

MELENTIE PANDILOVSKI

Notes on Biophilosophy & Biopolitics. It seems obvious now that the claims the 21st century will be the century of biology are correct. However, this also means that the 21st century will be yet another triumph of politics, for we must remember that biology has a long history of being politicized. Since Michel Foucault proposed the term 'bio-politics' we have understood its genesis to be firmly rooted in the project of modernity and the political thinking coming out from it, as politics projects itself as the supreme horizon of biology. However, we have also come to understand, through a series of human catastrophes in the 20th century, that political thinking cannot reach to the core of bio-politics, as the origin, and essence, as well as the outcomes of bio-politics are essentially philosophical questions, and can therefore not be separated from philosophy. We must ask ourselves the question of what is the role biotechnology plays for bio-politics today? What are the bio-political legacies of globalism? How can we develop a political thinking, which will fully come to terms with the essence of bio-politics? What is the overarching philosophy that connects all of the links in the biological spectre? How is bio-politics influencing the way we experience life?

Bios Melentie Pandilovski is the Director of the Experimental Art Foundation and Curator of the *Art in the Biotech Era* project (2004), as well as Editor of the highly successful book publication of the same name (2008). He was the initiator and Director/Curator of the Skopje Electronic Arts Fair, the first media art manifestation in the Balkans, which investigated the new languages of international artists and theoreticians working in new media arts, including genetics and biotechnology. He has curated over 100 exhibitions. He has taken part as an artist, theorist, and workshop leader, in numerous international exhibitions including the International Symposium of Electronic Arts (Chicago 1997, Manchester 1998, Singapore 2008, etc). Melentie Pandilovski's theoretical research deals with examination of the links between art, culture, technology, individual identity, and consciousness. He is a PhD research candidate in Visual Arts, at the University of South Australia. He has delivered texts for many international conferences including 'The Phenomenology and the Web' San Diego, 2000, 'Consciousness Reframed' Perth, 2002, and 'Qi and Complexity', Beijing, 2004.

further > Art in the Biotech Era project eaf.asn.au/ex04.html > & book eaf.asn.au/aitbe_about.html

ORON CATTS

The Taxonomical Crisis – Lab Grown Life, & No More Arks will present the research and history behind The Tissue Culture and Art Project (TC&A) latest work- NoArk. It will explore the taxonomical crisis that is presented by life forms created through biotechnology. As opposed to classical methodologies of collection, categorization and display that are seen in Natural History museums, contemporary biological research is focused around manipulation and hybridization, and rarely takes a public form. Using the metaphor of Noah's Ark, the talk will trace the shift from the cabinet of curiosities of the 17th Century to the birth of Linnaean Taxonomy in the 18th Century to the development of natural history museums in the 19th Century, and the reappearance of the biological oddities in the 20th Century. NoArk contrasts the Natural History collection with the messiness of a small chimerical blob made out of modified living fragments of a number of different organisms, living, in a techno-scientific body. In a sense, we will be making a unified collection of unclassifiable sub-organisms.

Bios Oron Catts is the Co-Founder and Director of SymbioticA. The Tissue Culture & Art Project (Oron Catts & Ionat Zurr) explores the use of tissue technologies as a medium for artistic expression. We are investigating our relationships with the different gradients of life through the construction/growth of a new class of object/being – that of the Semi-Living. These are parts of complex organisms which are sustained alive outside of the body and coerced to grow in predetermined shapes. These evocative objects are tangible examples of the Semi-Living that bring into question deep-rooted perceptions of life and identity, concepts of self, and the position of the human in regard to other living beings and the environment. We are interested in the new discourses, and new ethics/epistemologies that surround issues of partial life and the contestable future scenarios they are offering us.

TRISH ADAMS

Changing Fates_matrilineal considers the implications of recent groundbreaking techniques in adult stem cell research. It is an expanded investigation into experimental techniques in biomedical engineering and their impact on expressions and representations of corporeality. The preliminary project involved an inter-disciplinary collaboration with a scientist during which Adams took stem cells from her blood for experimentation; thus assuming the role of a 'human guinea pig'. This personalised engagement with both the experimental techniques and data arouses emotional links and raises questions about contemporary stem cell research and current socio-cultural issues. 'Changing fates' is the term used by scientists to describe the 'pluripotent' characteristics of adult stem cells which enables them to be redirected in culture into different types of cells. Documentary footage of Adam's laboratory experiments – during which she changed adult stem cells from her blood into beating cardiac cells in vitro – is juxtaposed with images suggesting links to her grandmother. These physical traces are carried in Adams' blood through matrilineal DNA. Thus this artwork examines the permanence and impermanence of the physical being in the context of poignant memories and residues that immortalise the fleeting moments that go to make a life and indeed to quantify our 'humanness'.

