



Close Encounters

ScienceLiteratureArts

*The 4th European Conference of the Society for
Science, Literature, and the Arts*

Amsterdam, June 13-16, 2006



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General

Host

The 4th European meeting is hosted by the Amsterdam School for Cultural Analysis ([ASCA](#)) of the University of Amsterdam.

Streams

The conference is organised around 11 thematic streams. There will be more than 250 paper presentations and various panel discussions in about 80 parallel sessions spread over three days. For an overview see "Programme", for the paper abstracts see "Sessions".

Plenary speakers

Gillian Beer + Evelyn Fox Keller
Andrew Carnie + Richard Wingate
Joseph McElroy

Programme Chair

Manuela Rossini

Local Programme Committee

José van Dijck (UvA), Sher Doruff (Waag Society/Multimedien), renée c. hoogland (Radboud U, Nijmegen), Manuela Rossini (UvA/U of Basel), Cor van der Weele (U Wageningen), Willem Weststeijn (Director of ASCA), and Robert Zwijnenberg (U Maastricht/U Leiden/The Arts and Genomics Centre, UvA).

With the organisational support of: Eloë Kingma (Managing Director of ASCA) and Jantine van Gogh (Office Manager of ASCA), and students Stephan Besser, Sean de Koekkoek, Ivett Reyes Maturano, Laura Schuster, Eliza Steinbock, Gözde Onaran.

Welcome!

Welcome to *Close Encounters: ScienceLiteratureArts*, the 4th European Biannual Conference of the SLSA (Society for Science, Literature, and the Arts).

Like encounters between individuals of different genders, ethnicities, cultures or species, encounters between members of different academic disciplines and professional groups can take many forms, ranging from hostility and indifference to curiosity and intimacy. When a musician enters into conversation with a neurologist on the topic of cognition or when a literary scholar talks to a biologist about metaphors, the experience of that close encounter may well be of “the third kind”, in a double sense: either utterly alien with no mutual understanding at all, leaving what C.P. Snow described almost 50 years ago as a “gulf of mutual incomprehension” wide open or, on the contrary, producing a new discourse that communicates across disciplines and thus manages to bridge the two-cultures divide. In the latter case, the encounter leads to new insights and to the revision of one’s own assumptions and premises. In other words: no participant remains the same after the encounter.

On behalf of ASCA and the programme committee, I wish all of us many pleasant and interesting encounters over the next few days.

Yours,
Manuela Rossini (Programme Chair)

Keynotes

CLOSE ENCOUNTER 1

Gillian Beer & Evelyn Fox Keller

ENCOUNTERS BETWEEN MODES OF EXPLANATION: NATURE, MAGIC AND THE NATURAL

Evelyn Fox Keller: As part of my interest in the enduring unproductivity of the nature-nurture debate, I focus here on the problematic relation between nature and the natural. For if the definition of nature is problematic, its semantic relation to 'natural' is even more so. I explore some of the problems that arise from slippage between substantitive and normative conceptions of 'natural' (inviting collateral slippage between *is* and *ought*), from the bifurcatory structure of its negation, and from changing assumptions about nature's domain.

Gillian Beer: How to fill the explanatory gap between what is manifest and what has brought it about?: that question of how to knit up causes and effects preoccupies both science and literature. In this paper I look at Darwin's encounters with indigenous systems of explanation when on the Beagle journeys and how he resisted and learnt from them. My other examples, from Helmholtz, Thomas Mann, and Thomas Hardy, also raise questions of what is 'magical' or 'natural' in explanation.

The talk is moderated by **Cor van der Weele**.

CLOSE ENCOUNTER 2

Andrew Carnie + Richard Wingate

CLOSE COLLABORATION BETWEEN ART AND NEUROSCIENCE

Andrew Carnie and **Richard Wingate** have worked together on and off over a period of five years. Their collaboration as artist and scientist and their ongoing process of dialogue has resulted in two art works: *Magic Forest* in 2002, shown at the Science Museum London, and the International Film Festival Rotterdam and in the Design Museum Zurich and *Complex Brain*, first shown in 2005 at the British Association Science Fair, Exeter. The nature of the collaboration has changed as they have moved on. The first was very much an exchange with Andrew taking forward the ideas and making the work, the second involved greater interchange and a blending of the ideas. In the air is a third project, a chance to work together anew. How would they take on a new project in relation to the experience of the first two projects? Andrew Carnie and Richard Wingate will talk about their own

work as individuals, their shared experience of working on their two 'collaborations', and how they might move onto their next venture together. The talk is moderated by **Robert Zwijnenberg**.

CLOSE ENCOUNTER 3

Joseph Mc Elroy in Conversation

The distinguished American novelist **Joseph McElroy** will read from his current fictional and theoretical projects, concentrating on the topic of "conceptual fields accessible to and conditioning or enlarging the possibilities of prose fiction". The reading will be followed by a panel on McElroy's work (Session 6E-2), to which the novelist will also contribute.

Chair: **Yves Abrioux**

Respondents: **Noëlle Batt** and **Joseph Tabbi**.

Performances

1: Poetry reading

Location: Stichting/Theater Perdu, Kloveniersburgwal 86, 20:30-open ended

Organiser and moderator: **Annemarie Estor**

With sci/technopoems by:

Roberta Lynn Dostal (Johnstown, Pennsylvania, USA):

"Geologic Vegetable Beef Stew", "Quiet Time", "Tiny Critters", "Dam! Dam! Dam the Door" and "Confusion".

Annemarie Estor (University of Antwerp, Belgium)

Seven poems about the brain: "Mum", "The Purkinje Cell", "People in the Night", "Todopoderoso", "Fantastic Anatomy", "Regeneration" and "The Neurobiology of the Nightmare"

Liana Christensen (Murdoch University, Perth, Western Australia)

Seven Ecofeminist Poems: "Arachnead", "Cohabitation 11", "Cohabitation 111", "Crunching the Numbers", "Eve Encounters the Internet", "Taxonomic Dreaming", and "Verisimilitude"

Nat Hardy (Rogers State University, Oklahoma, USA) and **Julian Grater** (London, UK)

"Biomarkers", an art/poetry collaboration

2: Two bio-multimedia performances

Location: Universiteitstheater, 20:00-22:00

Performances by:

Natasha Myers/Clemetine Cummer (MIT):

Cellular Practices and Mimetic Transduction (length: 20 minutes)

This multi-media production explores the performance of life science research. Building on ethnographic and movement studies of biological laboratories, it examines the affective entanglements between biologists, their substances and mediating machines in the production and performance of biological images and models. Through movement, video projection, text and sound, we transduce the gestures and body-work of lively substances and their researchers.

Trace Reddell/Timothy Weaver (U of Denver, USA):

microMacroCosm (length: 1hr)

This new multimedia-based work of live cinema uses video and sound to explore information patterns that span cellular, neurological, global and stellar registers. Drawing on a variety of data gathered from DNA sequences, real-time biofeedback, biomolecular navigation, and interstellar radiowave activity, the performance provides an intersection for the diverse data streams that continually, largely

invisibly, inform our existence. The collaborating artists mediate this connectivity as a form of improvisational influence spread across a range of data-scales.

Transdisciplinarity and Art as Re/Search

“Art as Research”, a modest proposal by **Florian Dombois**, followed by responses from **Bergit Arends & Mieke Bal & François-Joseph Lapointe**
Moderator: **Manuela Rossini**

Florian Dombois (Berne University of the Arts, CH)

Art as Research: An attempt to draft some instructions

In many European countries, and elsewhere, a vivid discussion on how to do research in the arts (including the fine arts, music, theatre, etc.) is currently taking place. There are good reasons to think about alternative forms of research to challenge the (natural-)scientific claim on knowledge. In the following I propose 10 paragraphs that should be fulfilled in order for a piece of art to be placed on the same footing as a research result from the technosciences:

§ 1. 'Art as research' presupposes an epistemic interest!

§ 2. The epistemic interest is clearly stated!

§ 3. Knowledge is formulated within the respective art form!

§ 4. Meeting at the join: thematic grouping and organisation by form of representation

§ 5. Research is done by many people, and not by one person only!

§ 6. The evaluation of the research results is done by experts!

§ 7. The results are made accessible to the general public via publications!

§ 8. Agreed criteria exist for the discussion of results!

§ 9. 'Art as Research' takes into account the 'State of the Art'!

§ 10. 'Art as Research' takes the solutions provided by scientific research and bats them back as questions!

Now the discussion has to start.

The fulltext-version of these paragraphs can be found on the internet, www.hkb.bfh.ch/hkb2006inhalt.html, and also a public exchange in *Kunst-Bulletin* (April 2006), www.kunstbulletin.ch/router.cfm?a=060315151830PAX-2). Both texts are in German. An English translation will be provided upon request. E-mail: florian.dombois@hkb.bfh.ch

Reading with Ruth Ozeki

SATURDAY, 17 June, 20:00-22:00

Location: Treehouse of the American Book Centre, Voetboogstraat 11

Ruth Ozeki will read from her latest novel, *All Over Creation*. Introduction by Susan Squier. (Ozeki will be presenting a new short story in Session 8I also.) Ruth Ozeki is an award-winning filmmaker and author of the muckraking classic, *My Year of Meats*. Her books, which have been translated into 14 languages and published in as many countries, are humorous, harrowing, and heartfelt explorations of the areas where the political and the personal intersect. Ozeki will talk about her work and answer questions after the reading. Book signing will follow. *All Over Creation* is the story of Yumi Fuller, a prodigal daughter who returns home to her family farm in Idaho and finds herself caught in the middle of a battle over the future of food and farming. Agribusiness forces, hell bent on introducing a genetically engineered potato to the farmers of Idaho, are at war with a posse of activists, the Seeds of Resistance, who travel the country in a camping car called The Spudnik, fueled by french-fry oil. In the midst of this volatile fray, Yumi returns to confront her dying parents, her estranged friend, an abusive lover and a conflicted past. *All Over Creation* tells a celebratory tale of the beauty of seeds and growing things, and the capacity for renewal that resides within us all.



Speakers and moderators

OPENING

Willem Weststeijn is Professor of Slavic Literature at the University of Amsterdam and Director of ASCA (Amsterdam School for Cultural Analysis). He is editor in chief of the international journal *Russian Literature* and the Dutch journal *Tijdschrift voor Slavische Literatuur*, editor of *Avant Garde Critical Studies* and the book series *Studies in Slavic Literature and Poetics*. Among his book publications are *Velimir Chlebnikov and the Development of Poetical Language in Russian Symbolism and Futurism* (1983), *Inleiding in de Algemene Literatuurwetenschap (Introduction into Literary Theory, 1981)* en *Over literatuur (On Literature, 1987)*, both together with Mieke Bal and Jan van Luxemburg, and *Russische literatuur (Russian Literature, 2004)*. He wrote some 500 articles and reviews on Slavic literature and literary and comparative theory and is preparing a new book on modern Russian literature. He is currently on the Board of the Humanities Council of the Royal Dutch Academy of Arts and Sciences and member of the jury of the Martinus Nijhoff Award for translations.

Robbert Dijkgraaf is since 2005 University Professor at the University of Amsterdam, where from 1992 he held the chair of Mathematical Physics. He studied theoretical physics and mathematics in Utrecht, where (after an interlude studying painting at the Gerrit Rietveld Academie) he obtained in 1989 his Ph.D. cum laude under supervision of Nobel Prize laureate Gerard 't Hooft. Subsequently he held positions at Princeton University and the Institute for Advanced Study. His research group works in string theory, quantum gravity, and the interface of mathematics and particle physics. Dijkgraaf is also interested in creating more public awareness of mathematics and science, and bridging the gap with the arts and humanities. He is a columnist for the national newspaper NRC Handelsblad. Dijkgraaf is a member of the Royal Netherlands Academy of Arts and Sciences and the Koninklijke Hollandse Maatschappij der Wetenschappen. He was the recipient of the 2001 Physica Prize of the Dutch Physical Society and the 2003 NWO Spinoza Prize, the highest scientific award in the Netherlands.

Frits van Oostrom is President of the Royal Netherlands Academy of Arts and Sciences since May 2005 and Professor of Dutch at Utrecht University. From 1998-2001, he was Dean and Vice Dean of the Faculty of Arts as well as Professor of Pre-Romantic Dutch Literature at the University of Leiden. van Oostrom was a Visiting Distinguished Professor (Erasmus Chair) at Harvard University in 1999.

Among his major, award-winning publications are: *Lantsloot vander Haghedochte* (1981, Prince Bernhard Fund Prize), *Het woord van eer* (1987, Wijnaendts Francken Prize), *Aanvaard dit werk* (essays, 1992), *Handgeschreven wereld* (1995, co-author Dini Hogenelst), and *Maerlants wereld* (1996, AKO Literature Prize). He is the initiator of literatuurgeschiedenis (www.literatuurgeschiedenis.nl) and bijbelencultuur (www.bijbelencultuur.nl), and the textbook series *Tekst in context*. In 1995 he received the prestigious Spinoza Prize. Other awards and distinctions include the Fleerackers Prize for Flemish-Dutch scholarly collaboration (1999, together with Professor Frank Willaert, Antwerp), the Keizer Karel Prize (2000), and in 2003 he was elected Honorary foreign member of the Royal Academy of Dutch Language and Literature of Flanders. Van Oostrom has currently finished *Stemmen op schrift*, one of a major two-volume history of Dutch medieval literature that commences with the earliest example of recorded Dutch ('Hebban olla vogala') to the *Lament for Egidius* (*Egidiuslied*, ca. 1400).

Anne La Berge is a pioneer flutist/composer, working since the late '70's with interactive computer systems, microtonality, improvisation and as a leading interpreter of contemporary chamber music. Anne La Berge grew up in Minnesota, USA and has lived since 1989 in Amsterdam. She currently performs in numerous improvisation and chamber music projects in Europe and the US. She can be heard in a range of settings from modern ballet music in the music theaters of Holland to international science and art symposia and finally to improvised electronic music in the local squat buildings. From 1999 through 2006 she co-founded and ran the series "kraakgeluiden" for weekly electro-acoustic improvisation sessions in Amsterdam. In addition to creating her own work, she regularly commissions artists, the most recent being Marko Ciciliani, to compose solo works for her with interactive/improvised music and video. The last few years have seen a new addition to her work: self-penned enigmatic short stories which slide seamlessly in and out of her compositions and improvisations. She is currently collaborating with the Utrecht School of Art, Media and Technology and the Dutch publishing company Donemus to create published versions of her latest interactive electronic works. A listing of current performances, CD releases and activities can be found at: www.annelaberge.com.

CLOSE ENCOUNTER 1

Gillian Beer, Emerita Professor of English Literature at the University of Cambridge, former President of Clare Hall College, and appointed Dame in the 1998 national honours list, is a pioneering and leading voice in the interactions of literature and scientific writing. Among her books are *Darwin's Plots* (1983; second edition 2000) which continues to affect people working in very diverse fields,

George Eliot (1987), *Arguing with the Past* (1989), *Open Fields: Science in Cultural Encounter* (1996) and *Virginia Woolf: the Common Ground* (1996). She has edited Darwin's *The Origin of Species* for Oxford UP (1998) and her edition of Freud's *The Wolfman and Other Case Histories* was recently released by Penguin. She is now completing two further studies: one to be called *Experimental Islands* and one titled *Alice in Space* which places Lewis Carroll's Alice books in relation to intellectual controversies in mathematics, evolutionary theory, language theory and forms of parody in mid-nineteenth-century Britain. She is a Fellow of the British Academy and a Foreign Honorary Member of the American Academy of Arts and Sciences, as well as holding honorary degrees from eight universities. She has twice been a judge for the Booker Prize, and has judged other literary prizes such as the Orange Prize. Furthermore, she is President of the British Comparative Literature Association and on the Board of Arts Council England East.

Evelyn Fox Keller is Professor of History and Philosophy of Science at MIT. She received her PhD in Physics from Harvard but then has had a career that spans an interdisciplinary range of interests, including mathematical biology, physics, history and philosophy of science, and gender studies. Prior to MIT, she was Professor of Rhetoric and Women Studies at University of Berkeley (1988-1992), and Professor of Mathematics and Humanities at Northeastern University (1981-1988). She has also been a Guggenheim Fellow (2000-2001), MacArthur Fellow (1992-97), Visiting Professor at the Princeton Institute of Advanced Studies, the California Institute of Technology and the Max Planck Institute for History and Science. In addition to influential articles, her list of publications include several books: *A Feeling for the Organism: The Life and Work of Barbara MacClintock* (1983), *Reflections on Gender and Science* (1985), *Secrets of Life/Secrets of Death: Essays on Language, Gender and Science* (1992), *Refiguring Life: Metaphors of Twentieth Century Biology* (1995), *The Century of the Gene* (2000) and *Making Sense of Life: Explaining Biological Development with Models, Metaphors and Machines* (2002).

Cor van der Weele is a researcher at Wageningen University. She studied biology (with genetics as the central subject) at the University of Utrecht and philosophy at the University of Groningen. She completed her PhD in the philosophy of biology at the Free University of Amsterdam in 1995. *Images of Development* (1999) was based on this thesis. In an educational context she developed a study trajectory and co-edited a book on medical biotechnology. She is interested in imaginative aspects of science and ethics within a pragmatist framework. Her current research and recent publications concentrate on metaphor and visual art in moral debate concerning genomics.

CLOSE ENCOUNTER 2

Andrew Carnie teaches at the Winchester School of Art, England. He studied chemistry and painting at Warren Wilson College, North Carolina, then zoology and psychology at Durham University, before he completed a Degree at Goldsmiths College and a Masters Degree in the Painting School at the Royal College of Art, London. As a practising artist working in new media his work has for the last six years been underpinned by close collaboration with scientists. His recent projects include: *Head On* (2002), a show on neurology at the Science Museum, London, funded by the WellcomeTrust. He produced a number of artworks centred around the topics of memory, the brain, and neuroscience, while working with scientists at the Medical Research Centre for Developmental Neurology, Kings College, London. The final work *Magic Forest* was produced in collaboration with neurologist Richard Wingate; *Disperse* (2002) for the School of Hygiene and Tropical Medicine, London. The work is looking at the processes of how the body might be physically 'dispersed' and rendered back to atomic particles at death; again in collaboration with Wingate: *Complex Brain: Spreading Arbour* (2003), a time-based media work that looks at the migration of neurons through the body; *Slices and Snapshots* (2004) for the Stanley Picker Gallery, Kingston, an exhibition based on the sequential photography of Eadweard Muybridge and chronophotography in contemporary neuroscience. Current projects: *Deep Down; Things Happen for Genes And Genius* at the Mendel Museum, Abbey Of St Thomas, Brno, Czech Republic; with neuropsychologist Paul Broks of Plymouth University: production of a book and installation work titled *When I Look Up*, on Temporal Lobe Epilepsy; and *We Are Where We Are* for the *Space, Architecture and the Mind Festival* in Winchester, March 2006. Homepage: www.andrewcarnie.co.uk.

Richard Wingate is a Lecturer at King's College London and a group leader in the MRC Centre for Developmental Neurobiology. He completed his D.Phil in Neurophysiology at Oxford University and then held a series of prestigious fellowships at Guy's Hospital (London), Rockefeller University (New York) and King's College London. His interests are in neural morphology and the evolution, genetic control and mechanisms of nerve cell migration in the embryonic brain. For the last four years he has had an ongoing collaboration with Andrew Carnie, exploring points of contact between their respective arts and science practices. This collaboration was the basis for two works: *Magic Forest* and *Complex Brain*.

Robert Zwijnenberg is Professor of Art History at the universities of Maastricht and Leiden. He has published on Renaissance culture and art theory, philosophy of

art, and on the relation between the arts and sciences. He is the author of *The Writings and Drawings of Leonardo da Vinci: Order and Chaos in Early Modern Thought* (Cambridge UP, 1999), contributing co-editor (with Claire Farago) of *Compelling Visuality: The Work of Art in and out of History* (U of Minnesota P, 2003), and contributing co-editor (with Florike Egmond) of *Bodily Extremities: Preoccupations with the Human Body in Early Modern European Culture* (Ashgate P, 2003). He is currently preparing a volume on anachronisms in the humanities and a volume on the interiority of the human body. Trained in civil engineering and philosophy, he received a PhD in philosophy from the University of Amsterdam. He was a Visiting Professor at the University of Stockholm and the University of Colorado at Boulder. At the University of Maastricht, he is project leader of the interdisciplinary research program *The Mediated Body* (funded by The Netherlands Organization for Scientific Research – NWO), investigating various medical, scientific and artistic ways of visualizing the interior human body and its boundaries. He is also project leader of the interdisciplinary research program *New Representational Spaces* (funded by NWO); this program aims to describe and analyze the unique role that the visual arts can have in the critical evaluation and dissemination of the results of genomics research. *New Representational Spaces* is conducted by PhD students and postdocs at the universities of Leiden, Maastricht and Amsterdam. He is one of the founding directors of The Arts and Genomics Centre (www.artsgenomics.org) in Amsterdam.

CLOSE ENCOUNTER 3

Joseph McElroy is the author of nine novels: *A Smuggler's Bible* (1966), (1969), *Hind's Kidnap*, *Ancient History: A Paraphrase* (1971), *Lookout Cartridge* (1974), *Plus* (1977), *Women and Men* (1987), *The Letter Left to Me* (1989), *Actress in the House* (2003), and the forthcoming *Cannonball*. Also a volume of essays, *Exponential*, and numerous stories and reviews. He is completing a long-in-progress novel, *Fathers Untold*, a largely non-fiction book on water, and a libretto for an opera about interrogation. He received the Award in Literature from the American Academy of Arts and Letters and has taught at many universities. Homepage: www.josephmcelroy.com.

Yves Abrioux is Professor of English Literature at the University of Paris VIII. He has published extensively on literary theory, science and literature from a theoretical angle, English and American literature, garden and landscape theory, and contemporary art and has organized two previous workshops on Joseph McElroy. He has edited several issues of the journal *TLE* (Presses universitaires de Vincennes) on topics relating to science, theory, art and literature. He is also a practicing artist, producing work on gardens and landscape in collaboration with Gianni

Burattoni.

Noëlle Batt is Professor of Contemporary American Literature and Theory of Literature at the University of Paris VIII. She is the director of the Center for Research on Literature and Cognition (EA 1569; Paris VIII) and the editor-in-chief and director of the academic journal *TLE*. She has edited many issues of *TLE* among which issue 22: "Penser par le diagramme. De Gilles Deleuze à Gilles Châtelet". Her areas of publication include contemporary American literature, semiotics and interdisciplinary studies (chaos theory, cognitive science, neurobiology and literature).

Joseph Tabbi is Professor of American Literature at the University of Illinois, Chicago. He has published essays on Joseph McElroy in *Postmodern Sublime* (Cornell 1995) and *The Review of Contemporary Fiction*, and he has also published essays by McElroy in *ebr* (www.electronicbookreview.com).

MULTI-MEDIA PERFORMANCES

Clementine Cummer is a video artist and dancer whose recent work explores singular experiences of looking and personal efforts to grasp meaning through embodied vision. These projects grow from an understanding that vision is subjective and always mediated, both by technologies and by our bodies. Clementine's work has been inspired in part by feminist bio-theorists and biological imaging techniques. She has exhibited her work in numerous group and solo shows. Clementine holds a Masters in Visual Studies from MIT. Her undergraduate studies included sculpture, weaving and philosophy. She has trained in contemporary and improvisational dance for over 15 years. Video excerpts and installation documentation of her work can be viewed. Homepage: www.cummernaccoproductions.net.

Natasha Myers is a doctoral candidate in the Science, Technology, and Society Program at MIT. Her ethnographic research explores the lively visual cultures of the twenty-first-century life sciences, with a focus on pedagogy and training in the arts of molecular visualization. In this work she explores the gestures and affects scientists enact to animate and relay their embodied knowledge of protein structures and functions (See "Molecular Embodiments and the Body-work of Modeling in Protein Crystallography," forthcoming in *Social Studies of Science*). Trained as a molecular geneticist and classical dancer, Natasha has choreographed and performed in projects that explore the interface between dance and biology for over 10 years. Her numerous collaborations include "Inhabiting the In-between" (2001) and "A DanceScape" (2000), produced and performed with members of the

Toronto-based *Second Floor Collective*, and "The Botany of Desire" (2002), with Rebecca Todd. In 2002, Natasha co-curated *Shared Habitat II: Festival of Dance and Biology* (with Rebecca Todd and Bill James), a symposium and three-week festival dance and biology in Toronto featuring collaborations between over 50 artists and scientists. Homepage: web.mit.edu/nmyers/www.

Trace Reddell is a new media artist and theorist exploring the interactions of multimedia production, networking technologies, media theory, literary criticism, space rock and ambient music, and psychedelic studies. His vlog, "It's a Psych-Out!," launched in December 2005 to explore the personal media dimensions of expanded cinema. His net.art and audio works may be found at *Electronic Book Review*, *Stasis_Space*, *djrabbi.com*, on several *microsound.org* compilations, and *The Communications of Tomorrow* label. His score to Philip K. Dick's last novel, *Radio Free Albemuth*, is out on the *Sine Fiction* label. Trace contributed a sound track to the multimedia remix of Guy Debord's "Society of the Spectacle," a collaboration with Mark Amerika and Rick Silva. Since debuting at the Paris Biennale in February 2004, "SOS" has screened at over 30 international venues including galleries and new media festivals in New York, London, Glasgow, Berlin, Zurich, Seoul, Hong Kong, and Tehran. Recent publications include articles in *Leonardo Electronic Almanac* and the *Contemporary Music Review*. His chapter, "The Social Pulse of Telharmonics: Functions of Networked Sound and Interactive Webcasting," is included in *Cybersounds: Essays on Virtual Music Culture* (Peter Lang Publishing, 2006). Reddell is Assistant Professor of Digital Media Studies at the University of Denver, and the graduate director of the M.A. in Digital Media Studies. He edits the music/sound/noise thread at *Electronic Book Review* and is the producer of *Alt-X Audio*. Homepage: www.du.edu/~treddell

Timothy Weaver is a new media artist and former life scientist whose concerted objective has been to contribute to the broadening of creative inquiry at the art | technology interface. Timothy's recent new media projects have been featured at the FILE - International Festival of Electronic Language (São Paulo, Brazil), *trans-mediale.05* (Berlin, Germany), *New Forms Festival 2005*, (Vancouver, Canada), *European Media Arts Festival* (Germany), the *Darklight Digital Film and New Media Festival* (Dublin, Ireland), *d>art 00* (Sydney, Australia), *Museum of Modern Art* in Cuenca, Ecuador and nationally (USA) at *Boston CyberArts/MIT*, *SIGGRAPH* (LA), the *New York Digital Salon* (NYC) and the *National Institutes of Health* (Washington, DC). Weaver is currently Assistant Professor of eMAD and Digital Media Studies at the University of Denver, Denver, Colorado USA. Timothy's research interests include emerging forms of narrativity, biomimetics, shared interactive space and cybertherapy. Homepage: primamateria.org/index.html.

TRANSDISCIPLINARITY AND ART AS RE/SEARCH

Bergit Arends has been Curator of the contemporary arts programme at the Natural History Museum London since September 2005. From 1999 to 2004 she managed the science and art programme at the Wellcome Trust. As part of the programme she co-edited *Experiment: conversations in art and science* (2003) and *Talking back to Science: art, science, and the personal* (2004), both published by The Wellcome Trust. She also designed, instigated and ran the visual arts programme at the National Institute for Medical Research (1997 to 2000). As associate of Art Project Management she managed the 'Inshore Sites' public art programme in Medway in 1998/99. Her interests have also focused on recent German history. She initiated and managed the first international symposium with accompanying exhibition on World War II air-raid bunker architecture in Europe within the context of twentieth-century architecture and urbanism in Emden, Germany (1999). She graduated with an MA in Visual Arts Administration: Curating and Commissioning Contemporary Art from the Royal College of Art, London, in 1997.

Mieke Bal is Academy Professor in the Royal Netherlands Academy of Arts and Sciences (KNAW) as well as Professor of the Theory of Literature at the University of Amsterdam. She is an internationally well-known cultural critic and theorist, and a founding director of ASCA. Her many publications include *Travelling Concepts in the Humanities: A Rough Guide* (U of Toronto P, 2002), *Louise Bourgeois' Spider: The Architecture of Art-Writing* (U of Chicago P, 2001), *Looking In: The Art of Viewing* (G&B Arts International, 2001), *Quoting Caravaggio: Contemporary Art, Preposterous History* (University of Chicago Press, 1999) and *Narratology: Introduction to the Theory of Literature* (U of Toronto P, 1997). She has also taken up documentary filmmaking and video installation. Her areas of interest include literary theory, semiotics, visual art, cultural studies, transcultural theory, feminist theory, French, the Hebrew Bible, the seventeenth century contemporary culture, and art presentation. Homepage: www.miekebal.org.

Florian Dombois is a professor and Head of the Institute for Transdisciplinarity/Y (www.hkb.bfh.ch) at Berne University of the Arts (CH, since 2003). He studied geophysics and philosophy in Berlin, Kiel and Hawaii, and received his PhD in Cultural Studies with Hartmut Böhme. In 1999-2005 he was research scientist at the Fraunhofer Institute for Media Communication (D). Since 2003 he is represented by the gallery Haferkamp in Cologne. Topics: Research on earthquakes and other scientific phenomena in different modes of depiction. The formats of publication include exhibitions (single and group shows) with sound installations and multiples on earthquakes (a.o. Academy of the Arts Berlin, Japan Cultural Institute in Cologne), a CD, a DVD, an art book on seismic stations (Verlag Walter König), three

virtual environments on global tectonics resp. the volcano Merapi (shown a.o. at CeBIT Hannover), several articles and essays, two international patents (Europe, US, Japan), and lectures, conferences and lectureships at art colleges and universities (a.o. ZKM Karlsruhe, Bundeskunsthalle Bonn, Art Center Los Angeles, ATR Kyoto).

François-Joseph Lapointe holds a B.Sc. (1988) and Ph.D. (1992) in biological sciences from Université de Montréal. He was a postdoctoral fellow at the University of Wisconsin Zoological Museum, USA, from November 1992 to May 1994. In June 1994, he becomes Assistant professor in the Département de sciences biologiques, Université de Montréal, is promoted to Associate professor in 1998, and to Full professor in 2003. In 1990, he receives the Academic Gold Medal of the Governor General of Canada, awarded to the best doctoral student in each Canadian university. In 1996, the International Federation of Classification Societies (IFCS) awards him the Prize for Outstanding Research during its Fifth biannual Conference held in Kobe (Japan). He receives the Prize for Excellence in Teaching from the Faculty of Arts and Sciences in 2002, and from the Université de Montréal in 2003. He has published 50 academic papers and presented his work at 120 scientific conferences. His research is presently funded by the Natural Sciences and Engineering Research Council of Canada (NSERC) and by the Fonds québécois de la recherche sur la nature et les technologies (FORNT). He is the current director of the Laboratoire d'écologie moléculaire et évolution (LEMEE) at the Université de Montréal. As an artist and researcher in arts, he is interested in the application of biological concepts and genetic algorithms to dance composition.

Manuela Rossini is a postdoc fellow at the Amsterdam School for Cultural Analysis. She studied English and Spanish Philology in Basel, Switzerland. She then worked as a research assistant for the English-German critical edition of Shakespeare's *King Lear*, before she went to Cardiff to do a second MA in Critical and Cultural Theory in 1994. From 1995-2000 she was teaching in the Department of English at the University of Basel, from where she also received her PhD in 2002 with a dissertation called *From House to Home: Meanings of the Family in Early Modern English Drama and Culture*. She also acted as the coordinator of a proposal for an interdisciplinary National Centre for Competence in Research in the field of Gender Studies before a postdoc scholarship of the Swiss National Science Foundation took her to the Netherlands. She is the editor of a collection of essays called *Gender Matters - Gender Talks: Gender Studies at the Interface of Biology, Medicine, the Social Sciences and the Humanities* (forthcoming). She is currently working on a book project in the field of Literature-and-Science Studies, tentatively titled *Science/Fiction: Imagineering the Future of the Human*. Homepage: home.medewerker.uva.nl/m.s.rossini.

Sessions

CLOSE ENCOUNTERS, in line with the general agenda of the SLSA to encourage and intensively engage in inter-, multi-, and transdisciplinary dialogue, aims to:

- provide a platform for the presentation and discussion of innovative research at the interface of the humanities, the creative arts, and the technosciences,
- analyse the convergences as well as the divergences between and within academic disciplines, their methodologies, theories and practices,
- render visible the way that the arts (including literature, music, theatre, etc.) has been taken up by bioethics, medicine and science (realms traditionally viewing art as not relevant to their tasks) as offering significant information, interventions, and contributions to their respective projects,
- take stock of new research questions that emergence from cross-disciplinary encounters in order to stimulate transdisciplinary, problem- and solution-oriented research to tackle complex pressing social issues,
- forge larger European networks in the field of Cultural Studies of Science, and to
- intensify transatlantic contacts and exchanges.

