) presents footage made by cameras strapped around the necks of dogs in a Belgrade park and the Roma boys cleaning car windshields at a busy junction in Belgrade. *Toplina* (Warmth, 2009) was realised as a complex collaborative practice of producing and marketing blankets made of waste human hair. Todorović posits his work in art as 'performing live', which introduces biotechnologies into specific performance situations that correspond to real affective life situations. He posits performance situations either as interventions on other people's bodies (authorial experimentation with *interventional otherness*) or on his own body (the model of the artist's body as an object and subject of art). The performance event appears in 'private'. Then, it receives its public presentation in the media. The performance event then appears in 'public', where it involves interacting with the biotechnological limits of standardising the human body, i.e. the bodies of collaborators involved in the same art project or of the audience present, who are brought to reflect on their own *intimacy* in public. The relation between private and public – intimate and shared – is explicitly elaborated as

the constitutive atmosphere of performing forms of life as events in an art project. The aspects and models of Todorović's work in art described above are significantly biopolitical in terms of biopolitics as the social technology of shaping human life for real, social life. Human life is not something that a living creature carries 'by itself' or 'for itself'; rather, it is the inscription of – more precisely, a singular event of inscribing – that creature into a situation or form of life, i.e. into its lifespan as well as living space *qua* something unrepeatable: ever different and malleable amidst the world, i.e. the conflict of nature as living matter and society as organising the behaviour of developed and culturally elaborate forms of life.

Polona Tratnik explores the 'models of forms of life' that are sub-human – that precede or are traces of human forms of life, that is, that are independent of them. In co-operation with biotechnicians and other medical staff, she brings 'biological samples' to visibility. Spectacularising prehuman or post-human samples is possible by exemplifying microscopic biological organisms in the system of cultural presentation. In a number of projects, Tratnik has explored presentations of the microscopic organic world in the field of visibility, which is provided by the potentiality of artworks. In *37° C* (Kapelica gallery, 2001–2002), Tratnik produced an installation realised as a breeding ground of human skin cells. In *In-Time* and *In(threat)timity* (2005), she exhibited bacteria that inhabit objects used in everyday life: washbasins, eyeglasses, etc. For instance, in being spectacularised, bacteria that inhabit washbasins become a sample of affectation – feelings of unease, confronting everyday life, which is seldom noticed or taken into account. Regarding *Hair*, a project she realised in 2005, Mojca Puncer wrote:

> The present installation encourages the visitor to establish intimate contact with the life that he or she can sense behind the walls of an incubator. In a petri dish, the artist's hair sprouts in agar nutrient based on serum from the artist's blood. The visitor can catch only glimpses of the fragile life in a carefully isolated container that simulates the conditions inside the body.[57]

[57] Mojca Puncer, 'Story About Hair', in: Polona Tratnik, *Lasje* / Hair, catalogue, Ljubljana: Moderna galerija Ljubljana and Galerija Kapelica, and Ribnica: Galerija Miklova hiša, 2005, p. 9.

This is a tactical act whereby the microscopic world of human cells, i.e. forms of life is transferred into a simulated situation, i.e. a micro-ecological situation, in which the sampled form of life is developed and spectacularised to perform the affective relation between the observer and the living world. A similar procedure was performed in *Unique* (2006), which visualised the microscopic plant and animal life of the human body:

> The observer's intimacy is examined with an intrusively piercing eye. The observer is also positioned into an artificial environment for cultivating life. It contains numerous living species. A human being becomes merely one of them.[58]

Hair in Vitro (2006–2010) is a complex interdisciplinary research project, realised in co-operation with artists, scientists/technicians, and spectators. The term *in vitro*[59] (Latin: within glass) refers to studies in experimental biology based on isolating *living matter* from a single organism. The isolated *component* is excised from its usual biological context to be subjected to analysis and examination. In *Hair in Vitro*, living human matter (skin, tissues, hair) is isolated by means of plastic surgery and keeping the sample alive in laboratory conditions. Tratnik examines and spectacularises living materials in real time, for instance, the growth of hair in laboratory conditions. Here is how Tratnik interprets her project:

> The project is rhizomatically structured at several levels and connects technoscience with heterogeneous artistic strategies and with humanistic research in tissue engineering and immunology as socially especially actual fields of biotechnology that promise revolutionary consequences, especially in medicine and aesthetics surgery. The project as well reflects the hybridization of art, humanities and

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58 Polona Tratnik, 'Unique', unpublished manuscript, 2006. The project was presented at *In Vivo – In Vitro* exhibition held in February, 2006, in Athens, Greece, at U3 Triennial for Contemporary Slovenian Art, Musum of Modern Art, 2006–07, Ljubljana, Slovenia, and at *Ars Electronica Festival*, 2008, Linz, Austria; the project was supported by Kapelica Gallery, Ljubljana. The manuscript was included in the author's text: Polona Tratnik, 'Carne del mundo' / 'Flesh of the world', in *A minima*, new media, art now, Barcelona (E), Nr. 18, 2006, p. 21; web publication: <http://aminima.net/wp/?p=826&language=en> 7 August 2011. For the project see also <http://www.ars-tratnik.si/unikum.htm> 7 August 2011

59 The term *in vivo* signifies studying living organisms in their 'normal' environments, whereas *ex vivo* signifies studying still functioning organs excised from their original organisms.