Bios Trish Adams completed her Doctor of Visual Arts in 2005. Her thesis explored the impact on expressions and representations of corporeality of experimental techniques in biomedical engineering and involved an inter-disciplinary collaboration with a scientist at the School of Biomedical Sciences, The University of Queensland. Trish has presented

her research outcomes at conferences such as 'Speculation and Innovation' and the ARC Biennial, Brisbane, 2005; 'New Constellations: Art, Science & Society', Museum of Contemporary Art, Sydney, 2006; Perth 'Digital Art & Culture Conference', 2007; and ISEA, 2008. She is currently artist-in-residence at the Visual & Sensory Neuroscience Group, Queensland Brain Institute, and The University of Queensland.

DR PAUL THOMAS

Deterritorialising the body. In this talk I will look at the role of artistic research in the area of nanotechnology. Scientific research in nanotechnology has created a series of conflicts in relationship to the body that demand a closer examination. As the awareness of the immateriality of matter is extended through our conscious understanding, the world becomes deterritorialised and we become molecularised: 'a molecular population, a people of oscillators as so many forces of interaction' (Deleuze and Guattari 1987). The construction of a molecularised society of interactions shifts the boundary of what we see as the autonomy of life. In Wil McCarthy's *Bloom* the molecular society is constructed from the deterritorialised humanity on earth. Creating a swarm intelligence, McCarthy's bloom suggests that life is inherent within the molecule and exists below the cellular level. Jesper Hoffmeyer makes the point that 'the swarm in which intelligence manifests itself is exactly that entity we call the body' (Hoffmeyer 1994). I will reference my own nanotechnological investigation through the *Nanoessence* project that examines life at a sub cellular level, re-examining space and scale within the posthuman context. A single HaCat* skin cell is analysed with an Atomic Force Microscope (AFM) to explore comparisons between, life and death at a nano level. The humanistic discourse concerning life is now being challenged by nanotechnological research that brings into question the concepts of what constitutes 'living.' The reconstruction of the body's materiality can be seen metaphorically in the same way that a binary code is based on a machinic de-territorialisation and re-territorialisation of data by digital devices. A digital device interprets and processes the material world to a codeic manifestation of a thing. The de-territorialisation and re-territorialisation of matter is the basis for a new conscious confrontation of our human relationship of the material world.

*The apparently immortalized but highly differentiated cell line was named HaCaT to indicate the origin and initial growth conditions. Boukamp, P., R. T. Petrussevska, et al., "Normal keratinization in a spontaneously immortalized aneuploid human keratinocyte cell line." *J. Cell Biol*, 106(3) (1988): 761-771.

Bios Dr Paul Thomas is Senior Lecturer and Coordinator of the Studio Electronic Arts (SEA) at Curtin University of Technology & the Artistic Director of the Biennale of Electronic Arts Perth 2007. He is the coordinator of the Studio Electronic Arts (SEA) at Curtin University of Technology and was the founding Director of the Biennale of Electronic Arts Perth. Paul has been working in the area of electronic arts since 1981 when he co-founded the group Media-Space. Media-Space was part of the first global link up with artists connected to ARTEX. *Nanoessence*, Paul's current research project, explores the space between life and death at a nano level. The project is part of an ongoing collaboration with the Nano Research Institute, Curtin University of Technology and SymbioticA at the University of Western Australia. Paul Thomas's work is exhibited internationally and can be seen on his website *VisibleSpace*.