With these aims in mind, the conference is organised around 11 thematic streams that comprise a wide range of topics and address questions that cannot be answered from one disciplinary perspective alone:

- A Revisions of Humanism – Visions of Posthumanism
- B Feminism, Science, Science Fiction
- C The New Aesthetics
- D Images, Imaging, Imagination
- E Narratives and Narrations
- F Soundscapes, Sound Technologies, and Music
- G Creative Processes: Transducing Intuition
- H Memory, Cognition, and Technology
- I Companion Species: Ecology and Art
- J Arts and Genomics
- K Interrelations and Interstices of Law, Literature, and Science

Stream A: Revisions of Humanism – Visions of Posthumanism

Organiser: Manuela Rossini

At the beginning of the third millennium, the social, cultural and technological context of Western societies is definitely posthumanist, insofar as human and other biological life forms are in unprecedented ways sites of in(ter)vention by digital and biomedical technologies. Under the impact of the increased technologisation of (human) nature, the immutability of the boundaries between human self and nonhuman other, natural and artificial, body and mind, organism and environment, is seriously called into question. This stream invites contributions that deal with the manifold articulations of the posthuman and with post/humanist responses in science, art (including literature), philosophy and theory to the ontological and epistemological crisis of what it means to be human. Relevant issues include (but are not limited to):

- What's wrong with humanism and Enlightenment values?
- Critical posthumanisms
- Convergences and tensions between aesthetic, scientific, legal and political conceptions of human identity and "life"
- Theories of "mind" and "consciousness"
- Metamorphoses and hybridisations
- What does a decidedly posthumanist aesthetic and ethic look like?
- Posthuman bodies: The Human Genome Project, The Visible Human Project, extreme makeovers, etc.
- Towards the posthumanities?

Stream B: Feminism, Science, Science Fiction

Organiser: Manuela Rossini

By drawing attention to the cultural context within which scientists work, and which shapes their imaginary in powerful ways, feminist science studies has reinvigorated both science and the broader culture within which scientific practices emerge. The aim of this stream is to promote conversations between scientists, artists, writers, literary critics, philosopher, and historians of science whose research and teaching is informed by feminism – in theory and practice – in order to

move beyond the well-worn debate between essentialism vs. constructivism or nature vs. nurture. This stream encourages scientists to engage narratives in their endeavours and, conversely, urges scholars from the humanities to take biological factors seriously. Furthermore, it advocates the broader idea that understanding science is of central importance to feminist scholars and that, conversely, feminist insights from various sites should matter to scientists and science researchers. Moreover, the stream welcomes contributions on feminist science fiction as a genre that contributes most substantially to the shaping of a new social and cultural imaginary, to visions of transformative change, to alterna(rra)tives to the current ordering of relations between people and between humans and nonhumans, and – last but not least – to the re(con)figuration of technoscientific knowledge. Issues this stream might focus on:

- Gender, race and science
- Towards a biopolitics and (bio)ethics of difference
- Feminist philosophy of science
- Feminist science studies
- Feminist SF
- Cyberfeminism, feminist posthumanism, corporeal feminism
- Reproduction: facts, fantasies, fictions
- Technologies of gender

Stream C: The New Aesthetics

Organiser: renee c. hoogland

Having lingered in the background for many years, the subject of the aesthetic has returned to critical and cultural debates with a vengeance, raising questions that move well beyond the fields of critical cultural studies proper. Insofar as the so-called neo-aesthetics is based on the premise that the truth of art and the knowledge art generates are not the same as the truth of science and its knowledge, it cannot but call into question both the nature and function of “artistic knowledge,” and that of the “truth-only cognition” from which differentiates its concerns. In other words, in aiming at developing a contemporary aesthetics that both takes into account the demise of a traditional humanist aesthetic that merely sees art as a civilizing force, and thus opening up a space for (re)thinking the demonic and destructive power of the aesthetic – of violence, for instance, or of de-

humanizing technological practices and bio-engineering – the “new aestheticists” not only raise urging questions about the practices of critical theory, but also about the kinds of knowledge or modes of knowing that aesthetic practice, on the one hand, and science and technology, on the other, enable as well as preclude. Contributions to this stream should hence ideally address the interrelations between art and science, and their differentiated truth-claims, and pay particular attention to the ethical implications of both. Topics to be addressed might include, but are not limited, to:

- The politics of beauty
- Art in the time of war
- The aesthetics of technology and design
- The aesthetics of abstraction (e.g., in mathematics, physics, systems theory)
- Aesthetic violence
- The “poetics” of the lifeworld
- Ethic and aesthetics

Stream D: Images, Imaging, Imagination

Organiser: Manuela Rossini and Robert Zwijnenberg

The increasing use of computer-generated images and new imaging technologies in many areas of social life, especially within the military, medicine and science at large, media, and the arts, has brought along changes in social and cultural practices as well as in ways of seeing and knowing. Under the heading of the “imagic turn” (Fellmann), “pictorial turn” (Mitchell) or “iconic turn” (Boehm), philosophical and aesthetic discussions have shifted from considerations of language as constitutive of reality to a central concern with images as powerful tools not only for apprehending, exploring and describing the world, but also for constructing facts, meanings, bodies, subjectivities, etc. This shift has been accompanied by a focus on visualisation techniques such as X-rays, Microscopy and, more recently, bio-medical devices such as Ultrasound, CT, MRI and PET/SPECT. These new imaging technologies place the inside of human and nonhuman bodies within reach of a new diagnostic gaze and the visual experience of non-scientific persons as well. The possibility of “seeing” what used to be invisible has tickled the imagination of many contemporary artists, who make diverse use of medical images and visual

implements in their artworks. Moreover, imaging technologies call for a rethinking of the concept of representation in science and technology, yet they are also of great significance for the arts. Arguably, art can contribute to solving scientific problems of visualization such as the problem of how to visualize the complex interaction between human thought and the physical processes involved. This stream welcomes papers that reflect on the interactions between art and scientific imaging, on the role of images in the constitution of thought and knowledge, the overlaps between processes of interpreting, explaining, calculating, constructing and imagining of information, as well as on the performative nature and shaping power of the imagination. Papers and panels may concentrate on the following domains and themes:

- Relations of visual images to developments in scientific research, art, communication, and technological advances
- Interplays between data, image, text
- Reconsidering conceptions of truth, objectivity, representation, reference, agency, the body, etc.
- Brain imaging and other imaging technologies in medicine
- Imaging nanospace
- Scientific images and popular culture
- Cultural images and stereotypes of science and scientists
- Scientific and literary imagination: similarities and differences
- Aesthetic and cognitive understanding: similarities and differences

Stream E: Narratives and Narration

Organiser: Manuela Rossini and renee c. hoogland

In the course of the past two decades, an increasing number of disciplines have recognized that narrative and narration are not mere forms of cultural organization and communication, but that they also play a constitutive role in social processes, in the production of knowledge, and in the ways in which differentiated social groupings learn to understand and negotiate their relations to their variegated "life-worlds" – past, present, and future. On both individual and collective levels, human beings have resorted to story telling in order to make sense of the world, of their experiences of themselves and others, and to cope with the increasingly complex sociocultural, political, and (bio)technological phenomena that make up their continuously shifting "constitutive outsides." Narrative and narration no longer count as relevant concepts in literary and other forms of cultural practice only, but have equally claimed their place in all kinds of scientific and

scholarly writing, and can thus be defined as genuinely “nomadic concepts” (Stengers). Still, whether circulating within and among a variety of literary or technoscientific practices, narratives of any kind can still most productively be subjected to critical analysis informed by semiotic, narratological, and cultural theory. Starting from this premise, this stream welcomes contributions that pay particular attention to the function of narrative and narration in different systems of knowledge production – scientific, literary, artistic, in their various permutations – and to their effects on these systems themselves as well as on the contexts in which they operate. We invite contributions on texts of any genre/media, period or culture. Topics to be addressed might include (but are not limited to):

- Science in fiction – fiction in science
- Poetics of knowledge
- Metaphors and metonyms
- Realist style in literature and science
- Experiments and experimentalism in literature and science
- Technological innovation and new narrative forms
- Narratology, critical theory and systems theory
- Hyper- and intertextual architectures, rhizomatic linkages
- Ontology and narrative
- Narrative ethics
- Narrative medicine
- Disability narratives and scientific theories
- Hystories

Stream F: Soundscapes, Sound Technologies, and Music

Organiser: José van Dijck

The introduction of digital recording in the early 1980s has significantly affected the cultural practice of making and listening to music. Both the production of art music by professional artists and the active participation of listeners of recorded pop music have undergone dramatic change. But how did various technologies help shift active/passive participation in a mediated music culture? In fact, this shift is the very outcome and stake in the struggle for technological appropriation. Listeners become active participants, attempting to control their mo-

bile, mechanized or digitized sound environments. Sound technologies are also pivotal in the emergence of new actors on the music scene: sound mixers, disc jockeys, sound engineers, recording technicians, etc., redefining the boundaries between creative production and technical reproduction of music. In addition, the digitization of sound technologies stimulates the audience to get involved in the production of art music (soundscapes). Recording technologies transform the way we conceptualize notions of recording and rerecording, listening and re-creating, and copying and editing. Tracking transformations in analogue and digital recording techniques will illuminate the historically shifting (and competing) positions of producers and consumers in contemporary pop music culture. Potential topics:

- Sound technologies and art music
- Creative rerecording and piracy
- Building affective communities through digital networks of recorded music
- Soundscapes and the art of experience
- Sound technologies and the new professions

Stream G: Creative Processes: Transducing Intuition

Organiser: Sher Doruff

The movement of creative thought, trifurcated by Deleuze and Guattari into the philosophical concept, the scientific function and the artistic percept/affect, are distinctly different in kind; unsynthesizable. Are these distinctions appropriate for the 21st century transdisciplinary and posthuman world in which the digital pervasively couples with the analog and artmaking is often collaborative, ephemeral and distributed? One intersect or interference between these methodologies might be *intuition*. Intuition, after Bergson, is situated between an inwardly directed instinct and an outwardly moving intellect. It is a precise philosophical method even as it is a mode of play and interplay; of diagrammatic movement. Transduction, after Simondon, is an ontogenetic process of progressive modifications between different realities. Imagining forms of transductive intuition as a creative process suggests a posthuman, performative aesthetics: processual, transversal, connected, collective. Polyvocal composition transducing biological, psychological, social and technological domains is a context for exploring creative processes; for investigating the distribution of cognition, affect and the dynamics of co-

operation. It is the primacy of process that resists the representational. A wide range of topics could include but is not limited to:

- Intuition as a methodology in art, literature, and science
- Transduction and posthuman morphology
- Processual aesthetics in real time composition
- The primacy of process over representation
- Automatic writing and compositional process
- Collective individuation in creative processes
- The disaffection of affect
- Play, interplay and intuition in performance
- Social interplay and intuition in multi-player games
- Multiplayer games and emergent behaviour

Stream H: Memory, Cognition, and Technology

Organiser: José van Dijck

Our personal and collective memories are increasingly shaped by the technologies we use to inscribe, store, and retrieve them. Many people deploy photo cameras, video cameras, tape recorders, and other tools to document everyday events and rituals. Through television, film, and the Internet we savor and produce versions of our collective past. As technologies for recording and retrieving transformed over the past century, our acts and products of memory changed along with them. We are currently standing at an important crossroads between the analogue and the digital era, and the ubiquity of digitization begins to shape routines of recollecting. Digital photo cameras, camcorders, and multimedia computers are rapidly replacing analogue equipment, inevitably changing our everyday practices and conventional forms of recollection. But how does this transformation shape our rituals of memory, our processes of cognition, and the materiality of memory objects? Questions of memory and cognition can never be considered apart from the technological and cultural conditions in which they arise. Potential topics:

- Autobiographical memory and material objects
- Digital recordings as the intermediary between personal and collective memory

- Thinking, filming, remembering or neuroscience meets film theory: ‘the movie in the brain’ (Damasio) versus ‘the brain is to screen’ (Deleuze), etc.
- Cognitive psychology and cultural studies: memory as mental and cultural process

Stream I: Companio Species: Ecology and Art

Organiser: Manuela Rossini and Cor van der Weele

In her new manifesto, Donna Haraway introduces the figure “companion species” to tell a story of co-habitation, co-evolution and cross-species sociality, which is also a story about biopower and technoscience, and about how to forge livable politics and ontologies in current life worlds or naturecultures. Companion species is one possible trope for this stream’s interest in the cultural dimensions of human relationships to “nature”, as expressed above all in so-called ecological art. Such artworks contest all kinds of boundaries: boundaries between nature and culture are defied and redrawn in multiple, varied and often unexpected ways by cyborgs, companion species and urban ecologies; boundaries between art, science and ethics are challenged by innovative methods and by terms such as performative science and ecovention. A major issue at stake is: are ecology, art and environmental ethics blending? Or should we rather say that they are interacting, using and serving each other in various ways? Additional topics in this stream might be:

- Animal Studies and Animal Philosophy
 - AgriCultural Studies
 - Food
 - Nature writing and ecocriticism
 - Water, earth, wind, and fire
 - The ecosphere (Guattari): extending the notion of ecology from the environmental to the mental, social and cultural
 - Symbiogenesis (Margulis) or rethinking evolution: from biological theory to aesthetic practice and backSymbiotechnogenesis (Haraway) in literature and the arts
- Stream J: Arts and Genomics**

Organiser: Robert Zwijnenberg and Helen Chandler

Art that engages genetics and genomics comes in many forms and involves several concerns. A growing number of artists addresses controversial developments in genetics and genomic research. Many of these artists represent social, political or ethical implications of this research in a broad variety of art forms. The issues tackled by such artists include heredity, identity, aging, sickness and health, overpopulation, warfare, the biotech market, genetic licensing, designer babies and cloning. But rather than simply casting a critical eye on these issues, the majority of these artists has a much more sustained interest in them: Working with living materials, many artists have in fact become scientists or researchers in their own right and draw critical attention to the experimental research methods that are used in molecular biology and biotechnology, specially to visual meaning production. Furthermore, there is an increasing recognition by both artists and scientists of genomics as a shared field of research and representation. This stream welcomes papers that reflect on these developments in (the interaction between) art and genomics research. While focused on the visual arts, the stream also accommodates papers that deal with literary narratives and genomics. Topics may include (but are not limited to):

- The specific ways in which art assimilates and represents the results and consequences of genomics research
- Artists and scientists exploring and developing common grounds of representation and signification
- The creation of synthetic life for artistic purposes
- Bioart more broadly
- Biopoetics: literature and evolutionary theory, etc.
- The DNA mystique

Stream K: Interrelations and Interstices of Law, Literature, and Science

Organiser: Jeanne Gaaker

The differentiation of academic disciplines and social power structures characterizing the late nineteenth century engendered a form of autonomy for law and legal theory based on the positivist paradigm of natural scientific thought, which in turn tried to sever – and to a certain extent successfully – law's original ties and practical relation to the evaluating attitude of morality, ethics and literature. The ongoing process of specialization in the practice of law lead to a call to cast law in the mould of the natural sciences. The resulting dichotomy of law and the humanities sharpened as fact superseded fiction with the twentieth-century emphasis of

the importance of the social sciences and their data based on empirical research. However, in the course of the twentieth century, the positivist, rule-bound model of law came itself under severe attack when the horrors of the Holocaust showed the devastating effects of a formalistic legal hermeneutics. Awareness of the danger inherent in the scientific approach to law of the reduction of legal problems to one dimension resulted in a renaissance of the interest in the common bond of law and literature in the 1960s and 1970s. It took its first academic shape in the interdisciplinary movement of Law and Literature. This stream invites contributions that deal with the interrelations of law, language and literature, and the concept of science in a broad sense. Possible topics:

- Is law a scientifically built system of rules or is it a (literary) culture of argument that addresses questions of value and community, i.e. an art rather than science?
- Can jurisprudence benefit from a liaison with literary theories in order to give the idea that law can be seen as a form of storytelling a more theoretical perspective?
- Literary insight into the struggles and tensions created by law as the regulation by society of the lives of individuals, especially given today's technological "progress."
- Examples of the historical bond between law, literature and science.
- The effects of scientific developments on law: colonization or disciplinary cooperation?

Session 1: Wed, June 14, 9:00-10:30

1A: Luhmann's Posthumanism: Autopoiesis, Poetry, Society (BG5-213)

Chair: Bruce Clarke

In "The Cognitive Program of Constructivism and a Reality that Remains Unknown," Niklas Luhmann writes: "Observation takes place when living systems ... discriminate and react to their own discrimination. Observation occurs when thoughts that have been processed through consciousness fix and distinguish something. It occurs as well when a communicable integrable understanding of conveyed information—be it linguistic or non-linguistic—is attained. ... With this"—that is, with this dissemination of observation, or cognitive discrimination, among diverse biotic and metabiotic autopoietic systems—"the traditional attribution of cognition to 'man' has been done away with. It is clear here, if anywhere, that

'constructivism' is a completely new theory of knowledge, a post-humanistic one." This panel will unfold some of the consequences of Luhmann's systems-theoretical posthumanism in relation to literature, science, and political society.

Bruce Clarke (*bruce.clarke@ttu.edu*) *Texas Tech University*
Systems Distinctions: Life, Autopoiesis, Metabiosis

In Luhmann's description, autopoietic systems range from living cells to perceiving psyches to communicating societies. Autopoiesis crosses over without collapsing the distinction between living and nonliving, biotic and abiotic systems. At the same time, it complicates the concept of the "nonliving." All living systems are autopoietic, but abiotic systems can be either autopoietic or nonautopoietic. Thus Luhmann's extension of the concept of autopoiesis provides a further distinction between nonautopoietic abiotic systems—physicochemical, dynamical, or mechanical systems such as magnetic fields, tornadoes, and automobiles—and autopoietic abiotic systems—those metabiotic systems, psyches and societies, that emerge from higher-order assemblages of living systems. These combinatory distinctions and contingencies open onto the discourse of the posthuman by decomposing the concept of the human into separate abiotic, biotic, and metabiotic system references, freeing up the category of "the human" for posthuman reobservation from the perspective of multiple and differential systems' complex autonomies and interpenetrations.

Cary Wolfe (*cewolfe@rice.edu*) *Rice University*
Systems Theory and Poetry: Romanticism and Modernity

Niklas Luhmann left behind some scattered notes on a project he referred to as "Poetry and Social Theory." Central to Luhmann's understanding of the specificity of poetry is his well-known theoretical articulation of the autopoietic closure and difference of psychic systems and social systems, consciousness and communication. It is within the context of this difference that Luhmann understands the significance, specific to poetry, of characteristic themes and problems such as incommunicability, ineffability, silence, and so on. But he understands them within a posthumanist context: as expressions not of a psychological or emotional interiority that reveals itself in language (even if only to gesture toward language's inadequacy), but rather as expressions of a set of differences—most importantly, the difference between communication and perception, which in poetry are "miraculously" made to coincide when the material form of the signifier duplicates the semantics of communication (in familiar devices such as rhyme, rhythm, and so on). For Luhmann this understanding of poetry reaches maximal expression in Romanticism. I will suggest a different way of understanding the relationship between systems theory and poetry by invoking a Romanticism that does not typi-

cally rely upon such poetic devices at all—the “romantic modernism” of Wallace Stevens.

Hans-Georg Moeller (*hmoeller@brocku.ca*) Brock University
Niklas Luhmann's Anti-Humanism

In his *opus magnum* *Die Gesellschaft der Gesellschaft* (The Society of Society), Niklas Luhmann claims that humanist concepts of society no longer qualify as serious theoretical competitors and he thus explicitly subscribes to a “radical anti-humanism.” As Bruce Clarke has discussed, given at least three kinds of autopoietic and operationally closed systems—living systems, psychic systems, and communication systems—the human being loses its theoretical unity. None of the three systemic realms includes “human beings” as elements; instead, the human being is functionally dissolved into their triadic plurality. I will analyze how Luhmann’s deconstruction of the notion of the human being leads to a non-humanist understanding of society. To use Habermas’s phrase, Luhmann’s concept of society is “metabiological”: in analogy to biological processes, present-day society functions as the autopoiesis not of life, but of communication. Because society does not consist of people but of communications, humanist notions connected with society and the political, such as consensus and democracy, turn out to be inadequate self-descriptions, or, at best, semantic utopias.

Stephan Besser (*s.besser@uva.nl*) ASCA

Luhmann's Crystallizations. On a Metaphor of Autopoiesis and its Discursive Genealogy

My paper is intended to contribute to the ongoing debate on the literary (ie, rhetorical and narratological) dimension of Luhmannian systems theory. Drawing on analyses of Luhmann’s adaptation of the biological concept of „evolution“, I will focus on a metaphor of anorganic growth casually and repeatedly employed in his oeuvre, namely the notion of „crystallization“. Avoiding the organicist associations of „evolution“, „crystallization“ makes plausible the idea of an autopoietic formation of social systems unmediated by any form of human agency [sich kristallisieren]. However, used as a sociological metaphor „crystallization“ is also a deeply ambivalent term since it combines ideas of systemic – some would say: anti-humanist – reification with vitalist and even transcendental implications. In order to explore this ambivalence I will relate Luhmann’s figure of speech to Arnold Gehlen’s notion of cultural crystallization (*Über kulturelle Kristallisation*, 1961) as well as to romanticist and monist interpretations of crystalline growth in German cultural history and natural philosophy. I will also pay attention to a literary inspiration for Luhmann’s crystals, namely Stendhal’s notion of love as „cristallisation“ in *De L’Amour* (1822).

1B: Material Feminisms (BG5-221)

Chair: Susan Hekman

Susan Hekman (*hekman@uta.edu*) *University of Texas at Arlington*
Constructing the Ballast

In the 1990's many feminists enthusiastically embraced the linguistic approach of postmodernism and social constructionism. Although this approach offers many advantages for feminist theory, its disadvantages have become apparent in subsequent years. Feminists who study nature, the body, and science in particular have begun to question the limitations of linguistic constructionism. As a consequence they have begun to explore alternative conceptions that bring the material back into feminist theory. In this paper I assess and build on these feminist attempts to move beyond the linguistic. These approaches provide the groundwork for the development of my own thesis. I argue that what is needed in feminist theory is a move from epistemology to ontology. By focusing exclusively on the linguistic/epistemological, feminists have defined the material world as a fiction subject to innumerable definitions, none of which has any advantage over any other. The result is that feminism has lost not only the material but any possibility of asserting the truth of feminist statements. Relying on the path-breaking work of Karen Barad I propose a counter to this epistemological approach. My thesis is that we should replace the view that language constitutes reality with one in which language discloses reality. I propose an ontology in which the material world is disclosed through discursive practices.

Stacy Alaimo (*stacya@exchange.uta.edu*) *University of Texas at Arlington*
Trans-Corporality as a Space for Material Ethics

I would like to propose that we inhabit what I am calling "trans-corporeality"—the post-humanist time-space where human corporeality, in all its material fleshiness, is inseparable from "nature" or "environment." Trans-corporeality, as a theoretical site, is a place where science studies, corporeal feminisms, and environmental philosophy meet and mingle in productive ways. The movement across human bodies and nonhuman nature necessitates rich modes of analysis that travel through the entangled territories of material/discursive, natural/cultural, and biological/textual. The epistemological "space" of trans-corporeality discourages the mastery of matter by acknowledging the intra-actions (Barad) of the material world, a world that can no longer be cast as the background of the human. As a potent example of trans-corporeal space, toxic bodies insist that environmentalism, human health, and social justice cannot be severed. Although they are not something to celebrate, toxic bodies may help lead feminist theory out of the false dilemma of a romanticized valorization of bodies and natures or an anti-essentialist flight from the grounds of our being. Trans-corporeality encourages us

to imagine ourselves in constant interchange with the "environment," and, paradoxically, perhaps, to imagine an epistemological space that allows for both unpredictable becomings and the limits of human knowledge.

Iris van der Tuin (*Iris.vanderTuin@let.uu.nl*) *Utrecht University*
Third Wave Materialism

In this paper I present a reading of feminist epistemology after feminist postmodernisms. The reading presented has the form of a cartography labeled 'Third Wave Materialism.' The paper starts off by contextualising my cartography in the larger context of the decline of postmodernism. In this context, a new feminist philosophical canon is being built (cf. Braidotti 2003, 2005). I argue that a new generation of feminist epistemologists assesses both the end of postmodernism, and the new feminist academic canon. This new, 'third' generation stands in a relation to the philosophical canon as well as the existing feminist epistemological schools of thought (Harding 1986) that is other than dialectical. By evaluating the current situation under the heading Third Wave Materialism I want to stress the multi-layeredness and transversality of current feminist epistemological arguments. Third Wave Materialism consists of a conversation that goes beyond bridging feminist standpoint theory and feminist postmodernism (Harding 2004) yet in a non-teleological way. As such Third Wave Materialism is neither a 'post-feminism,' nor a 'post-post-materialism.' It does relate to 'new materialism' (e.g. Braidotti 2002, 2005, Hird 2004, Rahman&Witz 2003, Squier&Littlefield 2004). The paper presents the features of Third Wave Materialism via an in-depth discussion of two exemplifications (the work of Karen Barad and Sara Ahmed).

1C: Violence, Death, and (Post)humanist Aesthetics (BG5-222)
Chair: renée c. hoogland

Michael Alvarez (*michaelalvarez19@hotmail.com*) *EPHE*
Divine Cruelty

The depth of the tortuous self-analysis by the protagonist Kochan in Yukio Mishima's *Confession of a Mask* is seemingly unfathomable, and perpetually reaffirms the conflict inchoate within the narrative-that of an internal conflict that is desperately endured by a young man in an increasingly westernized and war-torn Japan. It is a culture that he tries to at once embrace (by unsuccessfully pushing his burgeoning homosexual desires to the periphery of his personality) yet repel (by continuing to feed the flame of his carnal desires by contorting his perceptions to fit a pristine sanctuary of carnal desire). Despite the incessant psychological self-analysis, the protagonist is somehow unable to assemble the pieces of his past together to thereby discover the origin of the conflict. While the conflict is

apparent, and clearly expressed within this lack of societal continuity, the important piece of the analytical puzzle that completes the picture lies instead within the very essence of Sadism, which stems from the unconscious desire for control, resonating the destructive power of the aesthetic sense of violence in the Japanese Post-Meiji culture.

Mathieu Duplay (mduplay@club-internet.fr) *Université Lille 3*
Unspeakable Visions: Interactivity and Violence in William Gaddis' Carpenter's Gothic

In *Carpenter's Gothic* (1985) by William Gaddis, numerous visual devices serve as metaphors of the writing process, ranging from doodles and crude illustrative diagrams drawn by the characters to TV screenings of classic movies and satellite pictures of the Rift Valley. Not only does this suggest that a form of displacement is at work, as strictly textual phenomena are insistently reinterpreted in visual terms, but the resulting images strongly partake of the uncanny, as they return to haunt the text, whose workings they reflect in a dangerously alienated form. The purpose of this paper will be to analyze this situation in terms of interactivity. In the *Tractatus Logico-Philosophicus*, Ludwig Wittgenstein emphasizes language's dual nature: according to him, every proposition simultaneously displays the logical structure of a possible state of affairs and asserts that this possibility is realized. This implies that every utterance is two-dimensional: while all meaningful statements involve both showing and telling, the difference between the two cannot be eliminated and this essential heterogeneity should be seen as an inherent property of all discourse. Drawing on Wittgenstein's insight, I will argue that writing functions in *Carpenter's Gothic* as an interactive technology which responds to every use of language by pointing to the visual as to its necessary other, as if to reveal that there is more to utterances than speakers are ever able to anticipate. The text is able to do this systematically because it relies on what Gilles Deleuze terms diagrams, that is to say dynamic devices which serve as sites of actualization for both visible and stable components of reality; that is to say, it fully explores the possibilities opened up by the workings of the virtual, which straddles the otherwise impassable boundary between what can be seen and what can be asserted. Thereby, the text lays bare the extreme violence of which writing is capable when it exposes the futility of all attempts at controlling language, whose terrifying far side defies enunciative mastery and reveals all speech to be closely allied with manifestations of the unspeakable.

Robin Blyn (rblyn@uwf.edu) *University of West Florida*
Posthuman Incorporations: Matthew Barney's Mutating Body

The alliance between the postmodern and the posthuman wears perhaps its most utopian face in the new ontology of the body offered by texts as Deleuze and Guattari's *A Thousand Plateaus* and Donna Haraway's "A Manifesto for Cyborgs."

Deleuze and Guattari's rhizomatic "body without organs" and Haraway's "cyborg" both figure a body wrested from the static and naturalized confines of a biological corporeality, a body whose being persists precisely in its becoming. In so far as it explores precisely this posthuman corporeality, Matthew Barney's *Cremaster Cycle* apparently evidences the aesthetic possibilities latent in these postmodern conceptualizations of the body. A closer look at the celebrated 5-part film series, however—and its blockbuster exhibition in the Guggenheim Museum in New York in 2002—reveals a more complex picture. Certainly Barney's body in the *Cremaster Cycle* is rhizomatic and cybernetic, but it is also a body working against what it sees as the inescapable over determination of biological form and driven by decidedly Freudian drives. In its ambivalent assimilation of the utopian constructions of the posthuman, Barney's *Cremaster Cycle* offers a means of rereading the distinctly melancholic anxieties and desires that underwrite the utopian vision of the posthuman to which postmodernism lays claim.

1D: Scientific Visualisations in DisturbanceChair: Susanne Bauer, Christine Hanke, Jan Eric Olsén (UT-101)

Christine Hanke (*chanke@uni-potsdam.de*) *University of Potsdam*
Ambiguity in Digital Visualisations

Due to the absence of denial in the visual mode, scientific visualisation has an affirmative power in the production of evidence (Mersch 2006). From this epistemic status of the image (in comparison to that of language) stems a specific ambivalence, which poses questions for the use of imaging procedures in scientific practice. This is because, as a consequence, digital visualisations lack a visual possibility of distinction between 'signal' and 'noise' even if statistical or mathematical operations try to eliminate the 'noise' or to configure the 'signals' before visualising the data: the 'signals' are inseparably visualised together with the artefacts of the instruments, the data 'noise'. Concerning the status of evidence in scientific images, this epistemic ambiguity between 'signal' and 'noise' has rather disturbing effects. The paper focuses on exemplary visualisations from different fields like i.e. Mars photography, engineering visualisations and anthropological statistics in order to trace these ambivalences in scientific imaging processes. What can be seen in these images, what kind of epistemic objects are created in this manner and which are the consequences especially for scientific practice and decision making?

Susanne Bauer (*susanne.bauer@mm.ku.dk*) *Medicinsk Museion, Copenhagen University*
Imaging Population Health: The Productivity of Visualisation in Epidemiology

This paper will explore the role of visualisations in the constitution of knowledge in epidemiology. Epidemiologic research uses graphs, schemes and charts as means to discuss study designs and conceptual frameworks, negotiating aetiologic concepts, from mechanistic models to biopsychosocial understandings of disease causation. Moreover, visualisations constitute an important medium to interpret and communicate quantitative results. Drawing on examples from Danish epidemiology (1960s to present), I examine the function of visualisations in the process of epidemiologic knowledge production—from data gathering to public health policy. I explore how biostatistical tools and visualisation strategies contribute to a specific formation of knowledge, as they mediate between aetiologic theory and the empirical data set. More than mere illustration, visual techniques bear specific effects with respect to the production and perception of evidence. In explicit efforts to manage error, confounding and bias, epidemiologists adjust and stabilise representations of ‘health and disease in populations’, as patterns in space and time. Visualisations of epidemiological findings acquire significance for medical decision-making as well as for public health policy, as they promise to make visible the effect of interventions at a glance.

Jan Eric Olsén (*jan-eric.olsen@mm.ku.dk*) *Medical Museion*

Virtualized Senses: Medical Perception in the Technoscape of Digital Culture

During the last decades, information technology has provided medicine with means to visualize and perceive the human body in new ways. Projects such as the *The Visible Human* and *The Digital Human*, have in common the configuration of the biological body in digital form. Parallel with this digital visualization of the body, a range of new techniques, which build on the use of simulators, sensors and virtual reality, are reshaping the ways in which physicians and surgeons apprehend the body. In today's medicine, medical perception and images of the body are thus being entwined with digital technology. This paper focuses on various problems that physicians and surgeons are encountering when readjusting their senses to digital techniques. With examples drawn from surgery and clinical training, I show to what extent bodily skills are being replaced by technological mediation. The senses of the surgeon for example, are currently being adapted to digital conditions which include a range of new techniques for seeing, feeling, hearing and even smelling virtual bodies. The pivotal question here is whether digital technology is merely extending the senses, in a way, similar to what the graphical method did for nineteenth-century medicine, or, if it is rather marking a radical break with previous technologies of medical observation.