> technoscience, which is today at slope. The team of authors-executors is focused on research process and on consistent connecting fields, harmonizing the heterogeneous interests. The work is not oriented to producing finished products, artifacts for observer's contemplation, but to opening of the research process and the whole discourse to the public at diverse occasions. The aims of the project are communication of biotechnological potentials with wider public, realization of specific goals, which are interesting from the biotechnological, artistic and other aspects, and discussing the related issues, which are extremely important for contemporary individual and society.[60]

These micro-processes were spectacularised by means of different tactical media. A surgical procedure was performed. An installation was realised under simulated laboratory conditions. Hairs were kept 'alive' *in vitro*. Tratnik then documented, that is, in this case, photographed the samples' behaviour in laboratory conditions. She made three video works that present the operation of taking a human sample (*The Operation*), the laboratory work on the sample (*The Laboratory*), and the sampled hairs' growth (*The Hairs' Growth*). This is an example of using practices of post-production to multiply and spread the effects of spectacularisation in the field of visual culture.

The procedures of post-production spectacularisation described above are essentially changing the world of human sensory experience. These changes are determined by relocating, i.e. transferring scientific biological and medical microbiological laboratory experiments into the exhibiting contexts of art and culture. A double effect is thereby achieved:

- the sealed and culturally/socially invisible world of practices and apparatuses developed in scientific institutions is thereby opened up to individual and collective public 'experience' (the aesthetic plane) and 'cognition' (the epistemological plane), that is, to cultural exchange in society (the political plane),
- the opening up of science to culture through the 'tactical media' of art was realised as a political act of rearticulating the spectators' experiential contexts and

[60] Polona Tratnik, 'Las in vitro' (2010), <http://www.horizonti.net/index_e.html> 20 July 2011. See also: Polona Tratnik, *In vitro. Živo onostran telesa in umetnosti*, p. 168.

thereby also of changing their stance on the visible and invisible forms of everyday life, which constitute the world that surrounds us.

In modern society, it was customary to keep the world of science separate from the world of everyday human experience. Scientific knowledge packages of forms of life and everyday human experience of everyday forms of life were never brought to bear on one another, except in such critical situations as epidemics and actions to contain them, wars and the use of biological weapons, etc. By contrast, globalism led to an important turn. The turning of scientific into everyday knowledge has transformed the character of human experience. Art practices are the cultural instruments of the spectacularisation of scientific work. As tactical media of spectacularisation, certain art practices bring packages of specialised scientific knowledge up to the level of a sensory and bodily event. The field of cultural human experience is thereby extended and reshaped. The respective fields of science and everyday life lose their institutional and sensory-experiential autonomies. They become a complex and complicit hybrid field of culture. Therefore, we are talking about art and science in a time of culture.

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ABSTRACT & *HAIR IN VITRO* PROJECT INFORMATION

Surplus LIFE: The Philosophy of Contemporary Transitional Art and *Form of Life;* With Regards to the Artistic Productions of Polona Tratnik *by Miško Šuvaković addresses the context of Slovenian artist Polona Tratnik's explorations in art and theory. It also seeks to develop a general theorisation of the explorations of biological practices in contemporary art. It offers an interpretation of the 'form of life' concept in contemporary biopolitical philosophy and biotechnotheories. Šuvaković analyses various examples of Polona Tratnik's artistic explorations in relation to the concepts of the prehuman, human, and posthuman. Hair In Vitro, Tratnik's four-year transdisciplinary research project, is theorised in relation to different phenomenological, institutional, and experiential references. Šuvaković shows that Tratnik's artistic explorations occur at those places where scientific, technobiological, political, and aesthetic-artistic spectacularisations of invisible forms of life intersect. In particular, the book focuses on the borders between the visible and the invisible in the understanding of primary and more complex forms of life.*

Hair In Vitro *is a trans-disciplinary project meant to connect biotechnology with various arts and humanities; it is focused on researching living human hair in vitro and on conducting related experiments in tissue engineering. Under the highly controlled conditions of a laboratory, this project seeks to assess the optimal life period of hairs separated from the human body. The project demonstrates that the hairs are alive by monitoring them with sequence photographing, which has never been done before.*

15.10. LASJE I.

This also shows how the sampled hair and skin cells divide and form hairs in real time, how they behave and react to the artificial environment of a laboratory and how they die. The project points to the growing importance of biotechnology for power over life and the body and thus posits it as a strong and promising political technology, encouraging medicine and aesthetic surgery to invest in the body and improve its qualities.

Polona Tratnik with collaborators:
Biotechnological research: Miomir Knežević, Primož Rožman, Ajda Marič, Živa Marinko
Plastic surgery: Aleš Leskovšek
Photography: Damjan Švarc
Film: Robi Černelč, Jože Baša & ArtLAB
Design: Miha Turšič
The humanities: Miško Šuvaković et al.
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