further > www.visibleSpace.com

LINDA COOPER

Creative insights: procedures or products? Artist's explorations within the world of biotechnia – be it life, death or their collective quest for meaning – does require that the artist have some degree of an understanding of science. But what does this mean? Do we need to have diplomas and degrees to appreciate science? How can we see the beauty and simplicity of science, its relevance to the living, if it appears to be speaking in another language? History has demonstrated that true insights in science do not only come from an ability to compile collections of facts about nature and apply these to changing contexts. The capacity for insight also relies on individuals having the creative freedom to discover and interpret natural phenomena in new and evolving ways: to visualise using multiple dimensions, in pictures, thoughts and models, not just facts in words and numbers; and to join information and insights together in sequences not seen before. Can people be taught these skills and can we learn from artists and their interpretations in this field? To illustrate these issues, this talk will draw on the work of William and Lawrence Bragg, two of the great innovators and thinkers in science in the 20th century. Their work in discovering imaging techniques has provided us all – scientists and artists alike – with access to previously hidden worlds within the building blocks of nature. Their work began in Adelaide in the late 19th century, and this connection has provided a context for the establishment of a local 'sister' organisation to the Royal Institution of Great Britain. The centre will support the work of interdisciplinary study and provide a context for discourse and demonstration that aims to inspire others to evoke these creative insights!

Bios Linda Cooper is a consultant for program and policy developments in the arts, sciences and cross-culture issues. She is currently the Director of the Bragg Initiative in the Department of the Premier and Cabinet, and Project Director for the establishment of the Royal Institution Australia as a national organisation based in Adelaide. Linda was the Chair of the Australian Network for Art and Technology for four years, and was a member of the New Media Board of the Australia Council of the Arts and the Australia Council's Multicultural Arts Committee, 2000-2003. Linda Cooper has a degree in chemistry and English literature, postgraduate qualifications in science communication and extensive experience in developing Indigenous programs for science museums and organisations, including *Burrara Gathering: Sharing Indigenous Knowledge*, a national travelling exhibition. She is presently working with UK neuroscientist and Director of the Royal Institution of Great Britain, Baroness Professor Susan Greenfield and the South Australian government in developing and implementing a somewhat unique policy for science

and society - an outcome of the Adelaide's 'Thinker in Residence' Program. Linda was the Interim Director of the Australian Science and Media Centre during its establishment phase. She is also completing her PhD in Science Communication with the Australian National University. Linda Cooper has been a member of EAF Council since 2003.

CATHERINE FARGHER & TERUMI NARUSHIMA

BioHome: The Chromosome Knitting Project is a hybrid performance/ installation incorporating live 'wet biology' practices in a contemporary biotech display home. *BioHome's* contribution to the symposium is a 15 minute excerpt from the project, followed by discussion & questions. The installation features video, interactive sound, live performance and text. 'Wet biology' procedures such as plant DNA extraction, live DNA knitting and live insect cell culturing are used to explore reproductive futures and biotechnologies. The blurring of lines between laboratory and domestic procedures aims to heighten the awareness and discomfort the audience may feel about incorporation of biotech products in our daily lives. The audience is encouraged to investigate and interrogate these technologies and their impact on human, social and environmental futures and contemporary kinship systems. Knitting is a central metaphor in the work, highlighting similarities between the use of patterns and stitches in knitting to the basic techniques of biotechnology or genetic engineering, i.e. working with DNA as the 'building blocks of life.' Knitting is also a metaphor for human reproduction. The performance includes a demonstration of knitting fibres extracted from salmon DNA. For the music, a number of standard pattern stitches used in knitting are represented as patterns in sound. These sequences are realised using inharmonic timbres based on band patterns that result from a technique used by molecular biologists to analyse DNA known as gel electrophoresis.

Performance and text by Catherine Fargher with live sound mix by Terumi Narushima. The biological collaborations were developed as a result of the artists participation in the SymbioticA Wet Biology Workshop, School of Anatomy and Human Biology at the University of Western Australia, and continued with the School of Biology, University of Wollongong.

Bios Dr Catherine Fargher is a performer, writer and teacher working in radio, contemporary performance, new media/hybrid arts, puppetry, television and theatre. As a writer, Catherine has had over twenty scripts produced for companies including the Sydney Opera House, Sidetrack Theatre, Vitalstatistix, Terrapin Puppet Theatre, the Jessica Wilson Company and the Australian National Broadcasting Corporation. Catherine has also performed widely in cabaret and contemporary performance in Australia. She has recently completed a Doctorate of Creative Arts at Wollongong University, developing performance texts from bioethical fables. Her bioethical fable *Dr Egg and The Man with No Ear* was adapted for new a media/puppetry production at the Sydney Opera House in July 2007 and toured to Chicago (REDMOON) in 2008. Catherine Fargher is currently working as a lecturer in screen and stage writing at Wollongong University and writing a graphic novel.