1E: Science, Literature, and Cinema (BG5-212)

Chair: Nat Hardy

Nat Hardy (*natwhardy@hotmail.com*) *Rogers State University*
George Thomson's Abject Anatomy: A Narrative Dissection of the 'Pestilential' Body (1666)

At the height of the Great Plague in London [1665-1666], the anatomist, George Thomson, dissected a plague-infected body at great personal risk, (having been infected himself three times previous). In the pursuit of anatomical knowledge, Thomson distinguished himself in medical history when he published his findings in *Loimotomia: or the Pest Anatomized*. Indeed, before *Loimotomia* appeared, the inner bodily ravages of plague were more imagined than empiricised—the infected body remained part of the controversy of “obscure things” that William Harvey spoke of in his Anatomical Lectures [1616]. With this visionary text, Thomson melded the scientific and the literary imaginations into a compelling narrative rich in metaphor, allusion, naturalism and neologism. Throughout the narrative, Thomson depicts the empirical observations of dissection and the corresponding authorial disgust of his experience. What is particularly unique about Thomson's anatomical text is that apart from the allegorical frontispiece, the anatomy is purely narrative, void of any Vesalianesque engravings. This paper will examine how Thomson literally and figuratively mines the body to understand the “sublime mystery” of the disease and also explores how the empirical narrative frequently lapses into disgust and abjection owing to Thomson's dissective infatuation with and revulsion for the “monstrous, exotick Images,” “and Uproars in the Body.”

Mary Kemperink (*M.G.Kemperink@rug.nl*) *RUG*
The Literary Representation of Hypnosis and Hypnotism ca. 1900: A Polyphonic Encounter

Around 1900 hypnosis and hypnotism get a literary representation in the novel, not only by Frederik van Eeden (who happened to be a psychiatrist and a practicing hypnotist) but also by a non-scientist author like Louis Couperus. They both approach the talked-about hypnotism as a scientific 'proven' phenomenon and they interpret it in a definitely pre-Freudian way, following the line of the so-called 'école de Nancy', represented by scientist like Liébault and Bernheim. At the same time, however, other (older) concepts are activated in their representations, such as: mesmerism and the theory of animal magnetism; the so called 'geslachtskaraktertheorie' (theory of the character of the sexes); the theory of the temperaments; spiritualism and occultism in a wider sense. In my lecture I would like to discuss their polyphonic representation of hypnosis and hypnotism. I will do so concentrating on the question to what extent, the transportation to a different field (from science to literature) could be hold responsible for this amalgam of highly ideologically loaded concepts.

João de Mancelos (*mancelos@gmail.com*) *Universidade Católica Portuguesa*
Cinema, Science and Conscience in Stanley Kubrick's Dr Strangelove

Stanley Kubrick's *Dr Strangelove or How I Learned to Stop Worrying and Love the Bomb* is the 1964 cinematic adaptation of Peter George's dramatic novel *Red Alert*. This black comedy and political satire brilliantly exposes the madness and dangers of the military use of nuclear energy that, in the sixties, could easily have led to the end of humanity. In this paper I examine a) the narrative strategies; b) the cinematic devices; and c) the tone of the film used by Kubrick to expose the threat of an atomic holocaust during the cold war era. My objective is to prove that this science fiction film denounces the risk of practising science without conscience, by constructing of discourse of counterculture where madness, fiction and reality intelligently intermingle.

1F: Sonic Memories: Technology, Philosophy, Property (UT-301)
Chair: José van Dijck

Trace Reddell (*treddell@du.edu*) *University of Denver*

Parmako-Remediation and the Emergence of Sonic Intelligence

"Pharmako-Remediation" begins in retrograde as we track the disintegration loops of William Basinski and consider sound technologies in terms of their resistance to listening. Malfunctioning tape recorders are heterogeneous machinery. I'm interested here in Guattari's slide between structure, "haunted by a desire for eternity," and the machinic emergence, "double with breakdown, catastrophe—the menace of death. It possesses a supplement: a dimension of alterity." The disintegration loop facilitates the chaosmotic machinic breakdown of/that is dread. But how does intelligence arrive through this process? Feeding a dub mix into the atmospheres of shortband radio wave recordings, we pick up Trickey's "Maxinquaye," like "ghosts from another solar system." Tricky plays the pharmacological identity grooves of Derrida's "graphics of supplementarity," two modes of repetition hovering between the foundation and erasure of presence. "Maxinquaye" celebrates the retro as a vehicle for dispersal, a mode of time travel that Derrida's supplement performs, "multiplies itself through mimemes, icons, phantasms, simulacra, etc." The essential etc. is evoked by Paul Miller, who associates supplemental repetition with tape culture and collective memory. A consequence of engaging this culture appears to be the ghosting of oneself, as DJ Spooky ultimately performs a disintegration loop on identity to emerge as sonic remnant.

Tobias C. van Veen (*tobias@techno.ca*) *McGill University*

Technoculture & Futurity: Anticipatory Echoes in Revolutions of Wax

In the early 1990s, electronic music pre-encoded its futurity in material memory: it haunted itself through spatialization, echo, reverb. While the warehouse echo informed further recordings, what is intriguing is how the early techno releases appear to anticipate their material context and their conditions of remembrance,

inscribing figures of melancholy, futurity, and empty prophecy. Technoculture memory takes on the figure of spectrality as it performs the live burial of its futurity through its material inscription. It plays out various debates in philosophy as to the conditions of futurity; its technics touches on the virtual in Deleuze and the à-venir in Derrida. This paper weaves an analysis of three specific tracks (Vainquer, CJ Bolland, Dave Clarke) that exhibit these characteristics into two broader commentaries: 1. on “aural” history in its technological materiality (vinyl, warehouses, bodies); 2. the encoding of memory and futurity into technoculture sound production. This last track might be described as conditions of the technocultural “political.”

Arie Altena (*ariealt@xs4all.nl*) *Jan van Eyck Academy*
Owning, Hoarding, Circulating and Recombining Sound

Although since the introduction of digitization music lovers in general own more music as before—as gigabytes on hard disks—the importance of owning music has largely disappeared. And although a large part of our musical culture is based on the spatial inscription (storage) of sound, music is again predominantly a temporal event: it takes place in the moment. Only in the second half of the 20th century—when the economy of music was constructed around selling stored music—“owning music” was considered to be important (culturally, for the construction of an identity, for “memory’s sake”). What is important for musical culture in the 21st century is the listening experience, the sharing, the circulating, sampling and remixing of sounds. The hoarding of MP3s in order to own them is absurd (if only because the life-span of a contemporary hard disk is about 10 years). Collections of sounds are no more than libraries to be used. This change in music culture is reflected also, in a different way, in the culture of MP3-blogs. MP3-blogs seem to be just another way of sharing music, but if we interpret blogging as an activity of constructing an identity, and as the activity of “memorizing,” MP3-blogs become the place where the formation of an identity takes place by sharing, circulating, combining and re-combining musical culture in an era when “owning” music doesn’t mean much.

1G: Intuitive Cognition (UT 101A)

Chair: Sher Doruff

Anne La Berge (*alb@annelaberge.com*)
Resonant Dendrites

Scientist and sound artist, father and daughter, create a work at the meeting-point of neuropsychology and art. A senior neuropsychologist living in New England, USA, David LaBerge (www.simons-rock.edu/~dlaberge) has just published findings on apical dendrite activity in mental life that shows the separate ways

that the brain processes intellectual ideas and experiences sensory impressions. These articles open a new approach to understanding how brain activity produces our everyday processing of information about objects and our subjective experiencing of their impressions. Anne LaBerge (www.annelaberge.com), his daughter, is a flutist/composer living in Amsterdam, The Netherlands. Her compositions feature live improvisation, interactive electronics and enigmatic storytelling. With the new neuroscience-based understanding of both ideas and impressions, they are working together to create a music event based on the integration of human intellectual and sensory/affective activity.

Kellyann Geurts (kellyann.geurts@rmit.edu.au) *School of Art, RMIT*
Disseizure: A Theory of Error

"She wondered how far down she fell. She cannot remember landing or thinking she was going to fall. She woke up trying to recall herself, the name by which they were trying to comfort her, the name by which they obviously knew her ... know her, did they? Her head was sore". Philosopher Jean-François Lyotard (1993) refers to disorder as "free-association" or "aura". He defines disorder as the mind's freedom and this freedom or this disorder as "disseizure". Aura, in relation to a seizure (a dis-order of the brain), is the moment preceding a seizure. The aura is recognised as a state of altered perception and free association of thought. If Lyotard defines freedom as disseizure, can it be interpreted that an apparent dis-order of the brain can also present a freedom? Using personal thought processes as a model, this project explores the creative process resulting from error. Error, not in the mechanical or technical sense, or even in the form of diagnosed mental conflicts, but discussed in terms of cognitive functioning. In this instance the conception of error may be referred to as unpredictable disturbances to thought patterns. Forming a theoretical background to the project are various interwoven theories from cognitive psychology, neuroscience, art and technology that examine the mechanisms of creativity in relation to mutation and disorder, chaos and abstraction. "A Theory of Error" is illustrated through visual metaphors, a weave of text and image, constructing a picture of a thought.

Adrian Mackenzie (a.mackenzie@lancaster.ac.uk) *Lancaster University*
Organizing Cognition: From Economy to Ecology of Cognition

This paper examines the emergence of cognitive practices associated with the organisation of messages, tasks, projects and values found in personal productivity systems. The paper will analyse the technologies, systems, habits and rules in one personal productivity system, *Getting Things Done*. These systems have recently gained popularity amidst an 'information elite' (programmers, new media designers, managers, consultants, academics) whose access to digital networked media exposes them to a high rate of contingency in their everyday life. The pa-

per examines how cognition emerges as a key contemporary form of relation to self and others, and how cognition is organised through embodied practices, techniques, and systems. It will situate these forms against a broader background of attempts to engender new forms of care and economies of cognition. These sometimes aim to accelerate thinking or to open spaces for alternative modes of thinking (creativity, decision-making, sensitivity, awareness). Drawing on the literature of externalized cognition (Hutchens, *Cognition in the Wild*), the paper argues that these ordering systems also highlight the need to think of disordering processes that disrupt cognition and to re-conceptualise the relational dimensions of cognition. The paper introduces several events and processes that highlight cognitive disruptions such as sleep and collective behaviour.

11: Historical Transitions (OMHP-118A)

Chair: Laurie Shannon

Laurie Shannon (lshannon@duke.edu) *Duke University*

Comparative Anatomies in the Renaissance: Galen's Monkey, Vesalian Man, and Harvey's Zootopian Cardiology

The role of animals in early modern human anatomy dramatizes a cross-species close encounter. Renaissance anatomists scrutinized the question of analogy between human and animal bodies. This spurred the evolution of anatomical science and connected emerging knowledges of man to the “companion species” whose bodies enabled a new production of the human. Galen’s anatomical account had relied on animal examples; sixteenth-century empirical research on human bodies questioned Galen’s analogical assumptions and reclassified key Galenic concepts as non-human. In *De humani corporis fabrica* (1543), Vesalius charged that Galen was “deceived by his monkeys” and called for a fully human anatomy. The Vesalian “revolution” thus narrowed the study of embodiment in species terms. With Harvey, however, anatomy revisits cross-species analogy. Harvey’s *Anatomical Exercises Concerning the Motion of the Heart and Blood of Living Creatures* (1628) offers a zoöpolity of bodily forms, where human and animal figures alike iterate the same theme. Harvey depended explicitly on animals, not just as comparisons, but as direct evidence of bodily truths. Stressing the poverty of an anatomy based solely on humanity, Harvey argued, “They are to be blamed ... who look into man only.” Instead, his scientific object embraced his title’s broader zoöpolitan figure: “living creatures.”

Brita Brenna (b.s.brenna@tik.uio.no) *Center for Technology, Innovation and Culture, University of Oslo*

The Narrative Conventions of Nature. A 18th Century Natural History of Norway.

In June 1748, the newly appointed bishop of Bergen diocese in Norway, the Dane Erik Pontoppidan (1698-1764), arrived at his residential city to be, Bergen. Four years later his two-volume *Natural History of Norway*, issued from the printing press. In a remarkable short time, he had conceived of and written a history dealing with the totality of Norwegian Nature. How did he collect his material? How did he evaluate it? How did he establish his facts? In this paper I will discuss how Pontoppidan assembled and managed his facts about Norwegian nature, and I will point to one reason for his ability to prepare a work of this type in such a short time; i.e. his knowledge and peruse of the existing literature. The bishop was more of a populariser than a scientist, to use anachronistic terms, and he relied heavily on narrative conventions about how to establish facts. I will look into what these were, and discuss the ways that he borrowed, used and reformed these conventions collected from legal, theological and diverse scientific discourses.

Robyn Smith (*rsmith@connect.carleton.ca*) *Carleton University*
Becoming Rat of Early Vitamin Research

Late in 1907, E.V. McCollum, a newly hired Agricultural Chemist at the University of Wisconsin, proposed the use of rats, rather than cows, in agricultural feeding experiments to isolate and determine the value of different vegetable proteins. McCollum's suggestion met with sound re-buff, "Grow rats, the farmer's worst enemy, in an agricultural college, using Federal money? NO!" Cows were tied intimately to the rationale of the experiment stations, which were established after 1887 in response to agricultural production crisis in the 1870s and McCollum's was a reconfiguration of the problem of agricultural science. McCollum responded to his superiors' re-buff with headlong flight to the basement where he trapped rats and pursued his research. As he was denied recognition or even support and horror clung to his choice of experimental animal, McCollum eked out his existence in the dank, perpetual night of the basement thereby effecting what Deleuze and Guattari have called "becoming rat". Research with rats was unknown to agricultural chemistry and novel conceptions of nutrition issued from the new assemblage of the becoming rat of McCollum's experimental system. I will consider the materialities of the experimental system and point to ways in which the assemblage solicited these novel conceptions.

1J: Artifice and Nature (OMHP-118C)

Chair: Bergit Arends

Panelists: Suzanne Anker, Bergit Arends, Sabine Flach, Ingeborg Reichle

Panel description In the last two decades a number of artists have abandoned the traditional artistic playground to work instead in scientific contexts such as the life sciences laboratory. New art forms like so-called 'Transgenic Art' and 'Bio-Art'

have since been described. These new art forms differ dramatically from more traditional artistic approaches that explore the natural, and have additionally developed new methodologies. More radically these new art forms have crossed the boundaries between the artificial and the natural, provoking a different understanding of 'nature'. We propose to describe and then to illuminate from critical, contemporary and historic perspectives the more recent emergence of artists' engagement with life sciences, be it of theoretical nature or through a 'wet bench' approach. The panel will broaden the issues to an investigation of the dead and live human body or its remains to the microstructures of cell and molecular biology. Scientific, legal and cultural questions of professional and commercial use, ownership and display of the human body and any related biological material will be raised. Most crucially it is the aim of the panel to outline a framework in which cultural and historic influences on the constellation of the natural, the artificial and the animated object become obvious. In the context of the life sciences connections between the development of media technologies on the one hand and experimental scientific laboratory technologies on the other have been made since the mid-nineteenth century. The western history of art however offers views on the constellation of nature, artifice and the animate that harks back further than that, and, so we propose, these culturally determined constellations still shape the research within the life sciences today. We suggest that the latter influence has been widely ignored to date and will be explored through the panel.

Session 2: Wed, June 14, 11:00-12:30

2A: Biopower, Biotechnology, and Globalisation (BG5-213)

Chair: Catherine Waldby

Panelists: Melinda Cooper, Eugene Thacker, Catherine Waldby

Panel description In Foucault's historical account of biopower, its emergence as a form of politics in the nineteenth century is intimately bound up with the formation of modern nation-states and the constitution of national populations. During the late 18th and 19th centuries, states begin to address their populations as embodied beings, and to regulate and optimize population processes – the life processes of fertility, birth, health, sexuality, morbidity and life span. Biopolitics Foucault states, is addressed to the securing of an optimal biological stability in populations, 'to compensate for variations within this general population and its aleatory field ...to optimize a state of life'. Hence the processes of species-being and population vitality were brought into the realm of policy, civil rights, political

action and negotiation. Today this biopolitical social contract, and the sovereignty of the nation state, is under pressure from the processes of marketization and privatization associated with neo-liberalism and the deterritorialization of political power, economic productivity and communication associated with globalization. At the same time, the technologies for the management of life have massively diversified. In particular, commercial biotechnology has become a key site of technological innovation and private investment, addressed primarily to in vitro life, biological processes deterritorialized from human bodies. This double deterritorialization requires us to reconsider the idea of biopolitics. How can we conceptualize and research these emerging power relations of life and health, if they are no longer primarily ordered within the space of the nation-state and through the processes of social security? How do we understand the shift from a mezzo-level regulation of life addressed to the behavior and health of subjects and communities, (family planning, eugenics, hygiene) to a micro-level biopolitics concerned with the reformulation of biological processes (stem cell research, genomics and proteomics). This panel will open out these questions for consideration and discussion.

2B: Feminist Epistemologies (BG5-221)

Chair: Kathrin Hönig

Kathrin Hönig (*kathrin.hoenig@unibas.ch*) *Universität St. Gallen*
Is Science Epistemically Authoritative?

Feminist science studies may be characterized by at least four, often interwoven approaches: 1) the *historical approach* investigating into the genesis of modern science, analysing the inclusion (rare) and exclusion (typical) of women as subjects of scientific inquiry as well as the possible consequences the exclusion might have had; 2) the *metaphorological approach* questioning metaphors of power, domination, control etc., typically used to describe the relationship between man and nature, also scrutinizing concepts or metaphors of masculinity and femininity hiddenly or openly present in scientific texts; 3) the *practice centered approach* criticizing biased research practices which, for instance, partially distribute the risks related to scientific research or pointing out the negative (ecological) consequences of the implementation of scientific research; 4) the *methodological approach* analysing central methodological concepts and norms like objectivity and justification or the value neutrality postulate. All four approaches easily show that science is not gender neutral. But it is the methodological approach which goes into the heart of the scientific self-understanding. Because it questions science as a normative enterprise, a feature expressed, among other things, in its claimed epistemic authority. The paper will focus on the epistemic authority aspect of science and examine reasons that speak for and against that authority.

Alexa Schriempf (*ats169@psu.edu*) Penn State University

Material Witnesses: A Feminist Theory of Disability

Deaf people have been labeled as deaf-and-dumb since the late 18th century because of the Enlightenment idea of rationality in which language and knowledge are paired with the civilized, mature, and rational citizen. As far as Enlightenment philosophers could see, deaf people had no language, so they therefore had no knowledge or epistemic agency, and thus could not attain full citizenship. My argument is that this subjected position, named deaf-and-dumb, is a label that flags an epistemology in which knowledge is tightly bound with the capacity to express oneself in socially sanctioned linguistic ways. Feminist epistemologists often ask and examine “who gets to know and who gets to claim knowledge.” I wish to elaborate more concisely on this project by directing our attention to *testimony*. The real problem with our current hegemonic model of testimony is not a problem of subjectivity, agency, language, educability, speech, writing, or voice. That these elements do not constitute the real problem is made clear by the disability perspective. For example, autistic victims of sexual abuse who have tried their cases in courts through the use of facilitated communication have not had their testimony admitted as material evidence. Because they used an interpreter, their testimonies were not viewed as credible and reliable. The problem here is not that autistic people have different “voices”; the problem is that their testimonial form is not seen as legitimate. The question is, then, how do we best respect and listen to their testimonies? I argue that only by reconfiguring our models of testimony away from the first-person, epistemic model of the modern Lockean knower and towards a material-semiotic, second-person relational model will we ever be able to approximate our ideal of creating a society in which multiple voices can speak legitimately.

2C: Art, Biology, and Aesthetic Politics (BG5-222)

Chair: renée c. hoogland

Dehlia Hannah (*dh2058@columbia.edu*) Columbia University

Biological Art and the Politicization of Science

Walter Benjamin's elusive call for the politicization of art has been interpreted by Susan Buck-Morss as asking of art that it combat the multifarious anaesthetizing effects of industrial capitalism and mass media by allowing the viewer or receiver of art to feel in the original sense of the term aesthetic. Natalie Jeremijenko has produced a work of art that may be read as a direct response to Benjamin's demand; the piece is called Touch, and it consists of small patch of skin grown synthetically in a Petri dish from a cell sample taken from a baby's foreskin. People

were invited to touch the artwork, which was sometimes exhibited with a tattoo and a placard that read “real skin, fake tattoo.” This work presses us past revulsion at the abjection of this and other biological artifacts as they straddle the divide between being alive and dead, and between being mere utilitarian parts and entities towards which we may have an ethical or political obligation. In the course of politicizing art, Touch politicizes science by renewing our aesthetic engagement with biological artifacts in both senses of the term.

Pierre-Louis Patoine (*pl_patoine@yahoo.fr*) *Paris VIII / UQÀM*

Empathic Reading: From Simulation of Belief to Somatomotor Simulation

Linda Williams considers horror, pornography and melodrama as body genres; cinematographic genres whose reception is characterized by the «involuntary mimicry of the emotion or sensation of the body on the screen» (Williams 1991). Such mimicry reveals the empathic implication of the physiologic body in our semiotic relationship to the fictional representations offered by those body genres. Is it possible to successfully import the idea of body genres in the study of contemporary literature, and more specifically of Dennis Cooper’s «George Miles Cycle» which share many thematic and stylistic traits with horror and pornography? Can we trace out empathic mechanisms at the core of the reader/text interactions created by Cooper’s writing? Are the motor cognition processes allowing the emergence of empathy basic to any experience of fiction? We propose to discuss those questions through the key concept of simulation. Indeed, the empathic response triggered by cinematic body genres appears to rely on the action of mirror neurons, or neural mirror systems, which are, arguably (Csibra 2004), somatomotor simulation devices. Though readerly empathy seems comparatively less directly related to mirror neurons, which mainly but not exclusively react to visual stimuli, it is likely that it still implies corporal simulation and that it involves some part of the neural mirror system. In literary texts, though, this somatomotor simulation is strongly mediated by another type of simulation: the simulation of belief necessary to enter the fictional world (Pavel 1986). Following Baudrillard (1981), we conceive simulation as a gateway through which fiction can access the real. And indeed, simulation of belief allows fictional bodies to “really touch” the reader’s body, caught in the empathic mimicry resulting from somatomotor simulation. Our aim is to study the interplay of those two types of simulation in a reading of Cooper’s texts. This study will show the problems of thinking literature in terms of body genres and will also enlighten our comprehension of the role of empathy in our relation to fiction and representation in general.

Eve-Andree Laramee (*elaramée@mica.edu*) *Maryland Institute College of Art*
SECRET HISTORY: Alter-egos, Doubles, Doppelgänger, Shadows, and other Surrogate Selves: Exploring the space between sculpture, performance, literature and science

Laramée will discuss her project, *Secret History*, which began with the invention of an alter ego, Yves Fissiault, a Cold War era scientist and secret artist, whose identity she assumed during her studio practice for six months. The notion of the “alter ego” or “Doppelgänger” is a familiar literary and cinematic device. In visual art, artists such as Marcel Duchamp, Sophie Calle, James Lee Byars, Eleanor Antin and others have created performative “other selves”. Since her initial experiment, she has created fictional eleven characters, and the project has taken the form of exhibitions, performances, an Internet intervention, and most recently an image/text work-in-progress. The fourth chapter, Netherzone, explores the spatial qualities and sociohistorical atmosphere of Southern California during the Cold War, the field of operations of her compelling characters. Eve Andrée Laramée’s installations uproot assumptions about the authority of history, science, nature, and art. Never strictly didactic, her work does not simply illustrate information culled from her exhaustive research. Instead, it represents the intellectual and cognitive process visually. Mediating between fact and fiction, her work unearths tensions in our understanding of both. The nexus of Laramée’s art is curiosity and information, rather than conceptual one-liners.

2D: Imaging Nanospace (UT-101)

Chair: Petra Missomelius

Alfred Nordmann (nordmann@phil.tu-darmstadt.de) *TU Darmstadt*

Prescriptions: Molecular Writing and the Artistry of Nanotechnology

Nanotechnology began for real, when Don Eigler and Erhard Schweizer used 35 xenon-atoms to spell the name of their sponsor “IBM”. The resulting image has since been called “The Beginning” and, indeed, physical processes at the molecular level have since been used countless times to write the names of universities, laboratories, and sponsors. Indeed, when we conquer new territory, we tend to mark our presence and produce a souvenir of it by carving our name. But the first things we do may express our final purposes and thus already anticipate the last thing we do. Molecular writing is prescriptive in that it establishes an image of arbitrary control at the nanoscale. Also, by signing their works as artists do, nanoscale researchers claim not only specific accomplishments but also their proximity to the arts – they are embarking on an explicitly creative project, namely to shape the world atom by atom in their own image.

Verena Kuni

Thought Forms, Revisited: Nanotech Imagery and the Landscapes of the Mind

Over centuries, the arts were responsible for imaginations of the “landscapes of the mind”. What medicine and psychology could contribute to this cosmos would stay equally speculative; and what their imaging technologies revealed were,

against ever-returning dreams of new insights into the secrets of the mind, about hardware/wetware and physical processes only – while the “thought forms” themselves remained invisible. With nanotechnologies the promise returned to get access to the inner mind and to make the invisible visible. However, it turns out that not only those nanotech-related images devoted to imaginations of future devices like nanobots ready to travel through human veins and brains are inheriting almost classic sci-fi fantasies. Also many images that claim to be documents giving insight into neurophysiological structures and processes buy into this tradition. The panel contribution will introduce and discuss some striking examples of high tech landscape (paintings) of the mind.

Petra Missomelius (*missomel@staff.uni-marburg.de*) *University of Marburg*
Digital Images and Narrational Spaces: Visualization of the Nano Scale

The world of nano-images depends upon digital technologies. Since a few decades, data visualization enabled by digital media is a basis of scientific visualization. Visualisation technologies such as the atomic force microscopy are turning touch into image by visualizing large data sets. They are creating topographical information of the nano space that seems to be part of cyberspace. The paper observes new cultural forms that go along with digital media and can be found in technical images at the atomic scale. It is to be examined, if these visualizations are image instruments and visual narrative spaces at the same time.

Angela Krewani (*krewani@staff.uni-marburg.de*) *Marburg University*
Against Fragmentation: The Aesthetics of Nanotechnology

The image in nanotechnology is part of a longer history of visual fragmentation which was brought about by optical media. But although the nanotechnological image relies on technologies of fragmentation, the image itself indicates ideas of wholeness or closure. Thus the nanotechnological image somehow turns against its technology through blurring its materiality. The paper focusses on these aspects and intends to open up considerations concerning the epistemological status of the image. Contrary to the contemporary image in (media) art, the nanotechnological image activates opposing concepts. Finally the paper wants to explore in how far ideas of the Sublime, which have been banned in contemporary art, are once again entering the nanotechnological image and from here support the sometimes religious attitudes of nanotechnology.

2E: Reproducing Realities in Science and Fiction (BG5-212)

Chair: Tanja Nusser

Kerstin Bergman (*Kerstin.Bergman@litt.lu.se*) *Dept. of Comparative Literature, Lund University*

Human Cloning in Fiction and Science

During the 1980s and early 90s, clone fiction was an almost dead genre. However, post Dolly, films and novels about human cloning once again prospered, and today critics speak about "clone lit" as a well established genre. Recent examples are Ishiguro's novel *Never Let Me Go* (2005), Guilfoile's novel *Cast of Shadows* (2005), and the film *The Island* (2005). Surveying the historical evolution of cloning in *Journal of Medical Humanities* in 2000, Peter N. Poon concludes, "Science fiction and science nonfiction have increasingly become one and the same". When it comes to the development of both the technology for and the attitudes towards the cloning of humans, science and fiction have been, and still are, mutually influential. While the 1970s clone fiction was dominated by horror visions of bad clone "copies" controlled by evil dictators, contemporary fiction is radically different. In both social and mental terms, images of human clones are generally positive today – despite the negative attitudes dominating contemporary media debates. In this paper, I will discuss what characterizes these new clone visions. I will further relate this to contemporary scientific developments, and, following Poon, address what implications this might have for the future of human cloning.

Irmela Marei Krüger-Fürhoff (*i.m.krueger-fuerhoff@uni-greifswald.de*), *Universität Greifswald* & **Tanja Nusser** (*nusser@uni-greifswald.de*) *Ernst-Moritz-Arndt-Universität Greifswald*

Life (T)issues: Cultural Intersections of Reproductive Technologies and Transplantation Surgery

Since the early 20th century, reproductive technologies and transplantation surgery draw on shared experimental, clinical and discursive backgrounds and had ample repercussions in journalism and literature (cf. Squier, Turner). Although today both seem to have evolved into widespread forms of medical treatment, cultural fantasies and anxieties that accompanied their development have not been overcome but are transferred into new settings: Recent literary texts imagine cloned human beings who are kept by authoritarian regimes in order to supply living spare parts in the near future. Whereas cultural representations of clones have been discussed in literary and science studies, the underlying interstices between reproductive technologies and transplantation surgery have not been a major research focus so far. In our paper, we address a narratological and a historical perspective: We analyze the metaphors and narrative strategies that circulate between the two fields and compare cultural imaginations of these medical practices in the early and late 20th century. We will focus on medical and philosophical texts, a short story by Julian Huxley ("Tissue Culture King", 1926) and utopian novels by Michael Marshall Smith (*Spare*, 1996) and Kazuo Ishiguro (*Never Let Me Go*, 2005).

Eva-Sabine Zehelein (zehelein@em.uni-frankfurt.de) Goethe University Frankfurt

Carl Djerassi and the Art of ART

This paper analyses Carl Djerassi's plays *An Immaculate Misconception* (2000) and *Taboos* (2005) before the backdrop of the pros and cons that ART – Assisted Reproductive Technologies – have raised. Djerassi, the “mother” of the birth control pill, highlights ethical and social issues such as: what is “motherhood”, what is “parenthood”? Is the conception of a child through reproductive technologies an act of playing God? What are the implications of “selecting” sperm and eggs for “the ideal child”? What is the role of women scientists in ART? How will and does ART affect (change) society and social norms and values? Particularly Djerassi's most recent play (*Taboos*) focusses on same sex-partnerships and “motherhood”, the status of fertilized eggs (should they be discarded or adopted?), and the necessary redefinitions of terms such as “parent” and “family”. The plays' analysis will be embedded in the recent public debates on these issues, both in Europe, America and Korea.

2F: Sound Production and Consumption (UT-301)

Chair: José van Dijck

Bas Jansen (jansen_bg@yahoo.com) University of Amsterdam

Mixtaping as Practice Between Artistic Creation and Creative Consumption

A mixtape is an audio cassette, which the mixtaper has bought in a blanc state, and onto which she has recorded songs she has selected and ordered herself. Mixtapes are sometimes accompanied by self-made artwork, and are often given as presents. This cultural practice is interestingly located in-between artistic creativity and consumption, which makes it ideally suited for an analysis that contests essentialist distinctions between the artist and the consumer. I will present the results of an investigation of mixtape stories, anecdotes surrounding a tape one has either made or received. My analysis will approach mixtaping as “practice” rather than as “a practice”, using an adaptation of Andrew Pickering's (1995) concept of “the mangle of practice” as an analytical tool. This perspective allows for the symmetrical theorization of both artistic creation and consumption. Pickering describes scientific practice as a dialectic of resistance by, and accommodation of, heterogeneous pressures (material, social, conceptual) that all inform the production of scientific knowledge. My adapted version makes sense of the inspiration and frustration reported in mixtape stories, and shows how heterogeneous pressures, whether formal, technological, biographical, or social, find their way into the final product.

Pedro Félix (*felixlx@yahoo.com*) *Instituto de Etnomusicologia, Univ. Nova de Lisboa*

What Can Digital Technologies Do for a Rock'n'Roll Band?

The post-modernist readings of digital technologies usually deal with concepts such as "copy", "mixing" and "sampling", issues of repetition and/ or recreation. The trendy writings of Adorno support such readings in consequence of his understanding of the "cultural industry" as the materialization of the "instrumentalized reason", where "nothing new ever happens". That approach excludes subjects like rock'n'roll bands associated with "authentic" creation and performance. Since the 1990's the digital culture was seen as strategical technologies to free production of culture, especially as an alternative to mainstream production. The data gathered through my fieldwork on the most relevant rock band in Portugal leads me to question Adorno's perspective, and the use of digital technologies by mainstream artists. Formed by the end of 1978, Xutos & Pontapés started as a punk-rock band. Since 1986, it has developed the most successful career inside a major label (Polygram/ Universal), strategically using the technological facilities to free themselves from the industry's structures (studios, concert production, a.o.), promoting a large professional and personal network within the music business. My paper will propose a new perspective on the interrelationship between technology and "authenticity" of a rock'n'roll band in Portugal.

Aksel Tjora (*aksel@tjora.net*) *Norwegian University of Science and Technology*
The Groove in the Computer: Two Cases in Technologically Guided Music Composition

Music composition in the 21st century is often supported by the use of computers, by which composers may generate sound, structure musical output, test rhythmic and harmonic ideas and print musical scores. Within musicology the computerisation of composition may be analysed as a continued tradition of interest in making non-human factors relevant in the composition process. From an STS perspective this use of computers may be analysed on basis of critical perspectives related to designer vs. user scripts, domestication, and technological shaping, or potentially determination, of music. Based on interviews and observation in two case studies, this paper explores the role of technology in composition for users of different levels of experience. The first case includes students in a university course in music technology and the other includes secondary school kids (aged 13-16) in a municipally financed course for kids at risk. It is not a surprising finding that various software platforms leave more or less creativity and design work to the composer. However, it is also found that firmness on composing tasks (or lessons) has a potential to produce a more technology-independent process.

2G: The Rules of the Game (UT-101A)

Chair: Sher Doruff

Aden Evens (*aden@who.net*) MIT

The Libidinal Economy of the Computer Game

Gaming on computers seems counterintuitive as computers leave no room for play or invention. The computer operates mechanistically and without spontaneity, so where is the creativity in the repetitive rehearsal of someone else's ideas? Christopher Douglas proposes that the preestablished meaning of the world of the computer game comforts players who are threatened by real-life alienation. This "existential soothing" is a source of pleasure but also a hard limit of meaning: the libidinal economy of the computer game posits a quantity of meaning invested in the game by designers, and only this much meaning may be extracted by the player. Even individual objects evince this finitude: a torch hanging from a wall sheds light but cannot scare away an attacking worm. Gamers employ many means of surpassing this upper bound on meaning; in addition to aesthetic, competitive, technophilic, and subversive pleasures, there are significant creative possibilities of social interaction in multiplayer games. Furthermore, game worlds increasingly encourage the construction of objects with EMERGENT PROPERTIES, which generate meaning in ways unanticipated by the designers. Games such as Second Life allow players to build objects whose properties derive from their parts and structural relations: they poke if they are pointy and solid, they go fast if they are aerodynamic and high-powered. This paper thus proposes a formal response to the rigidity of the libidinal economy of gaming.

Barbara Ryan (*barbararyan@fsmail.net*)

Batch 308/309 of the Hotel Europa Archives- a product of Illustrated Speed Chess

The Hotel Europa Archives are a set of documents that record moments from the 'out takes of history', creating dialogues between individual historical figures, empires, governments and political movements from the 16th to the 20th century. Batch 308/309 of the archives were deliberately created with a malfunctioning Series 2 iMac. Due to the machine's unpredictability, it's actions and responses create as many problems as they do solutions. I have likened this production method to a game of chess as essentially the computer and computer-user have become opponents. The computer presents an action or 'move' as a fait accompli to which the player must respond quickly and inventively in order to finish production and 'win the game'. I named the process an Illustrated Form of Speed Chess, the 'rules' held to were: Every time the computer malfunctioned a strict time limit of 30 minutes maximum had to be adhered to find and execute a solution. Further to this once 'the game' had started absolutely no materials or technical support could be sourced from outside the studio. Within these parameters the

use of 'instinctive processing' mirrors theories of alchemical transmutation, in which seemingly unusable substances can be transformed and validated when viewed and used in the 'correct' way.

2I: Nature - Art – Nature (OMHP-118A)

Chair: Cor van der Weele

Jane Walling (*j.c.walling@durham.ac.uk*) *University of Durham, UK*
Nature and Metaphor in Proust

This paper will examine the ambivalent role played by metaphor in writing about nature, using examples taken from Marcel Proust's novel *A la recherche du temps perdu*. Firstly, I shall consider those quasi-scientific images whose main function seems to be to explain a phenomenon: a natural process or object is made more understandable when qualified by an apparently 'logical' image. Images from the animal world frequently belong to this category. A second group of images have a more poetic quality, with the reader being encouraged to identify with an imaginative or impressionistic rendering, as is often the case with the presentation of flowers in the novel. (Virginia Woolf famously referred to Proust as both a poet and a scientist with his 'double vision'.) Finally, however, there are those images which distance the reader from the living reality of the phenomenon being described either because they derive more from cultural history than from natural history or because the length, allusiveness and sheer virtuosity of the metaphors draw attention to the process of writing and away from its subject. In other words, I shall show that metaphor can 'lead us away from the physical world' as well as 'back to it' (Lawrence Buell), with the tension between these positions making Proust's novel a fruitful area for an ecocritical examination of attitudes towards nature in the modernist period.

Liana Joy Christensen (*lianajoy@slow-stories.net*) *Murdoch University*
Science Dreaming

While the critically reflective power of philosophy has the capacity to conceive an ecocentric ethic, it cannot by itself keep that ethic alive. Granted, the conception of an ecocentric ethic happened in an imaginatively-charged 'moment' of critical reflection within the domain of philosophy, yet according to the strictest logic of that domain ecocentrism is impossible. Conception is one thing, gestating and birthing another. Nurturing an ecocentric ethic requires a re-imagining of ourselves and our world, a process in which storytelling - oral, written or filmic - excels. As a nature writer, I engage with the politics and ethics of cross-boundaried knowledge production as part of my praxis. It is quite clear that if we do not like some of the consequences of our most powerful cultural narratives, it is no good simply ignoring them. Neither is superficial revisionism helpful. To change stories

it is necessary to engage with them very deeply on their own terms, without at the same time being captured by them. Only then can the delicate work of re-storying take place. I call this process science dreaming, and know it can easily become nightmarish. Handled with care, however, it has a very real contribution to make to the restoration of our environment.

Torben Hviid Nielsen (*t.h.nielsen@sociology.uio.no*) *Dep. of Sociology, University of Oslo*

"Human Shrewdness" and "The Spirit of Nature": Hans Christian Andersen on the Adventures of New Technology

The Danish fairytale-writer H. C. Andersen (1805-1875) was as fascinated by the contemporary new science and technology as by the authentic nature of his fairytales. His fantasy was also stuffed by and materialised in the rapid future-horizon of new technologies as railroad engines, air ships, factories and electricity. This paper documents the lasting friendship with and inspiration from the scientist H. C. Ørsted (1777-1851), the first to describe electromagnetism in 1820, and discusses Andersen's use of and inspiration hereof in fairytales, journalism, diaries, novels and travel descriptions. It is argued that also the fairytales are fare from the appreciation of the "natural" at the expense of the "artificial", often to be found in the popular-romantic interpretations of "The Nightingale".

2J: Bionarrativity and Modelling (OMHP-1 18C)

Chair: John Cartwright

Timothy Weaver (*tweaver2@du.edu*) *University of Denver, eMAD & Digital Media Studies*

Authoring the Biological Narrative

The biological narrative can be defined as an overlay of creative content onto a biologically-emulated structure to yield a conceptual map/template for an emerging form of narrativity. Sources for encoding biological narrative structure from an *in vivo* context range from the molecular-level to the biospheric. Bioinformatic sources including genotypic mappings, sequences and phenotypic-based samplings and visualizations such as biomimetic computation, ecological modeling, artificial life and pathology profiles are available sources for emulation, abstraction, recombination, transcoding and transmutation of expressive bionarrativity. A media architecture of potential resources, configurations and applications will delineate the exchange between *in vivo* and *in silico* contexts for authoring and extending the biological narrative. New media-based prototypes as captured video and "performative" bioinformatic datasets will be presented as seed for discussion regarding the implications of such a genre in fostering a new media-driven dialectic in the domains of biopoetics, biosemiotics and bioethics. The point-of-dialogue

around this presentation will be to exchange perspectives/reference within biological space as it converges with the lexicon of electronic language and how we might assimilate the outcomes of this evolving language base of biomimetic simulacra in favor of the propagation of biological/environmental sensibilities in new media.

Luis Arata (luis.arata@quinnipiac.edu) *Quinnipiac University*

The Art of the Model: Creating Narratives of the Possible

The Art of the Model: Creating Narratives of the Possible. Feyerabend introduced the notion of "ontological niche" to describe what he called "cultural filters" capable of regulating the diversifying tendencies of life's abundance. This presentation first reviews these two related concepts as generators of varied narratives. The review will include recent evolutionary work done on niche formation to underscore the importance of Feyerabend's view. Then, after a summary of basic features of models, I will argue that modeling is an effective way to create "ontological niches." This approach provides a cross disciplinary understanding of how we go about making sense from the arts to the sciences. Following Feyerabend, I will also argue that a theory is an extreme type of model that claims ontological exclusivity. Conflicting theories cannot coexist, but narratives do not have to be mutually exclusive. Contradictory models can coexist in their own niches of application. The benefit of this more cooperative approach is that concepts and techniques from models otherwise forbidden by dominant theories may be of help outside of their niches. The art of modeling enhances the diversification of narratives within disciplines and across their boundaries.

John Cartwright (j.cartwright@chester.ac.uk) *University of Chester*

Darwinian Models for Literary Theory

This paper will consider the potential of key ideas and concepts associated with Darwinism (both in its original formulation by Darwin and his immediate followers, and its more recent efflorescence in evolutionary psychology) to illuminate the study of literature. It will be argued that, although Darwinian literary criticism has not yet settled upon agreed methodologies and principles, and is marginal in university literature departments, the scope and promise is considerable and too potentially rewarding to ignore. It will be suggested that Darwinism provides insights to account for the forms and functions of literature as well as models for delineating historical change. The paper will attempt to structure the various approaches to literature that can be found with Darwinian writings, including the accounts of Geoffrey Miller, Steven Pinker, David Barash, Franco Moretti, E.O. Wilson and of course Joseph Carroll, within a framework that shows their consistency and commonality of purpose. The theories of literary function considered and categorised will range from the literature as sexual display hypothesis; literature as serving

other more basic adaptive functions; and literature as an evolved technology serving to help regulate and calibrate a complex human mind. The conclusion to be drawn is that contemporary Darwinian psychology provides a cornucopia of powerful insights, and that, far from being an example of crude reductionism or crass scientism, Darwinian literary criticism and "biopoetics" will help reaffirm the centrality and indispensability of literature in our culture.

Session 3: Wed, June 14, 14:00-15:30

3A: System-Environment Interactions (BG5-213)

Chair: Stefan Herbrechter

Uziel Awret (uawret@cox.net) *Science and Consciousness Review*

Biological Pattern Recognition, Technology and the Post- Human condition

Scientists were surprised to discover that the Tuna accelerates faster than the strength of its muscles would permit it. Research in MIT showed that the Tuna flips its tail quickly two times creating two vortices in the water. It stores energy in the water. Then a third swing of the tail pushes against the vortices and enables the Tuna to accelerate quicker than it should theoretically. To understand the dynamics of the Tuna you need to consider both the Tuna and its immediate environment, an environment with which it has co-evolved interactively. In *Being there, Putting Brain, Body and World Together Again* Andy Clark uses a dynamic systems approach in which the relevant abstract space is spanned by variables that account for both the system and its immediate environment. The history of life involves the interactive co-evolution of systems and their immediate environments in what Clark calls reciprocal causation. If technology and culture are what binds an interactive collection of systems to each other and to their immediate environment then the embedded approach is especially well suited for tracing the continuous way in which the cultural and the technological, initially in mediating roles, are transformed into 'system'. In recent years we have witnessed the appearance of embodied and environmentally embedded theories of cognition that blur the lines of demarcation separating system and environment, action and representation. Examples would be Alva Noe's work on enacted perception. I will suggest a more 'cognitive' theory of cognition by considering a broader view of the evolution of biological pattern recognition that appeals to molecular 'pre-technology' and 'pre-culture'. The paper will attempt to expose deep dynamic and structural similarities between the brain and the immune system as examples of 'cognitive systems'. I will try and show that the brain utilizes many of the more primitive cognitive skills displayed by the immune system in a more coordinated way and about a million times faster. I will end by describing the properties of the passage from pre-humanism to post-humanism that such an approach entails.

Matthew Tiessen (*mtiessen@gmail.com*) *University of Alberta*

Desire Paths and the Posthuman

This paper encounters the dissolving boundaries between the human and the non-human through an examination of desire paths. Conventionally desire paths are defined by architects as those trampled-down footpaths that deviate from pre-planned and paved directional imperatives. These pathways of desire cut across the “official” grid, always exceeding the boundaries of the sidewalk; in so doing they express the virtual excesses that premeditated constructions cannot foresee or contain. Desire paths trace the interconnected relationship between the human and the nonhuman. This relationship is one of reciprocating “agency” wherein a system’s components (i.e. the bi-ped walker and topographic context) co-conspire to actualize a potential (the desire path itself); in turn, the system’s parts function to actualize, and perpetuate, one another’s potential. Deleuze and his interlocutors are proponents of such a posthuman ontology. It is a descriptive, rather than prescriptive, ontology, one whose demands for openness and interconnection are affirmed by recent scientific developments. It is also a theory that, due to its non-teleological descriptiveness of the real, can be charged with banality. However, banality—or blandness—as Francois Jullien reminds us need not be a negative, but can instead function as the indeterminacy from which inventiveness and creativity emerge.

Christopher Aurretta (*cda@fct.unl.pt*) *School of Sciences and Technology, New University of Lisbon*

Heteronyms and Cyborgs: Modernism, Technê and Myth in the Poetry of Fernando Pessoa (1888 - 1935)

The modern construction of knowledge is inseparable from a conceptualization of the self and its destiny: literature, in dialogue with the dominant discourses of knowledge in modernity, engages imaginatively the mutations occurring within our moral, affective and imaginative cosmologies. Myth remains a highly sensitive symbolic structure with an inexhaustible reinventive capacity. The work of the major twentieth-century Portuguese poet Fernando Pessoa reflects this activity of metamorphic transcription. Basing our presentation on two fundamental texts which articulate and explore fundamental tenets of the Enlightenment: Kant’s “Was ist Aufklärung?” (1784) and Foucault’s “Qu’est-ce-que les Lumières?” (1984), texts which seek to redefine humanity’s historical tasks, and found a new eschatological scheme for the human subject. We explore the poetry of Pessoa in the light of this Enlightenment program and the new ontological and cognitive territories of autonomy to which it appeals. How does Pessoa utilize and subvert such concepts operative in the Enlightenment program by way of his heteronymic project of alter-egos? Finally, in what ways does Pessoa’s work raise (premonitory) questions about the destabilized territories of the contemporary subject, now increasingly both human and humanoid?

3B: Ecofeminism and Story-Telling (BG5-222)

Chair: Jeanne Cortiel

Lisa Lynch (*llynch@earthlink.net*)

Following the River: Ecofeminism and the Environmental Novel

For this presentation, Lisa Lynch will present her doctoral research in literary ecopsychology, which resulted in the novel *The Same River*. The story illustrates a particular environmental issue, the removal of a dam on an Oregon river. For her research, she applied the methodology of narrative inquiry, compiling a data set that included the results of interviews, historical, anthropological, and legal research, as well as drawing from her personal experiences growing up on the North Umpqua River in central Oregon. This engaging, passionate story of love, betrayal, and hope offers to the reader a path through many dimensions of the environmental crisis, such as the decline of northwest salmon populations, disregard for scientific research, and the decimation of the Native American population. Two women are the main characters in the novel; a young woman working for a federal agency, and a Native American woman living 200 years earlier along the same river. Through visions and dreams, these two women come together as the story moves the reader into a worldview that is very different from a contemporary western perspective. The presentation will conclude with the assertion that literature can be a powerful tool of environmental and cultural change.

Kasi Jackson (*kasi.jackson@mail.wvu.edu*) *West Virginia University Women's Studies*

Maternity and the Female Scientist in 70's and 80's Ecodoom Films

Science fiction films use the female scientist to examine the intersections among feminism, environmentalism, and science. These films show a world where science has been corrupted and feminized. Maternity can either defuse the threat posed by a woman with scientific power, or it can cause her to ally with nature. In *Humanoids from the Deep* (1980) "the earth launches into a battle over the survival of the fittest where man is the endangered species and woman the ultimate prize." A woman scientist created the monsters that rape human women—man is endangered by women's inability to prevent the mixing of species. In fact, the film ends with the female scientist delivering a baby resulting from the rape of a human woman by a humanoid. In contrast, the female scientist in *Kingdom of the Spiders* (1977) initially appears to ally with the monsters, when instead of reacting with disgust to the presence of a spider in her bedroom, she gently picks it up and strokes it before releasing it outside. However, she develops a properly maternal relationship with a human child and by the film's end has abandoned science, and any potential alliance with nature, to protect that child.

Traci Warkentin (*traciw@yorku.ca*) Faculty of Environmental Studies, York University

Dis/Integrating Animals: Genetic Engineering, Eco/Feminism and Science Fiction Margaret Atwood's novel, *Oryx and Crake*, serves as a cogent medium for exploring and critiquing highly contentious techno-scientific practices and ideas. Combined with research at the intersections of feminism, biology and philosophy, Atwood's work of science fiction provides dynamic starting grounds for a discussion of genetic technologies and animals, and exposes underlying patriarchal assumptions and values. With a focus on animal bodies, I will examine moral implications of the genetic engineering of 'domesticated' animals for purposes of human consumption. Contested concepts of natural and artificial, contamination and purity, integrity and fragmentation will feature in the discussion. Particular attention is paid to issues of growing human organs in pigs for xenotransplantation (resulting, for Atwood, in pigoons) and the genetic engineering of 'mindless' chicken tumours (or, as Atwood calls them, ChickieNobs). Current biotechnological research is making this latter fictional phenomenon a reality; thus, a philosophical discussion of the provocative question of genetically modifying animal bodies as a means to end the suffering of domesticated animals is all the more urgent. The ultimate implications include extreme manifestations of the 'body as machine' metaphor, corresponding with the complete dis/integration of animals and an ongoing sensory and moral deprivation of human experience.

3C: Designing Desire: Product, Image, Space (BG5-222)
Chair: Kay Edge

Panel description An industrial designer and two architects consider their roles in the manufacture of desire. The objects, the spaces designed to contain them and the image created wed the predicted consumer path to what Jean Baudrillard calls the object path. Fueled by technology this confluence forms a "calculus of objects" that includes product, image, space and the potential buyer.

Ed Dorsa (*dorsa@vt.edu*) Virginia Tech
Objects of Desire: the Ethics of Design

"Desire: The moment you see it, is the moment you want it." So proclaims the ad for the new Chrysler 300 automobile. There is no mention of need, no cause to itemize features, not in a car commercial, in America, in 2006. In America the automobile long ago became a need, only what kind of automobile is in question, the cost, or the color. So to separate their model from competing brands, manufacturers have turned to a different motivation: desire. Traditionally, creating desire had been the realm of advertisers. The designer's job had been to make useful, needed objects. But as desire became the critical differentiator for many prod-

ucts, designers took up the responsibility of imbuing their products with it. And today's technological advances have compounded the problem, allowing a plethora of new products to emerge, virtually none of which could be categorized as necessary. This paper examines the role of industrial design in creating and directing desire, and the ethics of this action. Further, it discusses the responsibility designers have for creating useful products, products that distill essential needs from excessive wants and that nurture us without harming our environment. Finally, it proposes ways to achieve this goal.

Heather Woofter (*woofter@architecture.wustl.edu*) *Washington University in St. Louis, Sam Fox School of Design & Visual Arts*
The Media Arcade

The arcades, as an invention of the nineteenth century textile trade, created a public labyrinthine architecture of transparent and image-oriented layers. The primary materials of iron and glass were considered technologically inventive applications for this new urban domain. The arcades were created for window shopping – looking into a room. But one not only looked through a window – there was the gaze through the first layer of glass, the series of objects of desire, the store interior and even the panoramic view of the forward facing street-arcade and the glass reflection of an indirect scene. The street started to have a sense of human scale and distances. In our current technological situation, media as an architectural device has the potential to redefine this complexity of collectible pieces, and comparable to Benjamin's arcade project – the gathered information is removed from its original context to create a play of distances. In digital projections, the layers of projections, the projector, the mainframe of a computer – stream information to places beyond a first depth reading. The flaneur roams literally through these textual and image readings in a ghostly material world of light and shadow. This essay accompanies two architectural projects currently being designed for St. Louis, Missouri.

Kay Edge (*kedge@vt.edu*) *Virginia Tech*
Architectural Type and the Staging of Consumption

The airport as a building type presents architecture as a "medium" for shopping. As a place that contains, controls and directs throngs of potential consumers, the airport offers the perfect scene for a theatre of consumption. As Baudrillard has pointed out, consumption can never be a solitary activity. The latest generation of airports represents the first generation of market-researched architecture. The qualities of these spaces have been quantified as variables in an economics equation that measures in a behaviorist way the level of consumer pleasure or displeasure. The ancient philosophical issues of time and space are contemplated now in terms of how much income they yield up, and human movement through time and space is considered in terms of spending behavior. This photographic

series and the accompanying essay is a documentation and commentary on the new hybrid building type housed in the airport, and the public and retail spaces that are produced and shaped by consumer culture as it intersects with design and demographics.

3D: "The Art of Observing": Imagining Nature—Art/Technē/Poiesis in the Making of Early Modern Science (UT-101)

Chair: James J. Bono

James Bono (*hischasos@buffalo.edu*) *University at Buffalo, SUNY*

Technologies of the Literal: "Observation" as Making/Performing and the Production of Objects and Knowledge in Seventeenth-Century Science

The emergence of "technologies of the literal"—including visual technologies—in the seventeenth-century enabled students of nature to claim access to "literal" knowledge of "things." Traditionally, *technē* dealt merely with "natural particulars" requiring manual "craft" practiced by artisans and artists, not knowledge (*scientia*) of universal concepts and categories. Shifting narratives about God, humans, and nature transformed *scientia*, legitimating *technē* as vehicle for the production of true knowledge. Hence, natural philosophers turned to fashioning and selective deployment of "technologies of the literal" to produce a host of concrete practices—performative rituals carried out in newly defined public spaces, like the laboratory and the anatomical theater—for isolating, categorizing, and describing natural objects and phenomena. Focusing on such practices, I argue that early modern "observation" is itself an active process of selecting, relating, and fashioning. As such, the Baconian ideal of observation—of "natural and experimental histories"—relies, as Bacon himself insisted, on making and doing: on the "scientist" as active maker of knowledge. This ideal, and the practices it inspired, eroded traditional distinctions between "Art" and "Nature." Despite attempts to contain their implications by claiming that such practices merely lead to uncovering the naked, "literal" truths of nature itself, observational practices in fact become forms of cultural *poiesis* achieved through performative use of "technologies of the literal." With examples drawn from the likes of Bacon, Harvey, Descartes, and Boyle, my paper will discuss the role and implication of various observing, recording, ordering, and representational technologies within the visual and material cultures of seventeenth-century science, arguing that the "literal" as deployed in this period and as exemplified in representational strategies from descriptions and diagrams to mathematical formulas and collections of natural objects is itself a form of metaphoric "compression."

Lissa Roberts (*l.i.roberts@utwente.nl*) *University of Twente
Science and the Art of Observation*

If we consider the core of science to be communication, we must see observation as part of that process. Often considered to be dominated by (passive) visual experience, both various art historians and historians of science have taught us that observation also involves a process of negotiations (indeed it is taken up by the larger process of which it is a negotiated part) in which its boundaries and significance are not inherently clear or obvious. We may speak of an arena in which the construction of its identity and meaning takes place along with and in relation to the construction of scientific facts - from private to public, from "pure" to "popular," from "active" to "passive," from intrinsic to extrinsic. This paper defines observation as a constructed and flexible category whose locus cannot be situated exclusively within the confines of the constructively privileged viewer. With examples drawn primarily from late eighteenth-century chemistry and its depictions - especially Mme. Lavoisier's realist portrayal of her husband's respiration experiments - it will explore this definition with reference to the various actors who might retrospectively be said to have observed.

Kenneth J. Knoespel (*kenneth.knoespel@iac.gatech.edu*) *Georgia Tech
The Object of Skepticism: Recalibrating the Literal in Early Modern Natural
Philosophy*

The work of Nicolas of Cusa focuses attention on the use of everyday objects as a departure point for thinking about relations between physics and metaphysics. Drawing on Cusa as a departure point, this presentation looks at the status of "worldly objects" in quattrocento Italian discussions of natural phenomena and considers the connections between Cusa's techno-theology and the visual revolution of northern Italian quattrocento. In particular, the presentation explores the ways in which problems posed by new visual technologies intersect with Ciceroian skepticism and contribute to a setting for the reception of Pyrrhonian skepticism associated with Sextus Empiricus.

3E: Literature and Space Technology (BG5-212)

Chair: Jesper Jørgensen

Jesper Jørgensen (*jesper@spacearch.com*) *SpaceArch
Science Fiction in Present Space Design*

One of the challenges in development of space technology is the need to imagine possibilities in contexts where the exact possibilities for the technology maybe not exist. Literature is one of the useful tools, as it both permit to leave the present reality and to freely develop ideas and concepts of future possibilities. Literature that can combine both fantasy and a scientific approach to its literary ideas, do

have a tendency to be of importance for generations of space scientists. Writers as ex. Konstantin Tsiolkovski, Arthur Clarke, Jules Verne have been an inspiration for many rocket scientists, as writers as Douglas Adams have given many a science student a membership in the secret lodge of those scientists, who know that the meaning of life is "42". Science Fiction have therefore a important role in both creating an professional identity and giving a tool for imagination among space scientists. The presentation will in addition to this introduce an overview of the science fiction project at the European Space Agency and other uses of literature and narratives in present space flight design.

Stephen Ransom (*sandsj@freenet.de*) *Aerospace Consultant*
Past Ideas – Future Reality?

The author will draw on his extensive experience within the space industry and as an aerospace historian and present concepts in which he made use of past ideas derived from technical literature and patent research to substantiate the feasibility of future concepts and to identify old ideas which, with the application of modern technology, can or could be realized. The case studies discussed include a winged scientific platform capable of being retrieved from an orbit around the Earth and landed automatically, an aerial vehicle for planetary exploration, and a manned rover for the exploration of the Moon and Mars. The needs to adopt an interdisciplinary approach in the development of these ideas and to develop an awareness of what is taking place in today's technological and engineering environment will be highlighted.

Benny Elmann-Larsen (*benny.elmann-larsen@esa.int*) *ESTEC, European Space Agency*
Rational Dreamers

Science fiction, for those above 50 years of age, stimulates thoughts of booklets from before the space age, at a time where space for the many was an unknown and not understood place. Taken as two words, and paired with person identities of those who have created 'gate invention', science fiction moves into the mental space that houses our respect, admiration and fathomlessness. Here fiction becomes reality beyond every imaginative border, because it was created by the rational dreamers. Gate innovation is defined as innovations that 'open the gate' that no one initially could spot apart from the rational dreamer, if at all - a gate that opens up to a change in the way the world thinks and lives. The phenomenon has to do with breaking the barrier between the possible and the impossible. It has to do with persons that are unique and largely alone, as no one can follow them, who have an effect that in no small portion is caused by their personality structure and qualities, such as tireless energy, a myriad of ideas for which they have too little time and resources to pursue them all, intuition based on ingenuity in their field that stimulates them to try to move the barriers, and a talent for cre-

ating space and an environment that is nurturing the ground for their ideas. In the extreme they are gamblers who can see a part of the winning numbers but not all, but for this reason have an above average likelihood of winning. The barrier between the possible and the impossible is often met in the context of activities in Space Flight and research.

3F: Body, Sound, and Technology 1 (UT-301)

Chair: Bas Jansen

Panel description This panel brings together participants in the Amsterdam Sound Reading Group. The topic of this panel spreads out over two sessions. Using case studies that involve different sound and music technologies, we seek to question the assumptions implied by the concept of mediation. In this view, sound is often posited in terms of a bridging function, as the passive in-between. Instead we would like to rethink the notion of mediation to include a discussion of the body, space and technology in terms of reciprocal actions and active 'assemblages'. Rather than taking mediation as self-evident, we would like to emphasize how interactions between body, sound and technology occur spatially and temporally as indicated in the concepts of the 'yet-to-come' (Deleuze), 'fields of emergence' (Massumi), the 'live' and the 'mediated/mediatized' (Auslander). Of particular relevance are also issues of corporeality and incorporeality, the gender implications of technology and performance, along with the specific qualities of the media themselves (opera, music theatre, cinema, piano music, sound drama performance, electronic music, etc.)

Pieter Verstraete (*P.M.G.Verstraete@uva.nl*) *ASCA & Theater Studies, University of Amsterdam*

The Wagnerian Gesamtkunstwerk versus the Deleuzian Machinic Assemblage: Belá Bartók's Bluebeard's Fortress by Transparant

I will compare the Wagnerian notion of the Gesamtkunstwerk (i.e. the general interpretation of this notion as hierarchical synthesis) to the Deleuzian concept of machinic assemblage of objects and events, both as constitutive for the production, dramaturgy and experience of music theatre. I will work through a case study of contemporary music theatre, namely a new staging of Béla Bartók's *Bluebeard's Fortress* by the Belgian music theatre ensemble Transparant, which will help me to make the connection between these two concepts. The notions will be framed in a discussion about how the mediatization and technology of sense perception supports the auditory imagination. Technology can prove to be a useful interface in contemporary music theatre. Transparant's staging of *Bluebeard's Fortress* shows how technology is implemented in a dramaturgy of transparency and self-awareness of the perceiving body. I will discuss how in this staging the

co-occurrence of cinematic image projections, supertitles, orchestra and singing bodies – without much theatricality and spectacle – aims at a maximum effect of corporeal intensity and a surplus of affect. In this context, I would like to look at my case study in terms of the ‘sonic machine’, the listener as resonating body (the skin as surface and vessel), and the narrative impulse of (inter)text, musical performance and affect, triggering specific modes of looking and listening.

Carolyn Birdsall (*C.J.Birdsall@uva.nl*) ASCA, University of Amsterdam
Sounds and Affective Spaces in Hitler's Hitparade

The documentary *Hitler's Hitparade* (2003) can be counted among recent German film projects that try to explore the legacy of National Socialism. However, while constructed out of scenes from documentaries, feature films, cartoons and amateur film footage, this film is strikingly different from the conventional documentaries or historical dramas about this period. No voice-over commentary is heard; rather the soundtrack is constructed from a continuous sequence of sentimental popular music hits from the 1930s and 1940s. I will explore how the film attempts to open up ambivalent affective spaces that allow for both fascination and boredom, entertainment and discomfort when watching the film footage generated during National Socialism. To address the specific concerns of this panel, I will consider how the interactions of sounds, embodied perception and film technology in the cinema might be considered as an “assemblage” that could offer affective, yet critical “structures of feeling” (Raymond Williams).

Elke Huwiler (*e.huwiler@uva.nl*) ASCA

Between Performing and Broadcasting: The Role of Sound Technology in Live Audio Drama

Elke Huwiler will discuss issues of mediation and liveness in sound drama performances before they are broadcast on radio. She is interested in how technology has aesthetic value in its application within such live sound performances. Philip Auslander's theory will be discussed in view of these performances.

3I: A Perfused Universe: Semiotics, Biosemiotics and the Complex Life of Signs in a More-than-Human World (OMHP-118A)

Chair: Wendy Wheeler

Steve Baker (*sbaker1@uclan.ac.uk*) University of Central Lancashire
Do Artists See Animals As Signs?

A renewal of interest in the manner in which humans see other animals has extended to the question of whether it is possible to develop an environmentally-conscious visual rhetoric: a ‘visual eco-language’ with its own ‘semiotic rules’ that might ‘create alternative ways of seeing nature’. This paper will cast doubt on the

feasibility of this well-intentioned project by exploring one example of how contemporary artists with environmental concerns attend to the animals and ecosystems that are the subject of their work. Paintings and drawings made by the British collaborative artists Ollly and Suzi on a recent expedition to the Antarctic will be used, along with the artists' own words, to begin to map out a description of the complex, impassioned, but necessarily precarious 'signs' that artists directly concerned with the more-than-human world seek to put into circulation. The paper will also propose that accounts of creative practice (in the sciences and elsewhere) offered by philosophers of science such as Stengers and Varela may help to describe the integrity of contemporary art of this kind as it seeks to frame 'the right questions' (Stengers) in each new situation and to shape the singular signs through which those questions might be communicated.

Paul Cogley (*p.cogley@londonmet.ac.uk*) *London Metropolitan University*
Signal Anxiety: Semiotics, the Self and Narrative

Among the five 'codes' through which a narrative passes, according to Barthes in *S/Z* (1990), is the 'hermeneutic code'. There are suggestions in that work to the effect that the hermeneutic is one of the most fundamental aspects of narrative in the way that it propels events through questions, false answers and equivocation. Frequently, the hermeneutic is associated with the textual phenomenon of suspense, a characteristic of a number of narrative fiction genres, especially the thriller. This paper will use the example of the thriller genre to suggest that the concept of suspense now demands a significant broadening. Rather than pursuing suspense, this paper will therefore suggest that the hermeneutic is more a matter of 'anxiety'. By anxiety is meant that fundamental biosemiotic mechanism by which a cell gains a sense of 'self' and 'other' (Sebeok 1979). The paper will argue that the prevalence of 'anxiety' in narratives is one manifestation of the exercising of the semiotic self. As such, the history of the thriller itself needs to be rewritten in terms of the history of fiction in general. That is to say, it needs to be understood with reference to the evolution of fictional forms of figuring anxiety and the biological basis of the quest mentality of humans (e.g. Pasternak 2004).

Wendy Wheeler (*w.wheeler@londonmet.ac.uk*) *London Metropolitan University*
A Failed Act of Eating: Appetite and Semiosymbiogenesis in a Biosemiotic Account of Aesthetic and Ethical Creativity

In her suggestion that evolutionary creativity, as complex and emergent, may have depended upon a microbial 'failed act of eating', Lynn Margulis offers a productive way of thinking about the ways in which the human evolution of culture might be thought about as a repetition, at different and emergent scales, of this fundamental cellular gesture. This paper will explore the implications of semiosymbiogenesis as 'failed eating', and combine it with Michael Polanyi's idea of the 'disattending from in order to attend to' structure of tacit knowledge in the evolu-

tion of human ideas in science and the arts, in order to argue for a biosemiotic understanding of both aesthetic and ethical creativity. Taking C.S. Peirce's observations both of 'nature's tendency to take habits' and of the 'outward clash' of the object world in all subjective experience, I will suggest that the human encounter with the demands of difference - in both ethical and aesthetic life - might fruitfully be understood as a repetition of the tensions involved in the creative act of symbiosis by which all life evolved. In this primordial encounter between the selfsame and the other, we can understand both hunger and openness towards the object, and also its necessary limitations in the production of lively newness, whether in the encounters of biological life or, emergent and layered upon this in the bio-psychical life of humans, in the symbiosis of ideas creatively generated by metaphor.