Bios Terumi Narushima is a Wollongong-based composer who writes instrumental as well as electronic music. She completed her undergraduate degree at the University of Sydney and obtained a Master of Music (Composition) from Sydney Conservatorium in 2003. Her compositions have been performed in concerts broadcast on Australian radio and she has also worked as a sound designer/composer for experimental short films which have been screened at festivals in Australia and overseas. Her main musical interests include exploring alternative tuning systems and her sound installation, *Triadic Chimes: bells in just intonation*, has been presented at festivals including *Carnivale Multicultural Arts Festival* at the Sydney Opera House (Australia 2001), *MicroFest* (USA 2001) and *Florida Electroacoustic Music Festival* (USA 2007). She is a PhD candidate in Music at the University of Wollongong with Greg Schiemer as her supervisor, and a part time lecturer in composition at the University of Wollongong.

further ▶ www.biohomeproject.net • www.chromokit.com

MARCELLO COSTA

Biology, science and art: a Neuroscience perspective. Art and science are the most creative human activities. However, the distinction between them is relatively recent. The beginning of the scientific revolution in the 17th Century was preceded by the explosion in the visual representation of the natural world in the Renaissance, after a long period of cultural recession since the Greco-Roman times. The exquisite depiction of humans in a natural environment, in contrast of the idealised heavenly world of religious imagination, marked the beginning of a humanistic approach to humans and nature. This artificial distinction is vanishing as humanistic science regard humans as part of nature not outside let alone above it. The skill of artistic visual representation represented the common link between nascent scientific disciplines such as geography with the development of maps, geology, astronomy and the biology based anatomy, botany, zoology, etc. Geometry, then mathematics, made these disciplines 'more scientific.' The process of representing unknown and often unseen phenomena is still the engine behind advances in natural sciences. The reunification of art and science may well mark a new period of exploration of the inner self and social issues as they enter a scientific phase. Neuroscience is a suitable conceptual umbrella for much of this exploration.

Bios Marcello Costa is Professor of Neurophysiology at Flinders University, South Australia. He investigates how the nervous system works and has educated generations of medical and science students. Has published over 220 scientific papers and written two books. As co-chair of the South Australian Neuroscience Institute (SANI) is involved in public education of neuroscience and its implication for modern society. His adventures beyond science include exploring the Patagonian ice fields in his mountaineering life and crossing South Australian waters on a sailboard. He received last year the recognition as "Unsung hero of Science Communication" in SA. He was made Fellow of the Australian Academy of Science in 1988 and received a Centenary Medal, in 2003.

VICKI SOWRY

Guerillas in the Midst: Artists, Scientists and the Decline of Dualism. Biotechnia – the technical manipulation of, and engagement with, biological matter – functions as a useful metaphor for the inbetween-ness of the field of art and science collaborations more generally. I will be outlining some of the work supported by ANAT (The

Australian Network for Art & Technology) in recent years investigating and pushing the boundaries of what is possible when moving beyond dualistic systems of knowledge and meaning.

Bios Vicki Sowry has worked in screen production, industry development, new media and television for twenty years. She has a particular skill and passion for establishing and delivering professional development programs for filmmakers and screen-based artists in partnership with industry. As art science Program Manager at the Australian Network for Art & Technology (ANAT) she manages a suite of projects supporting collaborations between media artists and scientists in Australia and beyond.

NIKI SPEROU

Myth, metaphor and corpo(reality). In this presentation I will discuss the development of my work within the genre of biotech arts. Emerging from an early interest in ancient Greek myth and culture, my work is focused on the social, political and ethical issues related to the field of contemporary biotechnology. Of particular interest are hybrid entities and the evolution of techné; the art of innovation. Early work made metaphorical reference to these issues with materials from the plastic arts and nature. As a do-it-yourself pseudo-scientist I employ basic science techniques. In 2006 I embarked upon a residency at the department of Medical Biotechnology, Flinders University. My aim is not simply to illustrate science but to make poetic works incorporating life itself to explore science through alternative expression.