3J: Critical Issues in Bioart 1 (OMHP-118C)

Chair: Ernestine Daubner

Respondent: Eugene Thacker

Ellen K. Levy (levy@nyc.rr.com) *Brooklyn College*

(Bio)Art and Biomimetics: The Artistic Advantages and Limitations of Copying from Nature

This past year, provocative symposia and exhibitions have focused attention on biomimetics and the related field of synthetic biology, generally defined as a "new area of research that combines science and engineering in order to design and build novel biological functions and systems." For example, through designing a living cellular machine, scientists recently fashioned a thin sheet of microbes growing in a Petri dish to capture and display a 'photographic' image. This project was the result of an art/science collaboration fostered by an international competition to design biological machines. Areas of research include the development of materials for light-based information technology and for data storage, smart materials, biomedical materials, energy technologies, super-hard materials, and surface engineering. This talk will explore a range of artistic contributions to biomimetics, synthetic biology, and computational modeling that simulates evolution. Earlier approaches to be examined include Abbott Thayer's work with camouflage that elaborated upon Darwin's observations, and more current art includes Daro Montag, ParaSITE, and the team of Heather Acroyd and Daniel Harvey. The insights achieved through unconstrained artistic exploration raises the question whether collaboration involving artists and scientists should be more actively promoted.

Dmitry Bulatov (*bulatov@ncca.koenig.ru*) *National Centre for Contemporary Art, Kaliningrad Branch, Russia*

The Third Modernization: Techno-biological Artworks

Today innovation is the result of complex interactions between individuals, organizations and external factors. Turning to the metaphor of evolution one can say that the rule "the more adapted to the environment survives" is substituted by the rule "anything that conveys the environment more precisely survives". In the process of continuous complication of systems new correlations emerge between cognitive knowledge and effective model, logic and image, reality and representation. The development of new interdisciplinary relations in the sphere of contemporary knowledge, from science to contemporary art, from the methods of data processing to the methods of metaphor presentation, is particularly influenced by the progress in the field of techno-biological research. Hence new domains appear that combine various methods of scientific and artistic representation based on techno-biological modeling. In the new reality, which becomes more and more artificial and media-conditioned, a new sign regime is established, which cancels the historically shaped boundaries between nature and culture, natural science and humanitarian technologies. In these conditions it's quite natural when a researcher after having analyzed the characteristics of the contemporary techno-biological domain wants to comprehend the way they impact the development of new artistic strategies and the essence of their novelty.

Jens Hauser (*jhauser@club-internet.fr*)

Rematerialization and Performativity: Bio(art)bodies Beyond Representation. Textes - Contextes - Paratextes

Bio(tech)Art demonstrates how contemporary art forms can delve into the conceptual business of agenda setting. Biology's ascent to the status of the hottest physical science has provoked an inflationary use of biological metaphors in the scholarly disciplines that study culture, but also a wide range of biotech procedures that provide artists with themes for their work, and the expressive media with which to realize them. Rematerialized Bio(tech)Art therefore generates more interest outside than inside the artworld and does not fulfill the now classical mechanisms of transgression in art, resumed by the term 'institutional critique'. Also, Bio(tech)Art has strong links to performative art practices, and shares with LiveArt the dialectical relationship between real presence and metaphorical representation, generating an emotional tension between the symbolic realm of art, and the 'real life' of the processes that are put on display and that is suggested by organic presence. It appears that these characteristics can be described according to paratextual studies, namely Gerard Genette's concept of paratextes as a threshold between text and off-text: the liminal devices mediating the relations between the content and the receiver, "a privileged place ... of an influence on the

public...at the service of a better reception for the text and a more pertinent reading of it."

Session 4: Wed, June 14, 16:00-18:00

4A: Sociable Robots (BG5-213)

Chair: Jeffrey Wallen

Jeffrey Wallen (*jwallen@hampshire.edu*) *Hampshire College*
Sociable Robots and the Posthuman

How are we to grasp the implications of posthuman developments? Will the posthuman bring a machinic erasure of gender, a polymorphic or utopian move beyond it, or more modestly, just some realignment of current gender categories? In this paper, I will argue for the latter possibility. I'll also suggest that scenarios of a radical evolution beyond or transformation of the human that may be possible in the distant future make it too easy to avoid questions that we will face in our own lifetimes. In order to ground my discussion in a specific possibility, I will focus on one specific example of the posthuman: "sociable robots." In particular, I will discuss Cynthia Breazeal's work developing a robot "able to communicate and interact with us, in a social way" and "able to understand us and itself in social terms." What is interestingly new about sociable robots are the embodied dimensions our interaction with them. Some of the questions I will address are: What might we learn from this machinalization of our own unconscious, bodily, psychological, and sociable behaviors? What will happen when sociable robots actively share our physical space? And what might the introduction of a mechanical third party in our lives mean for gender relations?

Claudia Alarcon (*claudiaalarcon13@yahoo.com*) *Universidad Nacional Autónoma de México*

Emotions: The Lost Link at the Artificial Intelligence Search

Artificial Intelligence has dealt with one of the mostly developed attributes by humans: intelligence. For the past twenty years, intelligence is not considered a matter of thought as much as a matter of behaviour. However, our human performance is now circumscribed to the socio-technological establishment given by biotechnologies and artificial machines that simulate the human behaviour. On a social scale, this establishment has been undermining the way we deal with the world as intelligent human beings. On the one hand, we refer to a mechanic system in which anthropomorphism is at stake, on the other, we claim for an emotional system that stimulates intelligence through social interactions. Kismet is a social robot with synthetic emotions created by the AI Lab at MIT, Breazeal [Ital-

ics]. We take Kismet as a case study to approach our emotional human performance in technological societies where both, the mechanic and the emotional systems, contribute to a better way of social adaptation. In this way, we will discuss that the understanding of this two systems may be understood as the lost link at the Artificial Intelligence search.

Catharina Landström (*catharina.landstrom@theorysc.gu.se*) Dept. of History of Ideas and Theory of Science

From Evocative to Emotional Object. The Affective Refiguration of the Computer

In 1984 Sherry Turkle defined the computer as an 'evocative object'. This designation followed from an investigation of the ways in which adolescents and children conceived of their relationships with computers. The question was raised in the context of a discussion of the computer as an intelligent machine that could exercise agency in relationships with humans. In the 20 years that have passed since then the position of the computer has changed considerably. Today computers are ubiquitous. They come in an infinite range of guises, they are incorporated in many other artefacts and they have become accessories for contemporary lifestyles. This paper investigates the changing affective relationships between computers and humans. It aims to capture affective dimensions of the 'domestication' of the 'evocative object'. It begins with discussing the physical appearance of computers, in particular the Apple Macintosh. From there it turns to look at the ways in which Mac users articulate their emotional relationships with their computers. This discussion is linked to a theoretical reflection on the computer-human relationship as constitutive for the agency of hybrid subjects. The analysis introduces an affective dimension in the discussion of human-computer relationships as 'subject assemblages'.

Jenny Sundén (*jsunden@kth.se*) Dep of Media Technology, Royal Institute of Technology (KTH)

In a Different Body: On Art-ful Robots and Companion Others

If Frankenstein is the mother narrative of technology out of control – and the bride of Frankenstein a temporary incorporation of the bio-cultural paradox of the female machine – this paper argues for the necessity to look at alternative affiliations between humans and machines. The argument departs from strategic examples in scientific and artistic fields of contemporary robotics; from the work of the robotics group at the Royal Institute of Technology (KTH) in Stockholm, as well as the exhibition "Navigation" (The Museum of Dance, Stockholm, 2005) by Swedish choreographer Åsa Unander Scharin – who let robots dance to classical music. How are the relationships between humans and robots imagined in scientific vs artistic robotics? The robotics project Cogniron (The Cognitive Robot Companion), of which KTH is part, develops robots whose purpose in life is to "serve humans as assistants or 'companions', able to learn new skills and tasks in an open-ended

way and to grow their capacities in constant interaction with humans". "Navigation" in turns investigates the limits between living bodies and technology by exploring how the quality of being 'alive' can be perceived and 'felt' even when simulated. When you dance, you do it through your own body, but is it possible to dance through the body of someone – or something – else?

4B: Science Fiction, Ecofeminism, and Science Studies (BG5-221)
Chair: Manuela Rossini

Joan Haran (*HaranJ@Cardiff.ac.uk*) *Centre for Economic and Social Aspects of Genomics, Cardiff University*

Feminist Science Fiction as Ecofeminism as Feminist Science Studies

This paper will examine the ways in which three science fiction novels imagine post-holocaust futures in an extrapolated USA and the reparatory work required to recover from social and eco-catastrophe. Sheri S Tepper's *The Gate to Women's Country*, Marge Piercy's *Body of Glass* and Starhawk's *The Fifth Sacred Thing* each draw on and develop ecofeminist critiques of modernity in their accounting for the founding ruptures of their fictive future societies and in the new social arrangements they theorise will facilitate recovery from catastrophe. By drawing out the social theories informing these future visions, this paper will demonstrate that feminist science fictions can hold in tension versions of feminist theory that have been rigidly demarcated and split off from each other within the academy, such as ecofeminism / feminist science studies, and radical feminism / postmodern feminism. It will argue therefore that feminist science fiction was pathbreaking in moving feminism beyond its late 20th century malaise.

Helen Merrick (not present, paper will be read by Manuela Rossini)

Doing Science Differently? What Feminist Science Studies Can Learn from Life

Despite the groundbreaking work of feminist science scholars, the 'two culture' divide between the science and arts remains pronounced in feminist scholarship. As critics such as Karen Barad and Vicki Kirby have observed, much feminist philosophy fails to engage with scientific understandings of 'life', 'matter' and 'bodies' in accounts of gendered subjectivity and embodiment. One area where feminist work in both the sciences and the arts may be seen to productively converge is in feminist sf. Whilst many have followed Donna Haraway in employing feminist sf to think through our techno-cultural relations, surprisingly few feminist critics have examined the function of 'science' in feminist sf. This paper argues that feminist sf is a vital participant in 'cross-cultural' feminist conversations about the cultures and discourses of the sciences, with particular reference to Gwyneth Jones' recent novel, *Life*. Influenced by both the scientific collection *The Differences between the Sexes* and Fox Keller's *A Feeling for the Organism*, *Life* provides a compelling near-future reflection on feminist politics, scientific cultures, biological research

and gender. Such texts, I suggest, not only reflect the concerns and critical purpose of feminist studies of science but can themselves be considered part of a 'creative' science studies.

Maria Aline Ferreira (*aline@mail.ua.pt*) Universidade de Aveiro, Portugal
Hybrid Progenies, 'Otherworldly' Dialogues: Naomi Mitchison, Octavia Butler and Charis Thompson Cussins

In this paper I wish to examine some of the ways in which new reproductive technologies can be seen as reshaping not only procreative scenarios and primal scenes of origins but also the "psychic map of humanity", to borrow Julia Kristeva's words. I will look in particular at different aspects of the female fantasy of virgin births, as well as xenosurrogacy and interspecies pregnancy as related facets of a wish to bypass male agency and revise human creation narratives. With respect to the dramatisation of these themes I will investigate Naomi Mitchison's *Memoirs of a Spacewoman* (1962), Octavia Butler's Xenogenesis trilogy (1987-1989) and Charis Thompson Cussins's short story "Confessions of a Bioterorist: Subject Position and Reproductive Technologies" (1998) as representative texts. These narratives productively contribute to the creation and critical interrogation of a new cultural imaginary which can be seen as constituting powerful feminist alternatives to a predominantly male Symbolic. The texts will be analysed in the light of recent work on technobiopolitics, with special emphasis on Donna Haraway's notion of companion species, Deleuze and Guattari's work on becoming animal and becoming woman, as well as on Julia Kristeva's provocative insights about the social repercussions of biotechnologies.

4C: Truth and (Neo)Aestheticism (BG5-222)

Chair: renée c. hoogland

Elvira Panaiotidi (*eidos5@yandex.ru*) North-Ossetian State Pedagogical Institute
The Nature of Artistic Truth

The justification of truth-claims of art has ever been one of the most ambitious projects in aesthetics. This task was pursued on different methodological premises but a viable account of artistic truth is still a desideratum. In this paper, I wish to look at various efforts to justify the truth-claims of art with the purpose to uncover the troublesome assumptions that underlie them. I will argue that the abandonment of such "strong" theses as the one of discontinuity between science and art and of artistic truth as a kind of truth *sui generis* can help develop a realistic and sober notion of artistic truth.

Leonieke Vermeer (*L.K.Vermeer@rug.nl*) *University of Groningen*
The New and the Old Aestheticism

To comprehend the aims of the New Aesthetics it will be enlightening to gain insight in ideas about aestheticism from the period around 1900, when this topic formed the essence of the literary debate. At the end of the nineteenth century the platonic connection between Beauty, Goodness and Truth was an issue of vital importance. In this conception, art could and should function as the ultimate way of uniting aesthetical, ethical and metaphysical notions. One of the writers who pursued this aim in life and work was Frederik van Eeden (1860-1932). This social engaged Dutch writer and psychiatrist saw the merging of poetry and science as a fundamental mean to achieve his utopian vistas. In this process he attributed a special role for mathematics for the following reasons: mathematics and poetry both start from intuition and they are both looking for eternal Truth; mathematicians and poets understand that the positivistic sciences and Hegelian philosophy use false and unconscious metaphors; and, finally, mathematics leaves a door open to 'a fourth dimension', in which miracles are thinkable. Van Eeden saw himself as the forerunner of the new man of the future: a perfect fusion of a poet-prophet-philosopher – an image in which we can detect distinct traces from Shelley and Nietzsche. In the years before World War I, he tried to connect with other 'royal spirits' from all over the world to form the Forte Kreis, or 'league of geniuses' as Van Eeden's bibliographer Jan Fontijn called it. The failure of this movement in 1914 can be seen as a sign on the wall of history overtaking Utopia. In the trenches of the Great War it became clear that Truth, Goodness and Beauty would never be united. In my contribution to the conference and to this stream I will discuss these ideas about the fusion of literature, science and metaphysics in a broader historical context and connect them to the current cultural debate about aestheticism.

4D: Historical Perspectives ((UT-101)

Chair: Rebecca Kukla

Mary Rosner (*mirosn01@gwise.louisville.edu*) *University of Louisville*
Making Pictures and Making Arguments: Reading Victoria Falls

These days, electronic images have become popular objects of critical attention, particularly in their inventing, representing, and rhetorical functions. Of course, attention to images is not new; they have always defined a way of seeing and thinking. Consider, for examples, nineteenth-century images of Victoria Falls. In his first book, David Livingstone uses words and images to recreate the Falls for his middle-class English readers while, at the same time, establishing his claim to their discovery and suggesting the value of what he discovered. Although Livingstone's reputation as an African explorer (along with his audience's ignorance of

geographical details of the “dark continent”) likely added persuasiveness to his readings of the Falls, they did not go unchallenged. Thomas Baines, an explorer and artist fired by Livingstone, offered alternatives to Livingstone’s depictions. Livingstone published a second account which seems to respond to some of Baines, who had the last word in this exchange with his folio of images of the Falls and the Zambesi River. Placed next to each other, Livingstone’s and Baines’ versions of the Victoria Falls suggest, among other things, a public argument about different kinds of representation and different kinds of truth.

Kay Etheridge (*ketherid@gettysburg.edu*) *Gettysburg College*

Loathsome Beasts: Images of Reptiles and Amphibians in Art and Science

Unlike furred and feathered beasts, reptiles and amphibians in imagery from medieval times onward are often characterized as “loathsome”, symbolizing deceit, evil, or death. Snakes, frogs, lizards and salamanders are depicted in many emblems and allegories, as are mythical reptiles such as dragons. Because of this portrayal and their lack of economic or agricultural importance, the appearance by the 15th century of naturalistic images of reptiles and amphibians serves as evidence for a shift toward valuing such organisms for their intrinsic nature and not primarily as emblems or symbols. As with other organisms, images of reptiles and amphibians were used to construct taxonomies and to determine the biogeography of species. Linnaeus and others frequently relied upon artists’ renditions of organisms in constructing classification schemes when specimens were not available. Classification and mapping helped to order the natural world in minds of scholars, and helped to begin the dialogue on adaptation and evolution. Yet, to this day images of snakes, dinosaurs and even dragons permeate popular culture and trigger primal reactions of fear. Images of these animals have both shaped and have been shaped by how they are perceived.

Itay Sapir (*itay.sapir@wanadoo.fr*) *ASCA, UvA*

Writing About Artistic and Scientific Emptiness: Early 17th-Century Painting from an Epistemological Vacuum to Hermeneutic Conversation

The period around 1600 has seen an important epistemological watershed, affirms, among others, Michel Foucault. This development has often been linked to the so-called “scientific revolution”, but at the turn of the century, the latter revolution was only in gestation: the previous epistemic order was being slowly discredited and the space cleared for the eventual emergence of a new one. The art of the century’s first decade can be interpreted as the visual counterpart of this “epistemological vacuum”: sceptic ideas such as Montaigne’s thus naturally cohabit with new possibilities of painting. In particular, Caravaggio’s Tenebrism demonstrates an ambivalent approach to knowledge – in this case visual knowledge – that coincides not, as has been suggested, with the new discoveries of science, but with the epistemological “black hole” that made the latter discoveries

possible. In this paper, I will propose both the outlines of this historical reading and a reflection on the possibilities of art history writing about such a pictorial discourse. I will claim that art history, often thought of as a "science", could use the occasion to reconsider its status: especially when discussing works that in themselves deny the totalising primacy of knowledge qua representation, art history could adopt Gadamer's and Rorty's idea and ideal of hermeneutic conversation.

Bernd Klähn (*bernd.klaehn@ruhr-uni-bochum.de*) *University of Bochum*
Torturing the Eye / I: Modern Sciences at the Boundaries of Mental

When Isaac Newton started his optical experiments, he soon changed from prisms and other paraphernalia to his own eyes, pressing them, inserting bodkins behind his eyeball and risking his eyesight by staring in the sun. In later times, Robert Andrews Millikan passed hours and weeks while staring through the lenses of a microscope at a single oil drop. From Benjamin Franklin to the Curies, famous and successful scientists have regularly and voluntarily put their physical and psychic health at risk by conducting certain types of experiments which generally involve (and endanger) the mental and bodily coherence of the experimenter. And even nowadays, lots of laboratories appear as windowless caves, containing the technological incarnations of anthropomorphic world-denial and ascetic self-control. This paper's aim is to follow some of the main lines of self-endangering procedures within modern sciences, illuminating the potential of self-dissolution implicit in modern scientific research. Torn between cognitive reductionism - mainly leading to mathematically based quantification - and corporeal self-denial, the mindful (?) pleasures of modern sciences move along the borderlines between ingenious intuition and self-demolishing strategies of cultural deviation. The question will be put, if such modes of torturing the subject may have evolved into ubiquitous structures of modern and modernist personal self-(d)evaluation, precariously dominant in contemporary life, even in situations, which seem totally free of any interrelationship with scientific forms of world- and self-investigation.

4E: Goethe's Poetics of Science (BG5-212)

Chair: George Rousseau

Angus Nicholls (*a.j.nicholls@qmul.ac.uk*) *Dept. of German, Queen Mary, University of London*

Goethe and the Hermeneutics of Scientific Language

Goethe's mature scientific epistemology is a direct development of his poetics and his encounters with the critical philosophy of Kant. In the essay "Einfache Nachahmung der Natur, Manier Stil" (Simple Imitation of Nature, Manner, Style, 1789), Goethe's central concern is the question as to how the artwork may faith-

fully represent the external object without distorting it. This broad aesthetic principle is then adapted in Goethe's scientific studies and especially the *Farbenlehre* (Theory of Colour, 1810). This paper will focus on two aspects of Goethe's post-Kantian scientific epistemology in the *Farbenlehre*: the discussion of language in sections 751-757 of the "Didaktischer Teil" (Didactic Part), and the discussion of scientific narrative and tradition in the "Materialien zur Geschichte der Farbenlehre" (Materials on the History of the Theory of Colour). These sections of the *Farbenlehre* show that for Goethe all scientific experimentation is ineluctably conditioned by the scientist's position within a narrative about scientific history and by his historically mediated use of language. In this respect, the paper will argue that Goethe's analyses of language and tradition bear significant similarities with the discussion of these concepts by Hans-Georg Gadamer in *Wahrheit und Methode* (Truth and Method, 1960).

J. Gordon Finlayson (james.gf@virgin.net) University of Sussex
Grey Theory and the Colours of Life in Goethe, Hegel and Adorno

The interplay between the colour grey, as a metaphor for theory and abstraction, and the spectrum (and also the palette) of colours, as a metaphor for life, plays an important role in the mature philosophy of Hegel and in Adorno's later work. In this paper I will look at Adorno's critical reinterpretation of Hegel's famous remark in the Preface to the *Philosophy of Right*, that 'philosophy paints its grey on grey' in order to construct a negative theodicy for a world after Auschwitz and Hiroshima. I shall then examine how Adorno puts in play the Goethean imagery of light refracted into the spectrum, as a way of figuring a qualified metaphysics and epistemology of transcendence in his late work. My argument will be that some of the recondite social, political and practical meaning of the crucial final section of *Negative Dialectics* can be decoded from Adorno's counterposition of the colour metaphors in Hegel and Goethe.

Daniel Steuer (D.Steuer@sussex.ac.uk) University of Sussex
Fragmented Harmony: Goethe, Adorno and the Prism

Adorno concludes the introduction of *Negative Dialectics* by describing philosophy as the prism which collects pieces of the inextinguishable colour emanating from non-being; that which, we may conclude, is not yet but should be. And 300 pages later he returns to this image, saying that there would be no despair over the grey in grey, if there wasn't the conception of colour being dispersed within the negative totality. These passages not only blur the distinction between poetic and philosophical language, and between concept and intuition, they also recall Goethe's insistence, against Kant, on the possibility of an archetypal intuition. This paper will discuss the extent to which Adorno's 'shifting of the axis of the Copernican revolution' ([Preface to *Negative Dialectics*]) is indebted to a Goethean epistemol-

ogy, and to a transposition of Goethe's notion of intuition from the natural sciences to philosophy.

Felix Saure (*fsaure@gmx.de*) *Neuere deutsche Literatur,*) *Philipps-Universität Goethe and Geology: Aestheticizing a Rocked World*

Goethe's lifelong fascination with geology - or *geognosie*, as the study of rocks was called around 1800 in Germany - is well documented. For Goethe, the neptunism-theory of the genesis of the earth as well as the idea that granite was the oldest and most important rock were sacrosanct. Despite the developments in geological sciences and despite the discoveries that were made for example by Alexander von Humboldt, Goethe upheld his specific view of the geological nature of the world. This paper will show that his unchanged position developed from being an argument in a debate by leading scientists to being an opinion that was of no scientific relevance. While his remarks were an important part of the discussion about the origin of the world until about the end of the century, in the first decades of the 19th century Goethe's ideas about geology became more and more a mere aesthetic statement about the perception of the world. This was due to the changing approach to natural phenomena which he opposed. Goethe's static beliefs became an element of the culturalcriticism of German Idealism and his view of the world that lead to the inclusion of indirect geological statements in *Wilhelm Meisters Wanderjahre* and *Faust II* was meant to be an alternative to modern science that was beginning to rock the world.

4F: Body, Sound, and Technology 2 (UT-301)

Chair: Pieter Verstraete

Panel description see 3F. The common denominator between the speakers of panel 2 of the Amsterdam Sound Reading Group is the technological interface. Milla Tienen focuses on opera as interface with(in) cinema, Kathryn Woodard on the piano and the song as interfaces with the musician's body, Tereza Havelkova on the cinematic medium within new opera, and Hannah Bosma on electro-vocal music technology.

Milla Tienen (*miltia@utu.fi*) *University of Turku*

Transformative Audiovisual Encounters: Opera, Cinema, Technology

Historically, 18th and 19th century opera seems to feature only marginally within the study of sound technology and audiovisual culture. In my talk I aim to challenge a traditional view on opera. I will suggest that its historical expressions re-emerge in rich ways in our contemporary audiovisual surroundings. Opera can be conceived as an open network of sounds, visual styles and corporeal effects. I will focus on recent encounters between opera and cinema. They have a long history

of encounters: opera has been explored cinematically from the Lumière brothers' experiments onward. During the last 25 years operatic excerpts and frameworks are to be found in Hollywood films such as *Philadelphia* and *Heavenly Creatures*, but also in contemporary European cinema. I will concentrate particularly on how we could rethink audiovisual-technological expression and perception through assemblages of opera and cinema. What kind of subject positions might these engender for both cinematic characters and audiences? How do space and embodiment figure in these formations? How are the boundaries between creative production and technical reproduction blurred in opera's audiovisual, spatial and bodily transformations with(in) cinema? Theoretically, I draw on Patricia Pister's insights on film, music and subjectivity as inspired by Deleuze and Guattari's philosophy.

Kathryn Woodard (woodard@neo.tamu.edu) Texas A&M University
Winnsboro Cotton Mill Blues

Functions of Sound Mimesis in Fred Rzewski's piano piece Winnsboro Cotton Mill Blues

I will discuss Fred Rzewski's piano piece *Winnsboro Cotton Mill Blues*. I address how he uses the player's body and the instrument to evoke sounds as well as implications of technology, specifically the cotton mill. The piece sets the melody of the industrial folk song in different ways, but the process of learning and playing the piece also can be interpreted as a reflection on the subject of the song, which describes the hardship of factory labor. It's a substantial physical challenge to play, making it a literal interpretation of the song's lyrics through performance. Since the lyrics of the song are not heard, the body and movements of the performer becomes the 'vocals' of the piece so to say. I will use the notion of 'sound mimesis' (Levin) to frame the discussion, as an early bodily-technological means to relate to nature, but here it is used reflexively as a sonic representation of technology itself.

Tereza Havelkova (terez.havel@volny.cz) Charles University, Prague

Hannah Bosma (mail@hannahbosma.nl) ASCA

The Vocalist's Voice and the Electronic Cry in Electrovocal Music

Tereza Havelkova will speak about the cinematic within contemporary opera performances by Louis Andriessen and Peter Greenaway. She is particularly interested in the mediation of space and modes/attitudes of perception, triggered by the interplay of theatricality, technology, cinematic imagery and music. THE VOCALIST'S VOICE AND THE ELECTRONIC CRY IN ELECTROVOCAL MUSIC Hannah Bosma will speak about the live voice and the recorded voice in electrovocal compositions, in relation to gender issues. In the footsteps of Edward Cone's notion of the "composer's voice" (1974), she introduces the "vocalist's voice". While Cone

argues that electronic tape music is the direct and unitary expression of the “composer’s voice”, Bosma shows how the combination of live voice and electronics can destabilize identities. But it is mainly the female voice that is the vehicle for such transgression of identities, and within a stereotypically gendered narrative. However, in purely prerecorded, acousmatic music, the enhancement of the authorial power of the composer gives room for untypical male vocals that acknowledge loss and the body. Although the composer in acousmatic music has a unique position as directly responsible for the audio without the intermediacy of a performer, this does not mean that the composition is a unitary representation of the “composer’s voice”. The listener’s uncertainty about the source and the quality of the sounds, could loose the boundaries between subject and object, confuse identification and disturb the usual habits of projection and introjection. Electroacoustic music technology can function as Odysseus’ “rational trick” to admit what threatens the subject – the Siren voice. The structure, objectification, authorial control and distancing of the acousmatic medium provide support for voice sounds that undermine the hegemony of language and that are normally considered as abject, without to shift off these tempting, dangerous, forbidden vocals to a disempowered female character. Slowly electroacoustic composers are not only exploring the sounds of the female voice, but also the sounds of the male voice. This music shows that it is one’s own voice, and the voice of anybody else that one identifies with, that can function as an *object (a)*, neither self nor other, both language and body.

4G: Responsive Spaces and Agency (UT-101A)

Chair: Xin Wei Sha

Panel description We compare technologically augmented environments that have been built to sustain experimental performances in music, theater and dance, and location-based entertainment. Such environments are characterized by live, co-present participation; use of emerging technologies for expressive purposes; and collective action. Many such environments have been designed for use by professional performers, but others have been designed for non-expert, private or public play. Some are rehearsed events, and others improvised. All these raise questions about the boundaries between rehearsal and invention, marked and unmarked performance, performer and spectator. These questions can open a discussion of how responsive spaces constitute fields of distributed agency.

Xin Wei Sha (xinwei@sponge.org) *Concordia University*
Poetics of Performative Space

I discuss some questions motivating playspace installations and events like TGar-den, txOom, and trg, and the qualities of experimental experience that may make

such responsive media spaces playful events. My interest in these responsive media spaces stems from two intertwined conversations. The first is a series of conversations about agency, language, and hybrid ontology, in which we put labels and concepts like “interaction,” “map,” “system,” “grammar,” “expression,” and “human” in play. The second is a specific set of challenges by two practitioners of experimental theater to make events in which we and our participants could palpably encounter, and experiment bodily with radicalized articulations of agency, self, desire, and action. How can we make a responsive space and event within which initially accidental, unmarked, unrehearsed, ordinary gestures can acquire perceptible symbolic charge? These questions are practical questions of craft, and could only be answered or explored materially, bodily, in physical built spaces and peopled events, but the way in which we explored them was by doing performance research. We made installation-events that straddled the border between closed shop studio improvisation-experiments with special audiences, and open performances with a public. Now the same questions about the event also have a radical, micro-textural inflection. Could technologies like computational media, realtime sound and video (re-)synthesis, cheap hobbyist sensors, and the like, be added to the *mise en scene* of experimental event? Stone resists, and a tree greens, and software breaks regardless of what we say. If we desire matter to perform differently, we cannot simply legislate or script it by brandishing a pen alone, we must also manufacture a symbolic material substrate that behaves differently from ordinary matter. The kind of events I describe, the kind we’re exploring in the Topological Media Lab, are collective, co-present, embodied, and a-linguistic. The potential for physical contact is a condition for the collective embodied experiences needed to conduct experimental phenomenology. Our events are designed for three or more participants, three to destabilize dyadic pairing, with an eye to lower the threshold to improvisation of being in that space. I say embodied to mark that the fleshy bodies of the participants essentially move and act together in the co-construction of the event. The line between actor and spectator is dissolved, so any body may adopt the disposition of an actor as an agent of change in the event, or equally a spectator as a witness of the event. The ambient environment is thick with media, filled with thick sound, thick video, dense physical materials, so that inhabitants live in a dense matter that responds and evolves in the course of the activity. I ask whether and how such substrate spaces constitute places for radical experiments regarding the architectural body.

Satinder Gill (*sattisan@yahoo.com*)*Middlesex University*
Collective Gesture

Gesture and the body in human contact and co-action is explored as a collective field of sensing, tacitly formed, and experienced. In this picture, Gesture and motion have a rhythmic and melodic structure where bodies play off each other and off sound and texture in the environment. This rhythmic coordination of ‘body

prosody' is distinct from linguistic theory of 'turn-taking'. Distinct because in these movements the participants are co-performers ie they are both speaking and listening to each other as performers at exactly the same time. This communicative structure is essential to arrive at parallel coordinated action where this co-performance reaches a peak in its punctuations as the grounding in their engagement is realised. In this picture of tacit knowing and transformation, Intention is carried in action rather than in solely linguistic meaning. It is in our responses, actions and reactions that intention is expressed and grasped. In our collective gesture we have shared a meaning in our action and response. This provides us coherence for co-existence. The dimension of sensing is to do with the imagination in the body. Sensing is enabled by this 'Body Prosody' of collective action, made possible by our tacit extension of touch and skin sensation. Collective Sensing is about feeling our environment, feeling mood and feeling future action. And in our co-performance, sensing extends the body as a field of resonance. The rhythmic punctuations of body prosody mark the emergence of the co-performance and shape the collective body field of resonance. The analysis of the ambient environment (Xin-Wei) through understanding the gestural and movement choreography of collective sensing explores the underlying and differential dimensions of play, rehearsal, and improvisation.

Erin Manning (*emanning@alcor.concordia.ca*) *Concordia University*
Creating a Movement of Thought

Every empirical field has its laboratory. Movements of thought are located anywhere techniques of composition are explicitly in the forefront. Broadly speaking, this means art. The location of art at the relational matrix of science, technology, philosophy, and social and political change makes it a privileged site for studying the creation of movements of thought. To create movements of thought is to actualize thought as a technique. What is at stake is the exploration of the ways in which we ascertain the social potential and political implications of technology (where the body can be seen as a technology and the senses as prosthetic movements of thought associated with the body-as-machine)(Manning forthcoming 2006). My paper will suggest that exploration of this potential is inherently a philosophical undertaking of the most pragmatic kind: it changes our notions about what philosophical thought can be by bringing it into direct involvement with other sectors of activity. Mutual involvement, or relation, is the connecting thread. This paper will begin to explore how relational environments and play-spaces such as T-Garden make it possible to create such a movement of thought. This suggests not simply that I write an elaboration of an already-existing technical in(ter)vention, but that I create – in writing – a way to prolong these relational technologically-inspired events. Central to this undertaking is the understanding that thought is in and of the body. To elaborate this hypothesis, I will propose the sensing body in movement (Manning 2006)as my point of departure. The sensing

body in movement can be understood as a processual entity that transforms and is transformed by the relational sensing matrices it instantiates through its movements.

4I: Earth, Air, Fire, Water: Ancient Nature, Modern Environments (OMHP-118A)

Chair: Ceiridwen Terrill

Panel description Early Greek thinkers explained the world through the categories earth, air, fire, and water, and early alchemists made further use of the four elements, which still have meaning. Earth, air, and water include all the states of matter on our planet, and remind us that the well-being and existence of humanity (and all living things) depends on their physical environment. Fire, in the alchemical tradition, is related to human passion. The panelists connect old interpretations of the elements to their contemporary scientific, literary, and artistic interpretations as natural parts of the environment or as altered by human activities.

M. E. Warlick (*mwarlick@du.edu*) *University of Denver*

Four Elements, Four Fires: Alchemical Transmutation of Primal Matter

The four elements play a prominent role in alchemical philosophy and imagery. To achieve Nigredo (blackness), earth in the vessel putrefies and begins transmutation. Albedo (whiteness), a stage of washing and purification, is dominated by Water. Fire, active and volatile, heats the vessel, causing the passionate fusion of Rubedo, and the conception of the Philosopher's Stone. As gases evaporate and condense within the vessel, birds rise and fall, representing Air. This paper will examine the evolution of images of the four elements from the 15th through the 18th centuries in alchemical manuscripts and engravings, paying particular attention to representations of fire.

Sidney Perkowitz (*physp@emory.edu*) *Emory University*

*The Rarest Element: Water and Life**

One of the first Greek philosophers, Thales of Miletus, wrote "All things are water." But modern knowledge shows the opposite. Out of over 150 planets and planet-sized moons we know in the universe, only one in addition to our Earth, Jupiter's satellite Europa, is seriously thought to have liquid water. To the best of our knowledge, water is the rarest of the four classical elements. It also displays a strange and virtually unique combination of properties, including its retrograde behavior when it freezes, its molecular interactions, its ability to dissolve almost anything, and its support of the random, chaotic effects of turbulence. These odd

qualities, few of which are understood, make water an essential part of the environment for life. In this talk, I'll intersperse what scientists know about water with readings from my essay "The Rarest Element" (from *Writing on Water*, MIT Press, 2001) to illustrate water's environmental role, and incidentally to comment on the challenges of presenting valid scientific information in literary form. * This talk was made possible by a faculty travel grant from the Institute of Comparative and International Studies, Emory University.

Ceiridwen Terrill (*cterrill@writing.ucsb.edu*) *University of California, Santa Barbara*

Islands of Earth and Water

Using the theme of islands, I demonstrate fieldwork required of an environmental writer to portray scientists' work accurately, and the obstacles these writers sometimes face. My profile of conservation biologist Phil Pister, an expert on the endangered pupfish of the American Southwest, illustrates the relationship between scientist and writer. Pister works to preserve several island habitats where pupfish live. Nevada's Ash Meadows and its California neighbors Death Valley and Fish Slough support islands of small pools and springs surrounded by a "sea" of desert, and thus "reverse" our usual notion of islands. Portraying Pister's work and that of other scientists demonstrates that environmental narrative holds great potential for influencing policy change. I will also read from an essay about traditional islands-the Channel Islands of California-which explores island restoration and the interdependence of creatures that inhabit water and those that live on land. Merging what C.P. Snow refers to as the "two cultures" of science and the humanities remains vital in a time of increasing environmental degradation. Island restoration provides an anchor for exploring partnerships between scientists and environmental writers to increase scientific literacy and activism in the general public.

Dennis Summers (*not present, video-talk*)

Travel Notes from The Crying Post Project: A Global Memorial Artwork

I will present images (in the form of an 18 minute videographic projection) and tell stories from my travels with *The Crying Post Project*. In creating *The Crying Post Project* I have gone around the world putting up memorial posts at sites of environmental and social disasters. This meta-narrative will include descriptions of the content and context for different sites along with conversations I *may* have had with scientists, artists and others along the way. Issues addressed will include electromagnetism, quantum physics, mapping theory, endangered species, mass market capitalism, and aesthetics. This project has been strongly influenced by my readings on the Australian Aborigines. I have responded to their belief that physical reality is created by their "performance" within their environment. Additionally, the talk refers to the poisoning of the ocean and the land, but particular

attention is given to the poisoning of the air during the Union Carbide gas leak at Bhopal, India. Find the website at www.thecryingpostproject.org.

4J: Critical Issues in Bioart 2 (OMHP-118C)

Chair: Ernestine Daubner

Respondent: Eugene Thacker

Beatriz da Costa, *Art Computation Engineering, UCI*

"Yeast Exchange: Blue Dishes and Public Breathing"

Beatriz da Costa will discuss "Blue Trees," her current sensor experiments using yeast cells and bacteria for environmental pollution detection. Da Costa, in collaboration with Dr. Tau-My Yi, (Systemsbiology, UC Irvine), use methods of synthetic biology to alter the color of yeast cells and bacteria upon exposure to CO and NO₂. This enables them to visually function as "un"-natural organic sensors designed to increase public awareness with respect to urban air pollution. These preliminary experiments are the first steps towards the creation of sterile plant sensors changing color in response to CO and NO₂ exposure. Whereas the scientific research ambitions for this project are significant, the primary inspiration comes from a critical interventionist perspective. How might this topic, which by now has reached main-stream status in many countries, ranging from conservative to radical approaches be reframed so that knowledge not only results in "well-meaning" but behavioral change? "Blue Trees" is da Costa's current attempt to breach this topic. Rather than bombarding people with current numbers of greenhouse gases, car emissions and ozone, "Blue Trees" will confront people with a visual indicator about current pollution levels in their neighborhood.

Faith Wilding (fwildi@artic.edu), *School of Art Institute of Chicago* & **Hyla Willis**

(hylawillis@refugia.net) *subRosa*

Performing Biotech Bodies

For the past 6 years, subRosa has been researching many aspects of medical and reproductive biotechnology as they affect women's bodies, labor, and lives. Our interest is to trace specific systems of local-global flows of "maternal tissues"—especially human embryonic stem cell lines—as an example of networked, international relations of bodies and information based on genetic engineering, and reproductive and cloning technologies. In this presentation we discuss how the marriage of biological research and digital information technologies produces new ways of "making" and "performing" social, intellectual, and political bodies, and imposes new concepts of paternity, maternity, and ownership (through patenting) on the bodies and cells of individual women. We also trace how old and new relations of colonization, especially endo-colonization (colonization at the molecular, genetic, and cellular level) are being reproduced in the economies of human em-

bryonic cell technologies. We will show subRosa's projects "Cell Track: The Appropriation of Life Materials," and "Epidermic! DIY Cell Lab", and suggest a feminist model of molecular autonomy and biological commons independent of privatized, corporate science.

Ernestine Daubner (*daubner@vax2.concordia.ca*) *Concordia University*
Gender, Ethnicity and Difference: Bioart Bodies that Matter

In her book, "Bodies that Matter," written over a decade ago, Judith Butler studied the classical associations of femininity with materiality. She traced a set of etymologies linking matter with 'mater' and 'matrix' (womb), hence matter as a "site of generation or origination." Poststructuralist feminist insights such as Butler's, like those of postcolonialist theorists, served to dismantle totalizing notions of the gendered and ethnic body and deconstruct illusory concepts of originary identities and hierarchical dualisms, disclosing them as the effects of discursive practices. Today, biotechnological practices, again, privilege binary (computational) models and employ the trope of generation and origination for (micro)-biological matter. Like a life-giving mother lode, the binary genetic code spawns ideas of universality so prevalent in ancient and Enlightenment inscriptions of the body. What then of bioart? Several bioartists re-inscribe the sign of femininity into (micro)biological bodies: Joe Davis' Microvenus; Critical Art Ensemble's The New Eve; Sonya Rapoport's avatars, Lilith and Eve. Other bioartworks by Paul Vanouse and Nancy Burson revisit discourses of ethnicity and the body in relation to bio(techno)logy. In this presentation, I wish to consider the significance of such bioart practices with regard to what seemed a decade ago as a paradigmatic shift in models of thought.

James McManus (*jmcmanus@csuchico.edu*) *California State University Chico*
From Automotons to Genetic Techno-Icons: Framing Identities

Post-Cartesian consciousness of the self aided, inviting artistic inquiry into humankind's identity, one that in the course of the twentieth-century was pushed far beyond the boundaries of the physical and psychological self. The century is littered with cases where artists explored the human as machine, the human as cyborg, and today the human as the subject of genetic engineering. This paper seeks to make comparisons between artists working at the beginning of the twentieth-century who assimilated the machine into visual, mechanomorphing the figure, with artists working today who are assimilating gene science into visual culture. Interesting among the comparisons is the imagined mechanomorphed figures of the artist's and science fiction writer's imagination contrasted with the realities of gene manipulation that have become, as Suzanne Anker has identified, "an increasingly rich source of imagery and ideas for visual artists."

5A: Revisions of Humanist Anthropology (BG5-213)

Chair: Christine Blättler & Susanne Lettow

Susanne Lettow (lettow2@zedat.fu-berlin.de) *Institut für die Wissenschaften vom Menschen, Wien*

Politics of Post/Humanism: Figures of the Non-Human in Contemporary Biophilosophies

"Humanism", as an ethico-political concept, has ever been a contested concept, since it points to problems of inclusion and exclusion. Any determination about what it means to be human constitutes a realm of the non-human, and these distinctions, for a long time, have supported ideologies of race, class and gender. If now, in the context of socio-cultural transformations connected to the implementation of biotechnologies, the concept of posthumanism is formulated and discourses of "the human" redouble, one has to ask about the ethico-political articulations which are at stake. In my paper I analyze contemporary constructions of the human and the posthuman. In the first part, I focus on concepts dealing with transformations of subjectivity and bodily practices (Max More, Donna Haraway, Judith Halberstam). A second part will deal with articulations of posthumanism, humanism and domination in Peter Sloterdijk, Volker Gerhardt and Francis Fukuyama. Even if the use these authors make of the concept of post/humanism clearly differs, their positions converge in regard to constructions of hegemonic masculinity, (bio)technology and the state. Finally, I will re-evaluate the critical potential of concepts of post/humanism, by going back to Haraway's remarks on humanism as a "practice of 'difference'".

Christine Blättler (blaettler@zfl.gwz-berlin.de) *Zentrum für Literaturforschung Berlin*

Deracination of Anthropology Revisited

French philosophers who questioned the 'human' were accused of antihumanism (Ferry/Renaut 1988). This paper examines especially Foucault's criticism of an essentialistic human subject in the context of today's discussion on posthumanism. The former criticism stresses genealogy, the non-thought and the unconscious, while the latter presents histories of domination and scenarios of omnipotence, as in the notion of the camp by Agamben. Yet both question the epistemological and moral values of humanism, epitomised in the notions of knowledge and freedom. It appears that the older criticism along with the reactions it provoked has not lost its topicality and is worth being revisited.

Erik Porath (porath@zfl.gwz-berlin.de)

Humanism and Beyond: Patricia Piccinini's Creatures

The work of Australian artist Patricia Piccinini (Biennale, Venice 2003) is situated between nature and artificiality, science and art, beauty and ugliness, animality and humanity. Within this twilight zone Piccinini's creatures appear as hybrids on the borderline. They make us wonder as much as they frighten us. These creatures question our established distinctions. Disgust, that affects us from the tip of the hair of these hyperrealistic beings, is intertwined with idyllic prettyness bringing up phantasies of a nursing safety. The paper will discuss three aspects: Piccinini's work as an approach to research the real and its representations in science and art; as a quest for the order of nature and its abnormalities; and as hybridisation between *æsthetics* and *anæsthetics*.

Markus Hallensleben (mhallen@interchange.ubc.ca) University of British Columbia

Intercultural Faces and Cultural Interfaces: Ethnographic Hybrid Body Images in Hannah Höch and Orlan

A posthuman body can neither be exclusively essential nor constructed; it is rather a combination of both. It represents biological as well as social categories, and it is the medium that allows interaction between these two domains. Therefore, body is used as a metaphor to blend both, and it has become a field of performances, not only in the sciences, but also in the arts, or, as Sander Gilman has shown, in aesthetic surgery. For their recent project, the Australian bio-artist group Tissue Culture & Art will use skin tissue of different pigmentation to create a multi-ethnic miniature Harlequin dress for the French performance artist Orlan, who understands her face as metamorphic platform and uses reconstructive surgery to defigure and refigure her body. By cross-mapping Orlan's *Self-Hybridisations* with the photomontage series *From an Ethnographic Museum* by the avant-garde Dada-artist Hannah Höch, theories of hybridity (Bakhtin, Bhabha) and interface organism (Baudrillard, Haraway) are applied to show how the human face is the cultural signifier *per se*, and by its alteration and deconstruction, cultural images of the body are questioned and deterritorialized in a very concrete sense. Consequently, the technique of photomontage provides the medial understanding of body as malleable cultural interface.

5B: Feminist Readings of Science Fiction (BG5-221)

Chair: Jeanne Cortiel

Maria Chatzipoulidou (*mjifs@hotmail.com*) *Aristotle University of Thessaloniki*
On the Way Out: Posthuman Subjectivities in Greg Egan's Quarantine, Permutation City and Diaspora

Literary representations of the posthuman are ubiquitous in the genre of science fiction, and that is not surprising since, as Istvan Csicsery-Ronay Jr notes, "post-humanity has shared the concepts and language of science fiction from its beginnings." In this paper, I will focus on the literary representation of the posthuman subject in three novels authored by Greg Egan, Australian computer programmer and science fiction writer. Egan was born August 20, 1961, in Perth. He has a Bachelor of Science in Mathematics from the University of Western Australia. Egan's first novel, *An Unusual Angle*, was published in 1983 and passed fairly unnoticed. In the early 90's, Egan turned his attention to new technologies such as cloning, nanotechnologies, virtual reality and artificial intelligence, exhibiting through his writing great fascination not only with their infinite possibilities but also with their ethical implications. Ever since, Egan has published eight novels and several collections of short stories and has received a Hugo and a Locus Award, among others (source: gregegan.customer.netspace.net.au). In 1998, Egan stated his belief that "eventually we're going to have unlimited control over whatever physical substrate is 'executing' our own minds" adding that he was "trying to map out some of the benefits and some of the dangers of that." In this paper, I will discuss the representation of posthuman subjectivities in Egan's *Quarantine* (1992), *Permutation City* (1994) and *Diaspora* (1997) from a feminist postmodernist angle. I will develop my analysis on the axes of multiple and versatile bodies, consciousnesses and genders, as those appear in Egan's characters. Focus will also be placed on the author's treatment of patterned technologies of modification and its evolution through the course of time, as evident in his texts.

Jeanne Cortiel (*jeanne.cortiel@uni-dortmund.de*) *Universität Dortmund*
Alice in Nanospace: The Rescue of the Female Child in The Diamond Age
Neal Stephenson's novel *The Diamond Age* (1995) has received quite a bit of critical attention as an exemplar of nanotech science fiction. The early response to the novel was mixed: One reviewer severely criticizes the book for its "insidious racism, sexism, classism, and reactionary social values". However, the novel has also been called upon to define nanotech science fiction as a new subgenre in contemporary science fiction and to analyze the impact of nanotechnology on concepts of time and space. This scholarly emphasis on such fundamental transformations of how humans perceive themselves in the world demonstrates that *The*

Diamond Age manages to tap into central concerns of contemporary western cultures. This paper takes off from these explorations of temporality and spatiality in scientific and fictional discourses around nanotechnology, but turns attention to narrative patterns that emerge from these discourses in an intertextual reading of *The Diamond Age* with feminist science fiction. My larger question here is how this subgenre of science fiction, nanotech science fiction, absorbs the narrative innovations of feminist science fiction, *without* being feminist itself.

Barbara Crowther (*b.crowther@wlv.ac.uk*) *University of Wolverhampton*

Jurassic Park and the Politics of Natural History: A Feminist Critique

Jurassic Park (1992) exposed a generation to the recently-realised possibilities and the dangers of genetic engineering. The ambivalent attitude of the film to the science of cloning, developed through its powerful narrative, eclipses a second thematic area of unease running more stealthily through the film – fears about the contemporary advancement of women. This unease, fostered by two decades of feminist social gains and influential scientific critiques, provoked a misogynist backlash which can be traced in several films at that time (see Faludi). In *Jurassic Park* it is expressed in quite complex ways and on several levels. Spielberg's film seems to gesture towards acknowledgement of women's equality while still relying on conventional gender stereotyping and iconography, and ultimately buys into the primal myth of woman as monster (Creed's 'archaic mother') and to classic biological determinism. The paper, illustrated with clips, draws on different strands of (mostly feminist) scholarship in film, psychoanalysis, science, primatology - and concludes with a close textual analysis that identifies the discursive construction of Hammond's 'pleasure park' with the dominant discourse of wildlife films - which I have argued in previous articles are steeped in gendered and patriarchal ideology.

Domna Pastourmatzi (*pastourm@enl.auth.gr*) *Aristotle University of Thessaloniki*

Human Cloning and Gender

The birth of Dolly ushered the world into the Age of Cloning. In 2004 the South Korean researcher, Dr. Woo Suk Hwang, cloned human embryos and isolated stem cells, straining again the ethical tolerance of the global community. On November 25, 2005 the furor generated by the prospect of human cloning reached an unprecedented level, when it became known that the Korean researcher used eggs in his work donated by female subordinates and purchased by 20 other women. It is obvious that human cloning is directly related to gender politics and has been conceptualized within the hierarchical framework of a male techno-scientific project and a subordinate female resource of raw material. For the time being human cloning remains a fictional reality. Because literature and biomedicine are intertwined and mutually fertilizing each other's imaginary and because

fiction is a valuable window into human behavior and gender relations, the study of novels that tackle the biomedical fervor to clone can offer valuable insights to feminism. My talk focuses on *Eve ... ou la repetition* (1998) by renowned French geneticist Jacques Testart and *A ton image* (1998) by the well-known French writer Louise L. Lambrichts. These “thought experiments” have considerable ideological and psychological interest; besides the “woman question” in cloning, they investigate the impact of cloning on the monogamous heterosexual relationship.

5C: Aesthetic Systems and Scientific Technologies as Border-Patrolling Devices (BG5-222)

Chair: reneé c. hoogland

Monique Roelofs (*mroelofs@hampshire.edu*) *Hampshire College*
Aesthetics, Epistemology, and the Limits of Cultural Citizenship

This paper examines the ethical and political promise of aesthetic agency in light of an historical analysis of the epistemic/embodied functioning of the aesthetic, and a reading of a recent aesthetic confrontation in the streets of Amsterdam, in which a white “culturally normative” sensibility is pitted against the aesthetic threat embodied by a speeding taxicab driver, his rattling, tropically heated cab, and his Arabic “whiny” music (“jammermuziek,” Martin Bril, “Taxirit,” in *De Volkskrant* December 20, 2004). The aesthetic has functioned historically as a multi-sensory technology integrating traditionally segregated domains such as mind and body, reason and affect, imagination and sensation, public and private, individual and society—divisions that, critical race feminists have revealed, underwrite untenable racial, gendered, national, and class differentiations. Thus the aesthetic has both countered the above Enlightenment polarities and propped up their normative effects. In the form of taste, it has historically imported epistemic and moral norms into the realms of perception, affect, imagination, and sensation, and vice versa. By controlling the interactions between science/knowledge and its disavowed others, the aesthetic sustains problematic cultural differentiations and hierarchies, enabling and constraining the possibilities for embodied interaction. I examine this problem in light of the “cultural” clash in the taxicab and consider ways in which a new aesthetics can address it.

Baba Hillman (*bhillman@hampshire.edu*) *Hampshire College*
Crossing Aesthetic Systems: The Body in Translation, Negotiation, and Retranslation

This presentation examines physical performative languages as aesthetic systems through an embodied practice that takes place within diverse, often disparate performative and cinematic languages as well as at the intersection of these languages, where they remain in tension – or continual negotiation, translation and

retranslation. This practice is examined through *Passage du Désir*, a film that explores desire, transience and memory in the context of the experience of the exile, one whose relationship to place, sexuality, language and history is continually thrown into question. As the woman in the film moves across the interiors and the parameters of Paris, there are constantly shifting sets of spatial effects upon her movement. She challenges, through improvisation and ritual, the ways in which the movement of the female body, and particularly the foreign female body, has been constrained and limited within urban space. In one sequence, when she is running through the city salting streets and traffic, everything in her path becomes part of her ritual; her rolling on the cars, her crossing of the lines in the road, her climbing on the grids of fences, her licking of letterboxes, her dance with the flares off metal and glass become an ecstatic inscription of her body upon the physical space of the city and a defiance of those authorities and structures that would seek to limit or otherwise define the parameters of her movement. (The video is shown in the loop.)

Mary Russo (*mrusso@hampshire.edu*) Hampshire College

New Speculums of the Other: Beauty, Technology and the Gynecological Mirror

In the famous poem of Pierre Ronsard, "La Rose", the young girl is cautioned to rush to "gather" her self while there is time, lest she too fade like the old and vanishing flower in the garden. At once aesthetically metaphorical and plainly metonymical in itself reference to virginity, the poem sets in motion the fear of "ugliness" and aging. However, terrorizing this possibility (confronted over and over by figures like Snow White's Stepmother, the mirrors of nature and of glass seemed once to at least reflect "images of women" to be undone or at least mimicked in ironic performances of the feminine. The analogical camera and devices like the gynecological speculum provided ways of seeing and "seeing ourselves" (As in the famous U.S. Women's Health Collective's *Our Bodies, Our Selves* as having agency. This model has been shattered with contradictory results. Advanced digital imaging, simulation, and transmission of images into vast networks of viewers and the micro-imaging that has enlarged and resolved the status of the fetus into a being with independent rights and the surrounding flesh as a landscape as opposed to a natural environment. This paper will explore some of the theoretical and aesthetics issues associated with visualizing the female body as cross-sectioned and miniaturized while the fetus becomes more resolute and whole and explore the implications for national political discussions in the West.

5D: Brain Images (UT-101)

Chair: Sabine Flach and Yvonne Wübben

Sarah de Rijcke (*s.de.rijcke@rug.nl*) *University of Groningen*

Taking the Body out of the Process: The Mobilization of Photography in 19th-century Neuroanatomy

Shortly after the invention of photography in 1839 photographic images were embraced by scientists for their acclaimed precision and accuracy as well as their mechanical production process. Much like contemporary brain scans the photographic 'faithful depictions of reality' held the promise of considerable contributions to (neuro-) scientific research. Photography's scientific inauguration meaningfully coincided with a shift towards the ideal of mechanical objectivity. However, in my presentation I will contend that photography did not come up to mark everywhere. Since atlases are the icons of visual substantiation, I will zoom in on the first neurological atlas that contained actual albumen prints, Jules Luys's 1873 "Iconographie photographique des centres nerveux." Luys' "Iconographie" is an outstanding example of the predicament of scientific authorship - new to the nineteenth century - but also revealed the drawbacks of using photography as a visualization tool. Most neuroanatomists recognized that authoritative visual representations of the brain never materialized by the complete exclusion of the personal or by the sole use of mechanical instruments. Only by not eradicating completely could images with a great power of expression emerge.

Yvonne Wuebben (*ywuebben@zedat.fu-berlin.de*) *FU Berlin*

Spatial Representation in Brain Imaging (PET, SPECT, fMRI)

The talk will focus on the question of spatial representation in brain imaging (PET, SPECT and especially fMRI). I analyze different attempts to localize complex functions such as speech and language processing by comparing various techniques of visualization. In addition, I will scrutinize on the epistemological status attributed to these images. Implicitly this can be drawn from their respective usage as well as from metaphorical depictions referring to them. Most commonly brain researchers rely on the map metaphor in order to describe the mode of representation supposedly essential for fMRIs. Thereby, they are inherently linked to a long tradition of functional brain mapping from Hitzig/Fritsch to Penfield. Also, they imply that images and techniques used in the 19th and early 20th century are to a certain extent comparable to modern brain maps. In my talk, I will question this idea dwelling on the general problem of spatial representation. Moreover, I will argue that fMRI are products of a system of inscription which is neither spatially (nor topographically) organized.

Katrin Nikoleyczik (*katrin@modell.iig.uni-freiburg.de*) [*gin*] *Forum of Competence Gender Studies in Computer and Natural Sciences, University of Freiburg Producing Images – Creating Bodies – Constructing Knowledge: The Case of Functional Brain Imaging and Gender*

Functional magnetic resonance imaging is a method more and more commonly used in the neurosciences to study human behaviour and thought since its establishment in 1993. fMRI laboratories are sites for producing images, knowledge, bodies, and genders and can be regarded as “material-discursive apparatuses of bodily production” (Barad 1998). Drawing on selected studies on the subject of gender and language using fMRI-imaging techniques that have been published in neuroscientific journals I will argue that only certain concepts of bodies and of gender are taken into account and are reinforced thereby. I will scrutinize how bodies are selected for the research process, how they are visually fabricated in the imaging process and materialized in the images themselves. These “appealing images” (Joyce 2005) tempt the viewer to regard them not as visualisations of large amounts of complex data as such, but as representations of biological facts. I will problematize representation and argue that the visual results of this method influence the choice of concepts and interpretations. I will consider that the findings are not discussed as a result of a thinking process, but as a reason for differential behaviour.

Sabine Flach (*flach@zedat.fu-berlin.de*) *FU Berlin Experiments of Thought: The Mental Image as a Site of Conflict*

Images of the brain that are produced by technical methods such as PET or fMRI occupy a meaningful role within arguments that are advanced in current debates within cognitive sciences. The computer therefore returns the image to science. On the one hand, this contributes to overcome a process of “demystification” of modern science that stands for the blindness of modern science: vision has been replaced by a calculated reason that reduces the act of viewing to an act of registering data and figures. Vision is no longer part of the process of accumulating knowledge, but has become a problem in itself. The literary critic Jacques Le Rider called the current return of ‘vision’—and therefore of images—the “recovery of vision”. On the other hand, this formula indicates that even the “recovery of vision”—strictly speaking, vision has never been lost in scientific discourse—cannot be so easily obtained. We have to ask what it means when, in the course of the rehabilitation of images in science, an image takes over an important function for scientific argument, or even replaces formal prove. Images emanating from brain research make clear that scientific images cannot simply be viewed as a referring to an object and thus cannot be understood as such. Instead, they prove to be ‘socio-technical constructs’ that come into being through an interplay of apparatuses, operational progress, decisions, contexts, actors, techniques, and spaces of action, but are by no means immediate representations of the brain. But how,

then, do we deal with images of the brain? Beyond the fact that these images have to be understood as constructs, the epistemological status of these constructed images needs to be discussed. In my paper, I will address the debate about the epistemological status of these images. Given the close ties between cognitive sciences and art history, I want to show that in both fields we deal with interior and exterior representation. Only by relating images from cognitive sciences to their cultural background can it be shown that the brain is a site where traditional ideas and contemporary innovations are negotiated in a significant way. The brain can therefore be understood as a transdisciplinary object in modernity's discourse on literary, neurological, artistic, and societal subjectivity.

5E: Narrative, Truth, and the Production of Reality (BG5-212)
Chair: Rebecca Kukla

Benjamin Macias (*bm@hp.fciencias.unam.mx*) *Departamento de Matemáticas, Facultad de Ciencias, UNAM*

Material Production and Artistic Practices

The connection between artistic practices, specifically literature, and their material surroundings has been widely debated. Roughly, there are three alternative answers. One is that concrete literary practices are independent of the material conditions of their production. Another one, common among the Marxist and Foucaultian traditions, is that material conditions become manifest in texts indirectly as ideological forms. A third minority one suggests that literature is mainly a form of technology, and should be viewed accordingly. My purpose in this paper is to review the historic period of the creation of modern fiction in Spain (ca. 1490-1554) to establish the connections between literary practices, material conditions and the printing press—the technological advancement that enabled the creation of Spanish fiction. I will argue, against the most widely-held accounts, that modern fiction was born by a combination of all such factors, including specific material features of the printing press. These factors had direct consequences both for the evolution of modern fiction and its reception in the 18th and 19th. centuries. Therefore, we show that fiction is both social and material, that technological features enable specific aesthetic forms, and indicate why it is possible for new artistic forms to emerge from the margins of society.

Sarah Hardy (*shardy@hsc.edu*), *Hampden-Sydney College* & **Rebecca Kukla** (*rkukla@ccs.carleton.ca*) *Carleton University*

The Making of Reproductive Time Online

We will explore how women use online communication in order to give narrative form and structure to reproductive time. For example, one online discussion

group, “waiting to conceive”, is specifically for women who have already had intercourse and are waiting to take their pregnancy tests. This “luteal phase”, whose beginning and end are concretely determined by biology and medical possibility, would not exist as a well-defined narrative episode were it not carved out as one within such communities. The first trimester, as a time in which pregnancy is still too tenuous to count as a public fact, has similarly been hardened through communal discourse into a distinctive biological phase. Other periods of time, such as the waiting period between a positive prenatal test and the results of a second round of more definitive testing, and the time between fetal death and ‘therapeutic abortion’, are currently solidifying. While all these phases are defined as periods of waiting or biding time, they are far from narratively empty or passive, as their online negotiation makes clear. We will give a close reading of a few online bulletin boards devoted to specific phases of reproduction, with the goal of exploring how determinate biological reality can be given narrative structure and divided into well-defined temporal periods through collective, decentralized story-telling and knowledge-building.

Gregory Tomso (*gtomso@uwf.edu*) *University of West Florida*

Narrating the Subject: Public Health, Male Sex, and the Politics of Risk

Bug chasing, barebacking, and gift giving are forms of intentional unsafe sex among men-who-have-sex-with-men (MSM). These relatively new sexual behaviors have come under scrutiny from health professionals, social scientists, and the public media because they are coincident with increases in HIV infection rates in male populations in industrialized, western nations. This paper analyzes the narrative tropes and discursive histories that circulate in both popular and scientific writing about these emerging forms of risky sex. It identifies the ways in which emerging discussions of risky sex among MSM rely on (neo)liberal and psychoanalytic conceptions of sexual subjectivity that are grounded in questionable assumptions about what constitutes health, rationality, and social responsibility. These contested beliefs can be seen most clearly through scrutiny of new public health methodologies that collect personal narratives from men who engage in risky sex. I argue that a question of narrative reliability—that is, a question of personal narratives’ relationship to the “truth” of sexual subjectivity—structures these new methodologies and the medicalized accounts of risk to which they give rise. To situate this question, this essay draws on work in the fields of queer theory (David Halperin, Leo Bersani) and political theory (Wendy Brown, Lisa Duggan).

Elisabeth Wesseling (*Lies.Wesseling@LK.Unimaas.nl*) *Maastricht University*

Contesting Developmentalism in Psychology and Literature

Recently, psychologists such as Valerie Walkerdine, Erica Burman and John Morss have severely criticized the conceptual framework of developmentalism upon

which developmental psychology is founded. They complain that there is an overall lack of awareness on the part of psychological researchers that accounts of growth, progress and development are culturally specific narratives, which strongly impact on the children who are made to live in these stories. Interestingly, developmentalist notions have also come under frequent attack in fictional representations of children, both in children's literature and literature at large. This paper will confront the literary critique of developmentalism, as represented by some novels of Ian McEwan (*The Cement Garden* and *Child in Time*) and the work of the Dutch children's author Guus Kuijer, with the psychological self-criticism referred to above. To what extent do these psychological and fictional critiques of developmentalism converge? Where do they diverge? What may these divergences teach us about the inherent constraints of developmental psychology and fiction as separate types of narrative discourse? Is it possible to even conceive of 'the child' without taking recourse to some notion of developmentalism, whether in fiction or in science?

5F: Soundscapes and Artistic Practices (UT-301)

Chair: Carolyn Birdsall

Ruth Benschop (*r.benschop@tss.unimaas.nl*) *University of Maastricht*

Musical Experiments: On Soundscapes, Experiments and Listeners

There is much to be said for the frequently heard self-characterisation of current art music (more particularly, current artistic soundscapes: performances or installations made of naturally occurring recorded sounds often aimed at reorienting the listener to his/her modern surroundings) as experimental. Not only is the manner of construction of such performances often explicitly explorative in nature, the performances themselves also resemble scientific experiments in more formal ways. Like scientific experiments, current soundscapes are highly technological, structured and stylised events in which people are invited to participate in well-defined ways. The ideology of such musical projects in which recording technology plays an important role is that of the interactive listener: a listener who partakes in a situation in which s/he is addressed in ways that stimulate his/her active contribution. STS research of scientific experiments, on the other hand, has often stressed the way in which subjects are determined by the experimental setting in which they are put. In this paper, I will empirically explore the experimental quality of soundscape performances as ethnographically investigated at a Dutch organisation (intro | in situ) engaged in producing such performances. I will look at the technological construction of the performances, the performances themselves and at the way audiences behave. This empirical work will allow me to examine in what sense soundscape performances can be understood as experiments: Are they like natural scientific experiments or are they perhaps better understood as

social scientific (e.g. breaching) experiments, and what are the “findings” of such experiments? Further, I will examine soundscape experiments for their capacity to reduce or widen the space for listeners to act. And, building on recent work within STS on the way in which participants of experiments are made to act, I will try to develop a sensitive vocabulary to do so.