Bios Niki Sperou investigates the nexus between art, science and culture and the role of this connection in the shaping of human identity. Influenced by her cultural background she creates 'Chimeras' which allude to cultural hybridity, biotechnology and the fanciful object or idea. She has participated in workshops by bio artists Oron Catts, Gary Cass and Eduardo Kac at the Experimental Art Foundation. In 2004 she participated in *Heath Buntings DIY DNA DAY*. Since 2006 she has been the artist in residence at the Dept of Medical Biotechnology Flinders Medical Centre, South Australia. In 2007 Niki Sperou was a core group co-ordinator of 'With the Body in Mind' science and art event held at the Flinders Medical Centre. Niki Sperou will lead the workshop associated with the *Biotech Art Revisited* project, *Vital ecologies: splice, dice, duplicate*

further ▶ Biotech Art Workshop on eafweb eaf.asn.au/2009/biotechog-workshop.html

ANDRÉ BRODYK

Transaction pending.... Genetic proto-animates addresses research surrounding the transacting of information at a molecular level by what has paradoxically been previously considered to be 'inanimate' material. That is they were not protein coding materials. Much of the genomic research until relatively recently has been dismissive of any biological product involved in transformations of genetic information which are not protein directed. However current research using experimental methods, such as those being conducted at the Institute for Molecular Bioscience (IMB) in Queensland, refutes this dogma. IMB research reveals that other latent layers of molecular materials known as Ribonucleic acids (RNAs) are responsible for the conveyance and even regulation of most genetic information in mammals. Demonstration of the existence and any regulatory functions of these formally inanimate entities in information assembly and direction are complex. The argument developed in this paper is that, this material may therefore be considered to exist in a molecular space in a latent and pending state of animation. It is neither fully animate nor essentially inert but is a type of proto-animata. This condition may be apprehended in a type of experimental visual validation of their pending status within living Genetic art expressions.

Bios André Brodyk is genetic artist and researcher who uses genetic protocols to create new genetic art media as a basis of creative inquiry. Brodyk's practice-based research is centred on interpretations of recombinant DNA technologies and the creation of biochemically compatible novel molecular material made from ostensibly inanimate sources. Currently this involves research into areas of the genome, which are known as non-coding RNAs, which have been dismissed because of prevailing misunderstandings about their function in lower and higher order organisms. Brodyk has undertaken numerous residencies inside molecular laboratories most recently at The Institute for Molecular Bioscience in Queensland.

TANJA VIŠOŠEVIĆ

The Living Screen: A case of cinema thanatopsis. Dominant cinema is being challenged and the moving-image culture redefined by much contemporary digital-media art. *The Living Screen* shares the same artistic objectives of much contemporary cine-art, to deconstruct traditional cinematic forms that impose ideological constraints and participate in the creation of a new poetics. However *The Living Screen's* technical and formal strategies go beyond the digital by introducing the biological. Its screen is alive! From kino-eye to bio-kino, *The Living Screen* is a biologically as well as digitally expanded cinema. This paper will discuss the interface between biological arts to film theory and cinema history in *The Living Screen*. It will elaborate upon the project as a form of cinema thanatopsis.

Bios Tanja Višosevic (aka. tanyavision, tanya V & Citizen TV), born 1971, is a Perth-based artist. Višosevic's interdisciplinary art practice employs the technologies and strategies of moving image, performance and bio-art to explore the cultural and philosophical terrains that consume her. Many of her obsessions deal with the life and death instincts, identity politics and the side effects of new technologies. Višosevic has contributed to a number of group exhibitions and engaged audiences in a range of performances, including: *XYZ - Ice Cream Factory*, *ARTRAGE Festival*, (2007); *New Revelations*, *Revelations Film Festival*, *Spectrum Gallery*, (2007); *Phosphorus 15*, *Perth Centre for Photography*, (2007); *The Living Screen*, *BEAP_Works*, *John Curtin Gallery*, Perth, (2006); and *Mobile Journeys*, *Opera House Studio*, Sydney. Višosevic is also a film critic/theorist and currently teaches video production at Edith Cowan University.

EXPERIMENTAL ART FOUNDATION

Lion Arts Centre North Tce [West End] Adelaide South Australia
+61 (0)8 82117505 · www.eaf.asn.au · info@eaf.asn.au
Biotech Art Revisited Project. Symposium *Life, death & biotechnia*.
Wednesday 8 April, 9.30am-4.30pm Mercury Cinema, Lion Arts Centre.