Daniel Warner (*dcwMB@hampshire.edu*) *Hampshire College*
The Well-Tempered Ear: Soundscapes and Soundscape Composition

This paper will quickly trace the notion of the soundscape, a term first introduced by R. Murray Schafer, as it emerges from the work of John Cage and figures in the work of Luc Ferrari, Annea Lockwood, Francisco Lopez, and Bill Fontana. I will then discuss the technological and aesthetic issues that follow the history of sound recording, and how they have informed soundscape composition. This will be followed by a DVD presentation of two of my recent soundscape installations, “On the Conduct of Water” and “Wall of Sound.”

Seda Ergül (*sedae@bilgi.edu.tr*) *İstanbul Bilgi University*
System Bypass: The Effect of Digital Recording Technologies on Music Production

At November 2005, Demirhan Baylan, an avant-garde but well known musician of the Turkish rock-scene, began an interesting project, with the aim off producing his next album, consisting off songs that are written, performed and recorded by himself, with the financial sponsorship of his listeners. By buying the first 100 exclusive copies of the album at a price approximately ten times of the regular, Baylan’s audience will raise the money that will be used to publish the following copies, which will be sold at regular prices on the market. At the beginning of each exclusive album, there is a speech recording of Baylan’s that states for whom the album is created. In this paper, by focusing on this project, I will try to answer the following questions: How does the “sonic proof” at the beginning of each exclusive recording, alter our understanding of the original/copy dichotomy? What can this project, that asks the active participation of its listeners, not in the consumption but the production stage and by so doing manages to bypass some of the elements of the current production system, tell us about the possible new evolutions of the music industry, in the near future?

5G: Viral Transdisciplinarity (UT-101A)

Chair: Sher Doruff

ANne Nigten (*anne@v2.nl*) *V2_*
aRt&D Methods: Processpatching

Today’s electronic art practice is a collaborative practice, the research and development process includes people from different backgrounds, such as (computer)

scientists, technicians and design experts. The research value of the collaboration between computer science, engineering and art is an important addition to existing R&D. Art exploration of new technologies fosters innovation in the arts, and art concepts often imply demands of functionality that may lead to further R&D. This is different from research and development aimed at practical applications of new technologies as we see them in everyday life. The next step for aRt&D is a formalization of the associated work methods, as an essential ingredient for interdisciplinary collaboration. This paper focuses on processpatching, the assumed method for the artist as connector or bridge builder between disciplines. Processpatching is the term I use for mixing and re-interpreting a plurality of methods as artistic method. Processpatching refers to the art&D process of electronic or interactive art, where different things are connected for the creation of an art experience, or an art project in a broader sense. Processpatching has its roots in the arts without being formalized as a method. The term is a blend of two words which both encompass a range of meanings and associations. This processpatching approach shows us how other (non technical) fields can be useful to work around those issues which are hard to solve with current technology or which are difficult to express in machine understandable language. This paper elaborates on the motivation, the ideas, the related theory and broader context of processpatching.

Roberta Buiani (*robb@yorku.ca*)

Viral Tactics as Fugitive Methods

Treichler observes: "Boundaries among popular culture, science, policy, and media are fairly permeable each offering discursive archives—linguistic or semantic reservoirs—that furnish resources (and perhaps legitimacy) to the others. Popular culture borrows elements from science, while science borrows elements from popular culture." While leading our everyday activities, we are both observing and realizing ourselves those intersections. I argue that the above permeability cannot be interpreted as a mere "act of borrowing" or "two-(or multiple) way exchanging". "Appropriation" is a further aspect that not only facilitates increasingly complex forms of intersections, connections and crosspollinations among disciplines, but that can also potentially encourage the production of substantial cultural changes and transformations. In particular, western culture has selected and assimilated, appropriated and transmitted, adopted and adapted to some elements borrowed from science and shared, in turn, by popular culture and technology. In this paper, I analyze viruses, intended as entities that both affect the human body and our electronic networks, and that may be shaped by or, in turn, may be fostering changes within the contexts they affect. These changes could be realized thanks to both involuntary or natural incorporation and "active appropriations" of a number of attributes originally specific to viruses. The latter are proactive attempts by individuals and enterprises of various natures to exploit viruses by in-

corporating some of their main features into their business, their political struggles or their creative work. In this way viruses cease to be mere entities or strings of code, and become part of and are even transformed themselves into a "creative process." But can this process, in turn, be recognized as a method? is it really possible to recognize, construct or rationally and definitely formulate a "viral methodology"?

Emerson Freire (*freire@ige.unicamp.br*) *Unicamp*
IO_Dencies, Algorithms and Choices

Analysis of tendencies done by computational machines, from finance market to internet search pages, through database and algorithms of all sorts, are becoming more and more common. To know well the tendencies presupposes power of anticipation, in many cases. However, to decipher the tendencies, still more, to achieve the pure tendency, which differs from itself (Bergson), it is a process that requests more than a simple mapping of characteristics, it involves some kind of technicity. And, talking about tendencies, there is always a problem of choice inside of the system, forces in movement looking for a resolution or smaller tension taxes, what justify the use of algorithms in these cases. But, if an algorithm is already proposed as automaton, according to evolutionist laws as that proposed by the so called digital biology (adopted by many artists), in other words, give any problem the algorithm will evolve until the best possible solution, so, would there still be choices or, so to say, alternative choices? How does that type of man-machine relationship work, when programmers look for inspiration to their algorithms in the biology, because they consider that other programming techniques no longer would provide satisfactory responses to the actual dynamics? Could have in this context false tendencies, as well as false problems, implicating tententious choices, preformed, consequence of that relationship? In what kind of snooker enter the artists that make use of those technologies in their works? I intend to argue about those subjects through the Knowbotic Research artistic project called IO_Dencies.

5I: Hybrids and Interspaces (OMHP-118A)
Chair: Ron Broglio

Ron Broglio (*ron.broglio@lcc.gatech.edu*) *Georgia Institute of Technology*
Heidegger's Shepard of Being and Nietzsche's Satyr, some pastoral musings
For Heidegger humans have a particularly privileged position in relation to being. While we do not decide how or when beings appear, we are the guardians and caretakers of being, the "shepherd of being." Later, Heidegger will develop this caring further in his explication of the fourfold where mortals bring together into unconcealness the other three elements of earth, sky, and divinities. It is as

caretakers or shepherds that we dwell on earth and that we learn how to build in proper relation to other beings. While building, dwelling, and thinking are for Heidegger in relation to "the open," I wish to explore how a relationship with animals is a subtext of Heidegger's thinking about dwelling. To do so, I intend to contrast his "shepherd of being" with Nietzsche's satyr, the friend of Dionysius in *The Birth of Tragedy*. For Nietzsche, the modern day shepherd is a tricked up dandy who poorly represents the more formidable figure of the satyr. The part human and part animal satyr offers an anti-pastoral means of dwelling. I will pit a Dionysian knowledge of surface, fragments, and hybrids against Heidegger's shepherd in order to rethinking the seminal Heideggerian text "Building, Dwelling, Thinking."

Hugh Crawford (hugh.crawford@cc.gatech.edu) *Georgia Tech*
Becoming-Whale: Deleuze, Melville, and Dwelling Studies

Herman Melville was clearly one of Gilles Deleuze's favorite authors, with Moby Dick and Ahab figuring prominently in the "becoming animal" section of *One Thousand Plateaus*. Another figure, the biologist Jakob Von Uexkull also makes regular appearance in Deleuze's oeuvre, particularly through his notion of the *umwelt* --defined primarily by an animal's biologically determined perceptor-effector affordances coupled with and co-emerging through its material dwelling space. While Uexkull is perhaps rightly celebrated as the first ethnobiologist, Melville long precedes him in the careful, patient articulation of one animal's *umwelt*: the sperm whale. This paper examines the relationship between these three philosophers in an attempt to understand more clearly the implications of becoming whale/becoming human.

Tom Tyler (ttyler@brookes.ac.uk) *Oxford Brookes University*
Of Cipherous Swine and Misanthropic Porcupine

My paper examines two key ways in which nonhuman animals function in the texts of philosophy and contemporary cultural theory. On the one hand they frequently appear as ciphers, mere place-fillers within a philosophical argument, like Saussure's arbitrary horse and Austin's inauthentic pigs. On the other, animals are often employed as indices, obliging guides who point out productive avenues of thought, such as Ryle's faithful dog and Schopenhauer's antisocial porcupines. I suggest that, despite their subservient status, these animals can tell us a good deal about the thoughts and theories of their respective employers, though we must be wary of too heavy a reliance on theory's beasts.

Richard Nash (nash@indiana.edu) *Indiana University*
Sentimental Descartes: Lessons in Reading Late 18c Animal Bodies

In the recently burgeoning field of Animal Studies, one of the more widely prevalent rhetorical gestures is to configure recent theorizing of animality in pointed opposition to a Cartesian Enlightenment, that is purported to reduce the animal to

unfeeling machine. Following the lead of scholars such as Anita Guerrini and Tobias Menely, I want to reconsider Descartes reputation in the early modern history of Animality. In particular, in this talk, I want to focus on an important moment in late eighteenth century England that opens the debate over "animal rights," by considering the ways in which Cartesian mechanism and English theorizes of sentiment converge to enable fundamentally new ways of reading animal bodies, and consequently of reconfiguring human-animal intersubjective affiliations.

Session 6: Thu, June 15, 14:30-16:00

6A: Posthumanist Corporeality and Ethics (BG5-213)

Chair: Tanja Nusser

Joanna Zylinska (*j.zylinska@virgin.net*) *Goldsmiths College, University of London*

Cracking the Secret of Life: Towards a Non-Humanist Bioethics

In this paper I will look at the conceptualisation of the discovery of DNA structure through the trope of 'cracking the secret of life', a trope which has to a large extent shaped the dominant ideas about life, nature and 'the human'. Redefined as instructions encoded in the genes, or 'simply a matter of chemistry' (Watson), life did not become any less mysterious though. DNA itself was quickly recoded in popular discourses as 'a sacred text that can explain the natural and moral order' (Nelkin). I want to propose a counter-narrative to such a normative reading of life and its 'secrets'. This will take the form of a new bioethics, an 'ethics of life' inspired by the work of Agamben, Butler, Haraway and Levinas. My bioethics will go beyond some of the more established ways of thinking about ethics and life in the corporate world of biotechnosciences, as well as beyond the dominant positions on life within traditional moral philosophy. What is of principal interest to me here is thus not so much cracking 'the secret of life' once and for all, but rather exploring the already existing cracks in the humanist discourses and debates on life and bioethics.

Astrid Vicas (*avicas@earthlink.net*) *Saint Leo University*

Posthumanist Ethics: The Perfectionist Ethics of Machine Agents

This presentation argues that twentieth- and twenty-first conceptions of motor control and machine agency reproduce deep-seated ways of thinking that first came to be fully articulated in perfectionist theories of morality, that is, in virtue ethics. Theories of motor control and machine action share four crucial assumptions with perfectionism: 1) Productivity; 2) assessability of gap reduction between aimed at and actual performance; 3) heuristics; and 4) iteration. These

assumptions will be explained and illustrated by selected examples taken from the contemporary literature on motor control and robotics. The pattern similarities with perfectionist ethics, as in Aristotelianism and Buddhism, will be stressed. It will be argued that theories of machine action have ended up recasting well-entrenched ways of thinking about human morality in terms of perfectionism. Thus, there is an inherent affinity between theories of machine action and virtue ethics. If the posthuman harbors the blending of human and machine, then post-human ethics is, by affinity, perfectionist.

Margrit Shildrick (*m.shildrick@liverpool.ac.uk*) *Queens University Belfast*
Hybrid Bodies: The Socio-Psychic Significance of Transplant Surgery

The paper outlines the parameters of my current research project into the significance of organ transplants. Where the majority of existing literature is focused on donors, I concentrate on the recipients of temporary mechanical, and permanent cadaveric, hearts. Growing anecdotal evidence suggests that there is considerable variation in the extent to which recipients are able to fully in-corporate such life-sustaining organs/devices over time. Independent of the clinical effectiveness of the intervention, patients commonly experience depression and may be troubled by phenomenological and ontological issues. Issues include perceived changes in personality (both self and interpersonally observed), fears about bodily integrity, and questions of identity. It is becoming clear that recipients who hold to a model of the body as a machine make the smoothest recovery initially in terms of both immunological and psychic acceptance, but evidence suggests that all recipients are at risk from psychological distress relating to a sense of their own corporeal hybridity. Following transplant, the sense of the self as bounded and closed against the other is necessarily disrupted. Given such a scenario, it is incumbent to investigate whether alternative models of embodiment could facilitate an easier transition from the human (as understood by liberal humanism) to the posthuman body of the transplant recipient. The paper will look at both the phenomenology and intercorporeality of embodiment as proposed by Merleau-Ponty, and at the Deleuzian model of a machinic becoming-body.

6B: Gender and Technoscience 1 (BG5-221)

Chair: Carol Colatrella

Violetta Trofimova (*violet_trofimova@mail.ru*) *Institute of Foreign Languages*
Aphra Behn and Technology

I am planning to examine the link between Aphra Behn, the prominent woman writer, and Samuel Morland, a famous engineer and inventor of the seventeenth-century England. They were personally acquainted – see Behn's poem *To My Lady Morland*, which was dedicated to Morland's wife Carola, who was a member of

Behn's circle. Nevertheless, Behn does not mention Carola's husband's inventions in this poem. Behn's and Morland's careers have much in common. They both started as spies, both were connected with France and French culture. It is significant that Behn does not mention Morland's inventions – the most famous of them were the speaking trumpet and the system of pumps to bring water to Windsor gardens – in her original works. She mentions them only in her translations. She includes the information about the speaking trumpet in her translation of Fontenelle's *History of Oracles*, and she includes a long passage on Morland's activities in her translation of *Lover's Watch* by Bonnetcorse. Behn does a very interesting step – she makes the translation – the activity acceptable for seventeenth-century Englishwomen – creative and enters the sphere generally closed for women – the sphere of science and technology.

Palmira Fontes da Costa (*pfc@fct.unl.pt*) *New University of Lisbon*
Women, Poetry and Science in Early-19th-Century Portugal

The paper focuses on the poetical work *The Botanical Recreations* by the 4th Marquise of Alorna, D. Leonor de Almeida Portugal Lorena e Lencastre (1750-1839), a distinguished Portuguese woman of the second half of the eighteenth and early nineteenth centuries, author of a significant body of poetry and also an essayist, translator and painter. The Marquise de Alorna had a turbulent life and, due to political persecution of her family, she spent her youth imprisoned. Her interests and reading during these formative years included natural philosophy and natural history. After her release from prison, the Marquise travelled to Madrid and then to Paris where she had the opportunity to experience the atmosphere of the French salons and to meet, among others, Madame de Staël, who became one of her friends. She also lived for some years in Vienna and later on in England as a political refugee. *The Botanical Recreations* were written when she was living in England and can be included within the tradition of the didactic poem, a genre widely used during the late eighteenth and early nineteenth centuries in the popularization of botany. Significantly, the work was dedicated to Portuguese women, whom the author invited to study nature and to be passionate in the cultivation of botanical knowledge. This paper analyses the role of women in the popularisation of botany in early nineteenth-century Portugal and, in particular, gendered notions associated with the views of nature presented in *The Botanical Recreations* together with the various meanings attributed to the personification of nature in various passages of the work. One of the sources of analysis will be the various manuscripts left by the Marquise of Alorna, which included five versions of *The Botanical Recreations*, translations of botanical and poetical works and an extensive body of correspondence.

Linda Vigdor (lvigdor@paraspace.com) University of Illinois at Urbana Champaign

Transformations and Performativity: Technological Agency Performed at the Margins

The beauty of Judith Butler's theory of performativity is that it allows a conceptual space for an individual agent to act outside expected norms and to exist alongside these norms in an intentional engaged stance – one that gains transformative power from a willful position located at the margins. My thesis unfolds in the context of women artists' reflections on the evolution and meanings of their interactions and sense of self in learning and working with computer technologies. These artists' narratives are engaged as performative acts that negotiate technological agency as part of an evolving arts practice and personal technical-ethical stance that connects understandings and intentionalities of both aesthetic and technological practices. My intention is to create a visible space for women's technological agency that is located in cultural margins. Contextually specific discourse practices are examined to make visible women artists who creatively engage with computer technologies and who remain largely outside the technological discourse of the Western gender and technology narrative. Butler's theory of performativity, assisted by Donna Haraway and Judy Wajcman's feminist epistemologies and politics, opens the door for this marginality to become a position of agency and hence, a step towards rendering into the social discourse a picture of how women navigate and counter, repressive socio-technological discourses.

6C: Sequencing the Body: Comics, Seriality, Transduction (BG5-222)

Chair: Robert Mitchell

Panel description Capable of depicting extreme bodily states and transformations long before film industries developed the technology necessary to produce comparable effects, the serial form of comic books is capable of re-imagining and re-interpreting concrete embodiment. The three papers on this panel focus on the ways in which the sequential art of comic books both depict, as well as enable, an expansion of readers' affective engagements.

Richard Doyle

Ayahuasca Drug Action! Sequential Art and Distributed Mind

Ayahuasca, a psychedelic plant brew of the Upper Amazon, has challenged literary and scientific reporters' rhetorical capacities with its sometimes "telepathic" and always transhuman presentation. This paper will look to Grant Morrison's *The Invisibles* and Warren Ellis's *Planetary/Death/Telemetry* to investigate the ways in which sequential art has narrated the radically parallel experience of plant intelligence within the serial framework of color panels.

Robert Mitchell (rmitch@duke.edu) *Duke University*
Stretch

Drawing on Gilles Deleuze's analysis of aesthetic seriality in the work of Francis Bacon, this paper explores the ways in which depictions of contorted and distorted bodies in comic books function to "give the eye another power." I focus on the nonorganic expressiveness evident in Daniel Clowes's work, as well as the distortion of bodies in more mainstream comics such as *The Fantastic Four*. What is particularly significant about the stretched and distorted bodies of superheroes, I suggest, is the capacity of such bodies to register both the effects of conscious intentionality as well as what Deleuze calls the "invisible forces that model flesh or shake it." The stretched body functions as an aesthetic analytic, employing seriality to separate out, and highlight the difference between, the internal from the invisible forces that animate the body.

Phillip Thurtle (thurtle@u.washington.edu) *Comparative History of Ideas, University of Washington*

"Dark Genesis": Animal, Vegetable, and Mineral Becomings in a Monstrous World?
It is a common conception that superheroes are super because they possess the agency to change the world. This conception of superhero agency does not account for how the superhero became super in the first place, however. Through an affective/phenomenological analysis of the ways that comic books inform their readers and a critical examination of the role of disasters in post-industrial society, I argue that superheroes inform us about our world precisely because they lose human agency by becoming part of their surroundings. From this perspective, the superhero is super through his intertwining with his environment. This characteristic allows comic books to conceive of the possibility of anomalous events outside the usual bounds of representational practices. It also offers superheroes as exemplars of a moral engagement with a world that is only dimly understood and often monstrous in its consequences.

6D: Visualising Experience: Real and Imagined (UT-101)
Chair: Anneke Smelik

Elona Van Gent (evangent@umich.edu) *University of Michigan*
Virtual Anatomies: Monsters and Other Marvelous Kin

We are as ignorant of the meaning of the dragon as we are of the meaning of the universe, writes J.L. Borges. What we know about dragons and other monstrous creatures is that their convoluted bodies usually lurk along the edges of what is normal, natural and real. Out there, beyond what is familiar, conjecture embellishes what is known as we attempt to make sense of things that elude compre-

hension. Conjuring a monster or designating something as monstrous enables inference to permeate reason and encourages unpredictable mixtures of science, discovery, fantasy, and artistry. Although monstrous beings may be dismissed as unverifiable, they have persisted over time and across cultures in part because they are marvelous kin and hint at the exquisite wonder and mystery of our own existence. As a studio artist, I use three-dimensional computer technologies to make monsters. Computers replicate many but not all characteristics of the real world. In the virtual world, for example, gravity can be turned on or off and objects can be scaled or reproduced infinitely. Things (bodies) can also be turned inside out, shaped, and combined in ways that would not be possible in the natural world. Once designed, digital creatures can be rendered and printed, animated, or built using additive manufacturing processes. The extra-worldly computer environment is a place where real and unreal co-exist and where our usual assumptions about life are partially but not entirely in play. Here, too, be dragons. (The video is shown in the loop.)

Arthur Liou (*liou@indiana.edu*) *Indiana University*

Blood Work is a video art project that deals with Liou's daughter Vivian's leukemia. It interweaves sound and imagery to suggest how chemotherapy attacks both normal and cancerous cells, creating cycles of anemia that require patients to undergo blood transfusions to restore normal bodily function. While the music and sounds of running liquid intensify, the viewer witnesses hundreds of tiny naked babies attempting to crawl through an abstract, uneven field of organic red blood cells. The babies' energetic, Sisyphean movements begin to slow down along with the music as the bodies eventually disappear into a field of gray that overtakes the screen. The video's aesthetic structure reiterates the repeated cycles of attack, cell death, and regeneration experienced during cancer treatments. In *Elements*, the fourth title of the series, Vivian is replaced by thousands of virtually morphed bodies. The flickering, ever changing, and sometimes mutated figures portray the complex genetic linkage and breaks that provides clues to the structure of leukemia. (The video is shown in the loop.)

Edyta Just (*edyta.just@let.uu.nl*) *Utrecht University*

Visualisations of the Body in Assisted Reproduction

From the visually established reality of the IVF treatment it can be concluded that the human (patient) body when in assisted reproduction seems to undergo severe objectification, is turned into a solely physical/physiological, mute and passive surface, and gets fragmented. Yet, it must be remembered that such realization is based on the visual description of the IVF treatment. What remains crucial, therefore, is to understand what actually made such conclusion possible. In order to answer this question what firstly needs to be discovered is why actually the hu-

man (patient) body is seen as dismembered, physical/physiological, mute and passive surface. I do believe that such a state of affairs is due to certain practices and processes such as: the selection of images, the manners of treating the human (patient) body throughout the history of medical practices, and the very processes of visualization and visual recording themselves. In this paper I will elaborate on those practices and processes in order to eventually undermine the veracity of the IVF reality created by the visual images.

6E-1: Literature and Medicine (BG5-212)

Chair: George Rousseau

Sofie Vandamme (*s.vandamme@pandora.be*) *Erasmus University Rotterdam*
'Critique et clinique': The Interdisciplinarity in 'Literature and Medicine'

Since the very start of 'literature and medicine' in the 1980s, research on illness in stories is characterized by two major problems related to the interdisciplinary nature of the project: the representation of illness, and the differences in genre. Because 'stories' in 'literature and medicine' can be both autobiographical as well as fictional, narrative analysis can no longer rely on the premise of representation. The discipline of medicine relies on a different epistemology than literature, hence their interdisciplinarity forces researchers to broaden their perspectives within qualitative methodologies. The main methodological question in 'literature and medicine' is: how to analyse illness narratives, fictional and non-fictional, presuming they are equivocal expressions of illness? In this presentation, Deleuzian literary concepts will be explored in order to describe how the notion of 'an experimental pragmatic' might be a valid basis to develop a heuristic system suitable for research within the field of 'literature and medicine'. More precisely, I will make use of the concepts 'demystification' and 'experimentation' to construct my analytic framework. Through an 'experimental pragmatic reading' of literary texts and autobiographical illness accounts, I will illuminate a broad diversity of reflections on illness.

Franziska Gyga (*franziska.gygax@unibas.ch*) *English Department, University of Basel*

Displacement of Voice and Body: Illness Narratives and Cultural Knowledge

Working with Jamaica Kincaid's autobiographical account "My Brother" I'll focus on the intricate convergence of the personal and cultural realms in illness narratives. As Kincaid writes about her brother's illness and his dying of AIDS she not only documents a personal tragedy, but also explores a cultural and national tragedy of Antigua. Writing about her brother's illness is as much writing about her original homeland – she now lives in Vermont and is an acknowledged writer - and herself. But writing from a place which is no longer hers anymore and perhaps has never

been since she has always seen herself as a colonized subject, illness becomes the constructed site from which she can approach her own, her brother's and her mother's history. Thus, illness as a biomedical issue intersects with culture and it is in narrative in particular where this intersection occurs. Medical anthropologists have shown that narrative is a primary means to connect the personal with the cultural and with respect to illness, it is above all the body and voice that represent the connecting process which narrative can record. Thus, the narrative medium itself functions as a cultural process and becomes part of the cultural construction of illness.

Henrike Hölzer (*henrike.hoelzer@charite.de*) *Institut für Allgemeinmedizin Charité Berlin*

Twisted Tales: Simulated Patient's Case Histories

My presentation will be dealing with Simulated Patient's programs used to teach students of medicine communication skills in university seminars. Simulated Patients are actors portraying patients in a role-play with a student miming a physician. Those programs reflect the need to train future doctors already at an early stage on patients instead of exclusively on textbooks. Starting from the problem that the illness a patient experiences rarely concurs with a textbook disease, they aim to teach the task of interpretation in the course of which the patient's story is being translated into a medical account. Even though the goal of these programs is to bridge the gap between doctor and patient by de-objectifying the patient, it needs to be pointed out that there is a risk of re-objectifying the patient. The more the (simulated) patient's narrative is standardized in order to match academic requirements, the less "subjective" it becomes. A possible solution to this dilemma might be to teach medical students an awareness of narrative strategies in a patient-doctor encounter. I am going to argue for the necessity to maintain interpretation and translation as two separate entities. Moreover I will be discussing the topic of genres, such as "quest" and "confession/absolution".

6E-2: Fiction, Science, and Philosophy: On Joseph McElroy (UT-301)

Chair: Yves Abrioux

Joseph Tabbi (*jtabbi@uic.edu*) *University of Illinois at Chicago*
McElroy's World-Systems

While Joseph McElroy's work has long been understood in the context of systems theory, both the world-system and McElroy's work have developed quite a bit since Tom LeClair first identified the 'systems novel' as a distinctively American genre. The generalized presence of "America" in the world, and the domestication of world-spanning networks in the form of the Internet, are to some degree realizations of forms imagined by U.S writers during the seventies and eighties. Still,

the importance of such writing is not in its predictions, but rather in its simultaneous development along with the world-system itself. To understand both the nature of this development, and the distinctiveness of McElroy's aesthetic, my paper will make reference to the term 'world-system' in current social and political theory. An apt distinction is offered by Immanuel Wallerstein in his introduction to *World-Systems Analysis*. He writes, "when we speak of a world-system we are talking not about systems, economies, empires " of the (whole) world, but about systems, economies, empires that are a world (but quite possibly, and indeed usually, not encompassing the entire globe" (*World-Systems Analysis: An Introduction*). Michael Hardt and Antonia Negri offer a compatible conception of network power in current formations, not of world-spanning Empires on the model of ancient Rome, but of empire, when they mention that the state today, in its post-national transformations, does not need simply to encounter networks of various forms (communications networks, guerilla and mercenary forces, terrorist cells, and so forth), but rather the state itself needs to *become* a network. Through an examination of distinctive passages in a number of McElroy novels, I'll try to indicate how narrative, in its own aesthetic formation, is becoming more network-like. Further, the transformation of literature, like that of the world-system generally, depends not on its ability not to represent the world, but to be one.

Joseph McElroy & Xin Wei Sha (xinwei@sponge.org) *Concordia University*
Problematizing Agency in a Field of Forces: An Exchange

The problematical nature of definitions of agency is one of the issues which preoccupy Joseph McElroy, both in his fiction and in his essays on political and/or ecological traumas. The interactive installations on which Sha Xin Wei has collaborated put the same notion into play, in an admittedly different manner, by picking up the micro-level bodily responses of their participants so as to integrate them into a dynamics of gesture. In both species of artistic project, the question of agency is raised in a context where behaviour emerges within a force field. In neither case is space (actual or theoretical) treated as an ideally empty framework in which bodies interact. It is, rather, endowed with physical properties that engender the observed behaviour. However, the scales and thresholds involved in the installations and the fictions are very different. It is certainly true that McElroy's novels do not simply work apparently random phenomena into their narratives but that they also scale up micro-textual events into narrative ones. Nevertheless, narrative perhaps inevitably ends up by addressing the problem of agency on a macro-level, touching explicitly on questions of intention, responsibility, etc., which Sha's installations address more indirectly, by their use of sophisticated technology to amplify apparently unintentional micro-behaviour. Sha Xin Wei will respond to McElroy's thoughts on agency within a field of forces, using his

mathematical expertise to situate the debate precisely at the interface between art and science.

Yves Abrioux (*yabrioux@aol.com*) *Université Paris VIII*

Joseph McElroy's Hind's Kidnap: Random Walks in the Field

I argued in an earlier paper touching both on Joseph McElroy's non-fictional essays and on the narrative dynamics of his novels that, in borrowing from science the concept of a force field as an enabling model for his writing, McElroy found himself faced with what I described as an uncertainty principle concerning purpose and action as emergent phenomena within a field. Picking up from this analysis, I propose to further develop my discussion of the reasons why the response to this problem embodied in McElroy's narrative style cannot be understood in terms of the kind of probabilistic thinking developed to calculate risks and associated with the establishment of the science of statistics. I shall argue that McElroy's fiction can be better understood by turning instead to Gilles Deleuze's notion of a "throw of the dice" that will necessarily be a winning one because "it affirms chance with sufficient force, instead of turning chance into a question of probability and thus mutilating it". If such an affirmation of the "power of life" is at all scientific, then it must be couched in the terms of what would be involved in a truly "intensive" science. One may, however, suspect that what is at issue here involves, rather, a difference between art and science. My discussion of these questions will center on a reading of the narrative and textual qualities of the chance-like peregrinations of the hero of *Hind's Kidnap. A Pastoral on Familiar Airs*(1969).

6I: How to Do Things with Metaphors 1: Beyond the Cognitive Mind (OMHP-118A)

Chair: Cor van der Weele

Panel description In Lakoff and Johnson's conceptual view of metaphor, metaphors exemplify the embodiment of thought. Metaphors are so deeply embedded that it takes effort to become aware of them. Yet many of our metaphors - think of Frankenstein food, or the mailbox icon on our computers - originate in cultural artifacts rather than bodily 'universal' experience. They are introduced deliberately and, especially at first, we are very aware of them. We wonder what this implies for the conceptual view of metaphor. The panel deals with situated embodiment, synesthetic experience as well as with cultural artifacts as sources of metaphor.

Marianne van den Boomen (*Marianne.vandenBoomen@let.uu.nl*) *Utrecht University*

Networking by Metaphors

Katherine Hayles has noted that the symbol-processing machines we call computers are more and more hooked into networks which connects to apparatus that can actually do things in the world. Digital networks can thus be seen as a specific assemblage of material and semiotic processes. In this situation tools become signs, and signs become tools. How does this networked tool-sign oscillation come about? In this paper it is argued that this is mediated by metaphors, on several levels. Lakoff and Johnson's theory of conceptual metaphor is a good starting point, but has its limits. It will be shown that this theory provides no account of metaphorical transmediation processes outside the human mind. I propose an extension of this theory with Hayles' concept of 'material metaphor', and recent critiques in terms of 'discourse metaphors'. My claim is that these notions enable an ontological and epistemological clarification of daily Internet practices.

Michiel Korthals (*michiel.korthals@wur.nl*) *Wageningen University*

Hear the Fish and Taste the Violin. An Exercise in the Synesthetic Metaphoric Meanings of the Taste Senses and of Food

In daily life, we use an elaborate system of implicit metaphorical references in tasting food: a glass of Bordeaux wine can taste like berries and in oysters we taste the sea. Food is an engine of metaphorical meanings that permeates our life. Apples can incorporate references of sin or toxin or simple land life, tomatoes can refer to blood and love. Fast food for many symbolizes the American Dream. Olives are signs of peace. Food has this often neglected characteristic because it is experienced by our proximate senses and so embedded in daily life. However, in contrast to the distal senses like seeing and hearing, the proximate senses like smell, touch and taste allow us to refer to a wide range of sense crossing meanings, and implicitly widen our horizon of the experiences of the visual and auditive senses. I will first show that this form of synesthetics has a temporal structure of taste expectations; retrospective embedding making this synesthetics dynamic and constantly changing. Secondly, I will analyse the metaphorical meanings of food.

Iina Hellsten (*iina.hellsten@vks.knaw.nl*) *KNAW*

Metaphors as Tools of Translation in Science Communication: From Dolly the Sheep to Bird Flu

Metaphors are important tools of communication that provide a common topic for different discourses, but are often used in various ways in these discourses. In the mass media scientific issues are frequently covered in terms of sensational innovations that may change our everyday lives or help protect us against problems caused by science and technology. Whereas the mapping of the human genome

was often covered with techno-scientific triumph, some applications of the new gene technologies, such as cloning of Dolly the sheep, or stem-cell research, are discussed in terms of science creating new monsters. Metaphors, such as “genes as the alphabet” of life or “Frankenfoods” gain their power in connection with wider, underlying narratives of science as practice in relation to (wild) nature. These narratives often are metaphorical. The paper discusses the metaphors used in several case studies on recent media hypes on techno-scientific issues including the cloning of Dolly, the sheep in 1997, the debate on Frankenfood in 2000, the completion of the Human Genome Project in 2003 and the current debate on bird flu in 2005.

6K: Challenging Scientific Paradigms (UT-101A)

Chair: Sanne Taekema

Jeanne Gaakeer (*gaakeer@frg.eur.nl*) Erasmus University Rotterdam + regional court Middelburg

Understanding Fact and Fiction in Musil and Achterberg

The sex murderer Moosbrugger, whose mental competence to stand trial is at the heart of Robert Musil’s novel *The Man without Qualities*, attracts attention to the scientific debate on determinism and indeterminism which has captivated legal scholars since the nineteenth century. This debate raises the question of the dehumanization of scientific rationality in matters concerning the (legal and penal) treatment of the criminally insane. The nineteenth-century concept of law as science led to a profound belief in the transparency of objective knowledge, what Weber referred to as the disenchantment of the world. Such a concept is also clearly apparent in the Dutch poet Gerrit Achterberg’s portrayal of law, legal medicine, and attendant concepts of personhood in his poems about his experience with hospitalization, the result of his killing his landlady. The tension between Achterberg’s identity as a poet and as a criminally insane and sexually deviant person is felt deeply in these asylum poems. Borders between fact and fiction are blurred when we realize that Achterberg’s (other) poetry was used by psychiatrists and lawyers alike in order to ascertain his mental deficiency. In this essay I propose to combine an analysis of Moosbrugger’s story and Achterberg’s poetry in order to highlight the *Erklären – Verstehen* controversy, as it is termed in the German philosophical tradition. This controversy lies at the heart of the epistemological debate and the methodological struggle between the natural sciences and the humanities at the end of the nineteenth century; it has had the far-reaching implications for law and literature in the twentieth century.

Greta Olson (*Greta.Olson@anglistik.uni-freiburg.de*) Freiburg University
Criminalizing the Poor: Convergences of Law and Literature during the Early Modern Period

Interior minister Nicolas Sarkozy's recent referral to young rioters as "racaille"—alternately translated into English as "rabble" or "scum"—has served as a lightning rod for social debate in France. Those who agree with his no-tolerance policy second his remarks; others argue that his incendiary language functions like the police force's routine harassment of dark-skinned urban youths to criminalize this population group. Arguably, a similar process occurred during the early modern period in England. As economic conditions led to the growth of a large population of dispossessed young people, laws concerning petty crimes proliferated, punishments for property crimes were made harsher, and a corpus of literature developed that stigmatized vagrants and the poor. Rogue pamphlets listed varieties of men, women, and child thieves, exaggerated the criminal abilities, and warned readers how to avoid falling for their tricks. Contemporaneous London plays dramatized the antics of urban conmen and gave witness to their supposedly secret language. Such statutes, pamphlets, and plays all worked to create the image of a group of dangerous, well-organized criminals in the public imagination. Attributions of animality to these figures further suggested that criminals were sub-human and biologically marked. The imbrication of law, literature, and science in texts concerning the poor contributed to their criminalization. This process finds unfortunate parallels in the present.

Laura Otis (*lotis@emory.edu*) Emory University; *Max-Planck-Institut für Wissenschaftsgeschichte*

Howled out of the Country: H. G. Wells and Wilkie Collins Retry David Ferrier
In 1881, Neurophysiologist David Ferrier was brought to trial for violations of the Antivivisection Act of 1876. Ferrier, who worked with dogs and monkeys, had been mapping the motor center of the cerebral cortex, applying electricity to the animals' brains and noting their responses. In his trial, the leading representatives of the antivivisection and scientific communities faced off, each side questioning the other's competence and authority. In two novels about the relationship between people and animals, Wilkie Collins and H. G. Wells reconfigured this public debate. In *Heart and Science* (1883), a propagandistic novel whose critique of science is more complex than it first appears, Collins quoted Ferrier's work and assigned his demonic neurophysiologist Dr. Benjulia a research project similar to Ferrier's. Wells's *The Island of Dr. Moreau* (1896) presented a scientist whose studies differ from Ferrier's in their subject matter but resembled them in their essential questions, asking whether any mental qualities could distinguish people from animals. Rather than simple responses "inspired by" the trial, these novels were themselves trials, offering readers debates about who should have the power to experiment and to police science.

7A: Posthuman Matters (BG5-213)

Chair: Jeanne Hamming

Jeanne Hamming (jhamming@centenary.edu) *Centenary College of Louisiana*
Complex Matters: Technology and Transformation in the Fiction of Don DeLillo
In *Embodying Technesis* Mark Hansen writes that the “emancipation of energy” in the aftermath of the Industrial Revolution has led an ontological transformation: the complexification of humankind’s relationship to the material world. This transformation invites us, Hansen writes, to reconsider technology in terms of its resistance to “explicit cultural thematization” (56). In this paper I seek to reconsider the fiction of Don DeLillo (particularly *White Noise* and *Underworld*) from this “postrepresentationalist” perspective. I will argue that DeLillo’s novels explore the increasing isolation of the human from the material world as well as the cultural anxiety that is provoked by this isolation. In *White Noise* for instance, we see Jack Gladney struggling to find significance in a material world that has been utterly transformed by post-mechanical technology into a post-human and even post-material landscape of “waves and radiation.” Similarly, in *Underworld* the irrepressibility of radioactive waste becomes an image through which DeLillo explores this technological complexification of matter. In both texts, I will argue, the main characters struggle to articulate their increasing sense of alienation in a post-industrial technological world that exceeds and resists critical understanding.

Alicia King (akking@utas.edu.au) *University of Tasmania*
Transformations of the Flesh: Rupturing Embodiment Through Biotechnology
This paper explores the potential rupturing of traditional notions of embodiment, through biological technologies, which can act as a platform to expand the parameters of conscious embodiment, from those based upon fixed, exclusively human, form, to one which permeates individual bodies, species, and space. While the transplantation of an organ from one body to another, illustrates a strong example of a transgression of embodiment, the ability for the living body to exist outside of itself, through tissue culture techniques, also illustrates the potential for a wider transgression of the physical human form. In focusing upon the growing of primary tissue as an extension of embodiment, this paper also refers to my own art practice, which involves the tissue culturing of skin from multiple donors, into artworks consisting of organic sculptural forms. These works seek to explore a conceptualization of embodiment which surpasses fixed physical form, incorporating notions of dispersed and collective subjectivity. Other biotech artists whose practices relate to this conceptual field will also be referred to throughout.

7B: Gender and Technoscience 2 (BG5-221)

Chair: Carol Colatrella

Daniela Tonelli Manica (*danielamanica@yahoo.com.br*) *IFCH / Unicamp (São Paulo)*

Narratives on Menstruation and Contraception: Beyond Nature and Culture?

According to the Brazilian doctor Elsimar Coutinho, menstruation is obsolete. Arguing that in a *state of nature* mensal bleedings wouldn't occur, he emphasizes the social control of reproduction as one of the main factors for the incidence of menstruation in contemporary women. Throughout his career as a researcher on human reproduction, he has engaged in the development of several types of hormonal contraceptives, especially those which allow the suppression of menstruation for long periods of time. With this paper, I intend to consider the suppression of menstruation and its relation to the availability of such hormonal contraceptives in the pharmaceutical market as a point of departure for a discussion about the relations between menstruation and biotechnology. The attempt will be to contrast Coutinho's narratives about menstruation and its suppression with some feminist and/or post-feminist critical approaches to the use of nature and culture either as a dichotomy or as explanatory concepts to talk about the body. I propose, then, to present menstruation as a case to think new concepts and new assemblages of meanings for narratives related to body and biotechnology.

Sandy Weber (*sandyweber@adelphia.net*) *Carilion Health System*

Cesarean-on-Demand: The Sterilization of Childbirth

As a consequence of improved surgical and anesthesia techniques the rate of elective Cesarean section for childbirth is skyrocketing in many western countries. The Cesarean rate is currently 40% in Chile, 75% in Brazil and approximately 25% in the US and Italy. This paper will examine Cesarean-on-demand, the phenomenon of performing Cesarean sections for non-medical indications. Some of the reasons women give for requesting Cesarean-on-demand are ease of scheduling, and fear of uncertainty or pain. While the medical establishment is gradually moving toward the belief that Cesarean-on-demand is beneficial and in many cases warranted, there are factions, primarily women's advocacy groups, certified nurse midwives and nurses, who are strongly opposed. They contend that Cesarean-on-demand is a result of fear of litigation and an ethos that values expediency, control and perfection. They argue that Cesarean-on-demand undermines women's trust in their bodies and their efficacy as women. At the heart of this debate is the way women are treated in the medical arena and the complexity of decision-making in a highly technological society. This paper will consider the science for and against Cesarean-on-demand as well as concepts of autonomy, paternalism and self-efficacy as they pertain to childbirth.

Frances Pheasant-Kelly (*f.e.pheasant-kelly@wlv.ac.uk*) *University of Wolverhampton*

Doctors and Nurses: The Evolution of ER

The television series *Emergency Room (ER)*, which has been running since 1994, has been subject to analysis by a number of theorists but often in terms of its aesthetic, stylistic and thematic approaches. This paper will focus on issues of gender, as well as those of race and disability that permeate the series. This will be of relevance to film and media students and theorists interested in representational practice as well as those in health fields concerned with misrepresentation. I will do this by a textual analysis of key scenes from each series focussing on potential problems in areas of representation relating to gender, race and disability. In so doing, I will refer to key theorists concerned with these issues. I will quantitate these results by determining the number of potential instances in relation to respective categories and the actual outcomes. I will show that *ER* in its evolution has progressively shifted in its representation of doctors, nurses and patients, and reflects ideological practices in so doing which in part is the reason for its ongoing popularity. This research will thus offer alternative readings of *ER* within a context of representation and will provide a framework for future empirical assessments of the impact of such practices on viewers of *ER*.

Carol Colatrella (*carolcolatrella@hotmail.com*) *Georgia Tech*
Fiction and Social Change: Reading Narratives / Composing Lives of Women Doctors

I will examine representations of scientists in nineteenth- and twentieth-century narratives to analyze how particular fiction and films encourage or discourage women from entering scientific professions. The proposed paper will discuss American realist narratives describing women doctors' challenge to succeed as professionals, social activists, and, in some cases, as wives and mothers. William Dean Howells' *Dr. Breen's Practice* (1881), Elizabeth Stuart Phelps' *Dr. Zay* (1882), Sarah Orne Jewett's *A Country Doctor* (1884), and Charlotte Perkins Gilman's "Mr. Peebles' Heart" (1914) and "Dr. Clair's Place" (1915) depict a golden age of women's participation in medicine. These narratives appeared in an era when women's medical colleges and female students' matriculation in coeducational medical schools flourished--from 1850, when the first women's medical college was founded, to 1910, when the Carnegie Foundation published Abraham Flexner's report on the inadequacies of medical education in the U.S. Recognizing the intertwined moral and aesthetic powers of realism, Howells, Phelps, Jewett, and Gilman take pains to represent their fictional protagonists' lives as exemplary of real-life contemporaries and in some cases humanitarian ideals. Their fictional women doctors struggle to combine personal and professional lives and to be accepted as competent caregivers in ways that resonate with readers.

7D: Imaging the Body (UT-101)

Chair: Elona van Gent

Anneke Smelik (*a.smelik@let.ru.nl*) *Radboud University Nijmegen*
A Close Shave: The Hairless Body in a Digital Age

In a technologically mediated culture the human body has become the nexus of new ideals which move it further away from 'nature'. This paper will explore the relationship between technology and the ideal of the body beautiful, in particular a body devoid of body hair. In contemporary western culture body hair is becoming a taboo for both women and men, as the ideal is a smooth and shiny skin, not unlike the metal sheen of machines. This paper will discuss how several, overlapping, technologies support this performance of a hairless body. These technologies, understood here in the foucauldian sense of "a set of techniques for maximising life", include a) sports, fitness and bodybuilding; b) cosmetics and fashion; c) pornography and visual culture; d) medical interventions such as cosmetic surgery; e) science fiction and the figure of the cyborg. Technologies of visualisation and digitalisation go hand in hand in relegating body hair to the waste bin of contemporary culture. By analysing images from fashion photography, cinema and digital art, this paper explores issues of materiality and disembodiment in the digital age.

Fae Brauer (*faebrauer@aol.com*) *The University of New South Wales*
Body Phantasies: Physical Cultural Imaging in the Eugenicized Imagination

By the first International Eugenics Congress and Exhibition in 1912, the eugenic imagination had acquired a powerful ally: Physical culture photography. For Darwinian and Lamarckian Eugenicists, these photographs supplied Western citizens with an image of the longed for regenerated body both to emulate and desire. With their movements frozen in time, photographs of such world-renown body-builders as Eugen Sandow and Sandwina could, following Jacques Lacan's Mirror Phase, invoke projection of the spectator's imaginary counterpart, in the form of narcissistic body phantasy. Speaking through the mouth of Darwinian and Lamarckian authors, these mute images could ignite a desire to attain corporeal regeneration just like Sandow's and Sandwina's. At the same time, these bared bodies were not entirely offered for emulation and edification. With erogenous zones unashamedly bared these images were, to borrow an old phrase from Laura Mulvey, coded for "to-be-looked-at-ness". While they could be imagined by the spectator to portray an ego ideal, they also provided an image for the projection of their libidinal phantasies. Hence, as this paper will reveal, the imaging of physical culture was ultimately designed to prey upon phantasy within the eugenicised imagination for regeneration of the Western race.

Karl Grimes (Karl.Grimes@dcu.ie) Dublin City University

Collected Bodies: Vial Memory and the Scientific Archive

Collected Bodies examines the themes of retrieval and resurrection - bringing to light and into the light the objects and specimens previously hidden in dispersed archives and research databanks. Based on three recent art and science collaborations with medical museums and laboratories in Europe and America on historic fluid-preserved human and animal specimens, this visual presentation addresses the imaging process and outcomes of these projects. Central to this, is an examination of the aesthetic codes and display conventions inherent in the medical and scientific museum, the ethical and communication challenges faced by these institutions, and how the image can re-present and re-purpose historic content to contemporary audiences outside of the science community. Dating from the mid-nineteenth century onwards and still in use today, these glass menageries were acquired for education and research by teaching hospitals and universities. The forerunner of the cabinet of curiosities and later a centerpiece of the traveling freak show, many of these collections are today on public display in medical museums, now carefully re-curated to adhere to both the ethical sensibilities of a contemporary audience and to the narratives of success and conquest enshrined in the institution of science and medicine. The images in *Collected Bodies* stand as both requiem and genesis. The mode of display and artifice transform these collections, collapsing their past into a timeless, liminal, ambivalent space - where they are constantly on the verge of becoming ... yet frozen in time. This is the paradox throughout: a fantasy future of Disney-world displays, of long-extinct creatures, or perhaps of those which never came into being. Captured in a state of grace, the images invite us to view and enter a contemplative mode - where colour and large scale render them both close-up yet distant, creating an allegorical world where death and immortality are present[ed] in living colour. Please see: www.karlgrimes.net/html/mutter.html, www.karlgrimes.net/html/fnature.html, www.karlgrimes.net/html/stilllife.html

7E: Narrative Pathologies (BG5-212)

Chair: Franziska Gyax

Stephen Dougherty (stephen.dougherty@kctcs.edu) Agder University College
Autism Between Cognitive Science and Psychoanalysis

In her soft science fiction, Hugo-Award-winning novel *The Speed of Dark* (2004), Elizabeth Moon explores what is at stake in representing the mind/brain as a computer. The protagonist, Lou Arrendale, is an autistic who must consider undergoing an experimental operation to cure his autism. This operation is explained in terms that promote the mind as computer metaphor. As one of the doctors responsible for the operation explains, the mind/brain is like a computer, at least

insofar as it is constituted by a series of modules, or systems, that have each evolved to perform distinct tasks: a module for expressive language; a module for facial recognition, etc. While the doctor seems confident in his vision, Moon's novel is less so. Indeed, *The Speed of Dark* betrays considerable ambivalence about its modules and other computer metaphors. How, the novel interrogates, do such metaphors color our attitudes towards autism? For Lou's doctor cognition is computation, and autism is a processing failure. This assumes that autists are abnormal, and indeed, not entirely human in light of their abnormality. Moon's novel thus tests the quality of our perceptions of autism: Are autists damaged people in need of repair? Or is autism another condition of being in the world? Such matters, I shall suggest in my presentation, bear immediately on the continued relevancy of psychoanalytic theory, as well as on contemporary theorizations of the posthuman.

Elizabeth Donaldson (edonalds@nyit.edu) *New York Institute of Technology*
Lauren Slater's Lying: Metaphorical Memoir and Pathological Pathography

As the US public awareness of anti-depressant medication surged in the 1990s, Lauren Slater's *Prozac Diary* became the quintessential auto-pathography, documenting her life with major depression and the subsequent alleviation of her symptoms with the new media-darling wonder-drug Prozac. However, Slater's pronounced ambivalence about her Prozac-inspired "cure" or recovery—like Peter Kramer's cautions about the ethics of the ever-increasing medication of people with minor depressive disorders in *Listening to Prozac*—was relatively ignored by a culture swept up by the Prozac enthusiasm. Slater's later "metaphorical memoir," *Lying*, on the other hand, is not so easily appropriated. A parody of the illness narrative, a pathological pathography, *Lying* is the dark sister text of *Prozac Diary*—Slater's subversion of the autobiographical conventions and imperatives of mental illness narratives. As such, I argue, it is a "hysterical" text, evoking the complicated past of women narrators/patients diagnosed with mental illness. In this paper, I position Slater's *Lying*, a text ostensibly about the experience of epilepsy, in the tradition of mental illness narratives and the gender politics of psychiatric diagnoses.

Jonathan Lear (jonathan@lear.ca)
Narratives in Gender Reassignment

This paper aims to discuss both positive and negative ways that personal narratives may be used in medicine, and explore the relationship between personal narratives and clinical guidelines for controversial medical procedures. The paper will focus on the case of gender reassignment surgery (GRS). GRS refers to the set of medical procedures through which men are turned into women (and vice versa), or alternatively, through which a person's true gender is revealed. According to current clinical guidelines, individuals seeking gender reassignment surgery

are normally required to provide psychiatrists and surgeons a narrative of their gender identity and demonstrate that other persons agree with this narrative prior to receiving GRS. It will be argued that transgender persons constitute a marginalised and oppressed group, and that transgender persons are subject to acts of violence and discrimination at higher rates than the general population. This paper will question the place of personal narratives as a prerequisite for GRS and the assumptions built into the clinical guidelines for GRS. The wider implications of this practice will also be explored. Recognising that marginalised groups regularly have their voices silenced, alternative approaches to personal narratives for gender reassignment will be discussed that take this into account.

7G: Performative Transductions (OMHP-118C)
Chair: Sher Doruff

Stamatia Portanova (*stamatia@easy.com*)
Dance, Technology and the Mutations of Rhythm

The aim of this paper is to take the analysis of the dance/technology relation beyond the notions of conscious imitation, resemblance and representation presupposed by structuralist and post-structuralist readings of the 'mediatised' dance-text, and beyond the subjective perceptual/performative mechanisms explained by phenomenology. The main problematic of both these approaches can be identified with the reduction of the body, its perceptions and movements to hermeneutic or phenomenological structures based on fundamental dualisms between reality/representation, live body/mediatised body, subject/object, which rely on an essentialist tradition of thought. In order to avoid this textual/phenomenological impasse, I will move the analytical focus on the materiality of the body, perception and movement, as a common and undifferentiated field of emergence in which specific thoughts, ideas and movements emerge. What does 'having an idea' in dance mean? How do we think of movement beyond representation and phenomenology? Taking Gilles Deleuze and Felix Guattari's 'abstract materialist' conceptualisation of rhythm as a point of departure, this presentation proposes a non-representational and non-phenomenological approach to the creativity of dance and to its encounter with technology. Whilst conscious and pre-choreographed displacements depend on notions of metric counting and measuring, the idea of movement as an intensive transformation of the body is linked to a non-conscious, distributive appearance of qualities before choreography, in the moment when thinking-sensation-movement coincide: a dance Idea is simultaneous to the sensation of the moving body. Beyond notions of imitation, physical extension or conscious subjective exploration, I will try to reveal how new and previously un-thought outcomes can derive from the body-technology encounter.

François-Joseph Lapointe (lapoinf@biol.umontreal.ca) *Université de Montréal*
Multi-Specific Cross-Platform Dance Composition

A dance is defined by basic steps, from established or newly created movement vocabularies, which are combined in sequences of several steps, and performed by dancers. The role of a choreographer is to create dance pieces by generating, transforming, selecting and assembling such movement sequences in a coherent fashion. Alternatively, the choreographer can be simply defined as a selective mutagen; thus, he/she may be replaced by any process that can transform and select among different movement sequences. The new field of choreogenetics applies the concepts of population genetics and evolution to generate movement sequences using a genetic algorithm. This process takes as input a random sequence of movements, sampled from a fixed vocabulary, and transforms it through choreographic operations encoded as various forms of genetic mutations and using different selection criteria. Interestingly, such an algorithmic approach to dance composition can be extended to the fields of genomics by evolving a movement sequence into bacteria submitted to various mutagens and cultured in different growth media. The mutant sequences may then be combined with those generated by a human choreographer or a genetic algorithm to produce a full choreography. In this paper, we will introduce and illustrate this multi-specific cross-platform approach for dance composition.

Serge Tampalini (*serge@murdoch.edu.au*) Murdoch University
Affective Space

Traditionally sight is understood in terms of vision. When I use the term vision I mean that particular characteristic of sight, which connects seeing to thinking; that rationalizing vision that is both indicative and resultant of the habitual way of seeing the world that was fostered by our parents when we were babies, and developed by us as children. A way of looking that defines a relationship between a subject [which does the looking] and object [which is being looked at]. Consider what happens if the object were to appear to suddenly look back at the subject? I'm sure we have all had the experience of being caught looking at someone, when suddenly we become aware that they are "looking back" at us. We are changed in some way, more consciously aware...embarrassed even, our emotions are heightened; it's like having to negotiate a moment of our reality, which under "normal" conditions would not present any problems. However faced with the predicament of being caught unaware, we are forced to quickly assimilate this "other" space, as it were, into our familiar subjective reality. This is the experiential nature of the "affective".

Susan Melrose (*sfmelrose@sfmelrose.u-net.com*) Middlesex University
... and If Interdisciplinarity Were Academic-Writing Driven and Dependent?

Is the recent work of the British choreographer, Rosemary Butcher, produced in collaboration with the dancer Elena Giannotti and the independent film-maker, Martin Otter, an example of interdisciplinary practice? It is certainly produced at the interface between three or more heterogeneous instances of disciplinary expertise. But the decision-making lies, finally, in a single pair of hands. I have argued that the signature (or distinctive im-press) of the choreographer, in this recent work on film, is consistent with that of work produced over the past three decades, even if it is also the case that her restless, ongoing activity, driven by a 'research imperative', as well as creative and professional imperatives, aims always at the qualitative transformation of the given. In this presentation I argue that something (of art-making expertise) can be lost when academic writer-educators proceed to predicate artist-subjects - almost as though 'we' (in the university) have no choice but to predicate, given the order/ing specific to the clause structure. I suggest that on this sort of basis, we might argue that interdisciplinarity might remain an aspiration of the academy, hence a product of academic writing and academic ethos, where these are pursued from the position and the 'knowledge theories' of an expert spectator.

7H: Media and Memory (BG5-222)

Chair: José van Dijck

Sabine Sielke (ssielke@uni-bonn.de) North American Studies Program, Department of English, American and Celtic Studies, Univ. of Bonn
Memory, Intermediality, and the (Cognitive) Sciences

My paper will focus on central theoretical and methodological challenges entailed in rethinking memory by way of intermediality and the (cognitive) sciences. It is part of a larger project in which I explore a variety of intermedial 1990s American cultural practices - from literature to advertisements across painting to film and soap operas - to interrogate the following two questions: How does intermediality inform and affect processes of memory? And how can our understanding of intermedial processes of cultural memory be enhanced by the (cognitive) sciences?

Jo-Ann Whalley (j.whalley@murdoch.edu.au) Murdoch University
Remembering Desire: Sound, Image and Audience Relationships in the Films of Marguerite Duras

One way of distinguishing between craft and art is that craft may be described as a set of rules and art as the process of taking those rules and, in the redefinition and redrawing of their boundaries, finding new content within them. In addition, art may also be defined as a way of making the world smaller in an attempt to understand it. In so doing, the artist presents their artistic vision through the lens of their subjectivity. This perspective will be the focus of my paper; I will discuss the particular artistic vision of filmmaker and writer Marguerite Duras, with reference to her films *India Song* and *Her Venetian Name in Deserted Calcutta*. In the disruption of the relationship between sound and vision in her work, Duras raises serious questions about coherence both at a structural level and at a narrative level. By taking a historically accepted practice of film; the synchronicity of sound and image, and fracturing this direct relationship, Duras also exposes some of the fundamental questions of desire as absence and reframes the expected normative view of the world through her personal perspective. As Duras herself described it: "I indicate with sound, that is, speech and music welded together, the dance through which the script unfolds." Duras as the author and we as spectators locate desire as an impossible attempt to re-join these fractured parts. Sounds present a memory - and memory is only ever a desire to make present an irretrievable past. Duras distorts time and memory and affectively disturbs our expectations and understanding of the film's narrative.

David Burns (*mayaprof@yahoo.com*) *Southern Illinois University Carbondale*

Making it Yours, Making it Mine

Making it Yours, Making it Mine explores what happens when a highly personal and collective event is recorded to the neuronal and digital memory systems. The paper explores questions including what happens when an individual witnesses a traumatic event, such as the destruction of the World Trade Center (WTC), but does not record that event digitally—only psychically? If the individual records the traumatic event digitally, using a video camera, how can the visual memory transcend the personal consciousness to become a part of the collective consciousness? After the personal memory becomes part of the collective memory how might the original author's personal memory be informed by the newly created collective memory? *Making it Yours, Making it Mine* incorporates video taken in lower Manhattan on September 11th 2001 with a 3D animated personal abstraction of the traumatic events that unfolded that day. A part of the paper presentation includes screening the video work to bring personal events and personal memories into the collective consciousness. Screening the abstracted 3D animation opens up a dialogue between this newly formed collective memory of events and the artist's personal memory and expression of the fall of the WTC in New York City.

71: How to Do Things with Metaphors 2: Qualifying Nature and Ethics (OMHP-118A)

Chair: Iina Hellsten

Panel description Lakoff and Johnson's bodily origin view of metaphor seems to imply that we are hardly responsible for the contents of our metaphorical ideas, which often go unnoticed anyway. But in many (scientific) contexts a plurality of metaphors exists, sometimes in peaceful coexistence, sometimes in great conflict. How to deal with the plurality? Should we be looking for the best and/or most adequate metaphors? Should plurality itself be cherished? If so, how? We will wonder if and how to take a normative approach to doing things with metaphors. Metaphors of nature and metaphors of ethics will figure as test cases.

Jozef Keulartz (*jozef.keulartz@wur.nl*) *Wageningen University*

How to Judge the Value of Metaphor?

Nature can be compared to a particular kind of place (frontier, garden, park, wilderness, utopia), to a friend or family member (self, mother, father, sister, brother, wife, husband, partner), an actor (god or goddess, minister, monarch, lawyer, selective breeder, enemy), a network (web, community, tapestry), a machine (clock, engine, computer, spaceship), a state of being (virgin, harmony, balance), a mode of communication (book), a built object (bank, sink, storehouse,

pharmacy, lifeboat, home), or to a contested landscape (battlefield, commons). On the one hand many environmental philosophers and activists, confronted with this diversity and heterogeneity of metaphors of nature, still tend to search for best one. On the other hand there is a growing awareness that one simply has to accept the plurality of metaphors. This, however, does not mean that questions of judgment can be suspended, unless we assume that all metaphors are equally valid. The paper discusses pros and cons of various criteria to distinguish between more and less accurate metaphors. For example, can the validity of a metaphor be determined by the context or goal? Does previous experience help, or a mapping process from source to target domain?

Cor van der Weele (*cor.vanderweele@wur.nl*) *Wageningen University
Human Enhancement and Moral Imagery*

Moral debate on human enhancement is full of metaphors. Humanity is in its adolescence, humanity should grow up, enhancement should be used to level the social playing field, etcetera. Many of those metaphors are used implicitly and it can be argued that the quality of debates could be improved by an explicit acknowledgement of such images. A further question is how to understand the role of such metaphors in moral discourse. Metaphors are still predominantly approached linguistically. Thus, though Lakoff and Johnson deny that metaphor is a purely linguistic phenomenon, they rely almost exclusively on linguistic evidence. The paper wonders what can be gained by taking imagery-aspects of metaphors more seriously. Paivio's dual coding approach, which assumes that verbal and imagery systems cooperate in metaphor processing, is one way to understand the role of imagery. I will discuss such general issues through examples on enhancement. If we take the link between metaphor and imagery seriously, what does this imply for moral debates on human enhancement?

Chunglin Kwa (*c.l.kwa@uva.nl*) *University of Amsterdam*

The Painterly Landscape as Metaphor: Alexander von Humboldt

Landscape took on a new meaning through the new science of plant geography of Alexander von Humboldt (1769-1857). In the 17th and 18th centuries, 'landscape' was foremost a painterly genre. Slowly, painted landscapes came to bear on natural surroundings, but by 1800 it was still not common to designate sites as 'landscapes'. In his essay 'Ideen zu einer Physiognomik der Gewächse', written shortly after he returned from the Americas in 1804, Humboldt is teaching his readers how to see: "He who knows how to comprehend nature at a single glance and knows how to abstract from local phenomena, will easily perceive..." He goes on with a crucial passage: "The idea which the artist wishes to indicate by the expressions, "Swiss nature," or "Italian skies," is based on a dark sense of some local characteristic." Humboldt's gaze is the gaze of a painter. Humboldt projected painted landscapes metaphorically on nature and what he found was its ecological

unity. He thereby transformed the concept of landscape from an esthetic category into an abstract entity, and unified a heterogeneous collection of landscape elements into a single coherent whole. Humboldt's metaphor thus constituted a new scientific truth, the adequacy of which was only recently cast into doubt.

Klaver Irene (*klaver@unt.edu*) *University of North Texas*

Pure Fortune: Water in Metaphors

The effectiveness of metaphors can be gauged by their success in contributing to dialogue and discussion in civic society by functioning as boundary objects. Philosophers Susan Leigh Star and James Griesemer developed the notion of boundary objects to facilitate negotiations between groups with heterogeneous interests and backgrounds. Dealing with conflicted situations they see it as a first requirement that different players in the field build an understanding for each other's concerns. This involves serious work of "translation," in which boundary objects fulfill a crucial role: they not only form a meeting ground for several intersecting social worlds but also easily cross boundaries of the different worlds—hence their name. While they have a specific meaning for every group, their structure is common enough that they can form a leverage or connection between them. As vehicles of translation they create coherence across social worlds. They invite co-operation without reducing inner diversity to a consensus that eliminates heterogeneity, thus maximizing both the autonomy of and the communication between worlds. The paper discusses the workings of various water metaphors as boundary objects: Machiavelli's statement "Fortune is a river", the invocation of purity by the bottled water industry, the Rio Grande as a cultural corridor as much as an ecological corridor and so on.

7J: Theorizing Collaborations (UT-301)

Chair: Helen Chandler

Panel description There are many examples of art/science collaborations in history. Today a new wave of collaborations between artists and scientists is taking place, specifically in the fields of the Life Sciences. We can find artist-in-residence programmes all over the world. But when we look at them more closely we find very different examples and ideas about those collaborations as well as different approaches to goals and effects of those collaborations. Practically, it nearly always seems to come down to a close matching of individuals. This panel focuses on the im/possibility of theorising those collaborations. The panel consists of three artists, **Jill Scott** (Prof. Dr.), **Adam Zaretsky** and **Maria Verstappen** who are experienced collaborators, as well as collaboration organisers. They will be asked to think about the specificity of their practice and be questioned about a possible theory of art/science collaborations.

Jill Scott (*jill.scott@hgkz.ch*) *Institute Cultural Studies in Art , Media and Design, Hochschule für Gestaltung und Kunst Zürich*

Adam Zaretsky (*emu@emutagen.com*) *Rensselaer Polytechnic Institute*
Double Blind: Researching Scientists and Artists as Experimental Collaborators

This lecture will offer up a plethora of questions and explorations pertaining to Art and Science Collaboration. What are the similarities and differences in Artistic and Scientific research styles? How do researchers from these different disciplines enact relations to the unknown? Is there a sense of amoral turpitude that crosses over between Art and Science methodologies during their respective inventive states? What are the imagined grounds for future interdisciplinary research play? And finally, can the accentuation of difference in Art and Science collaboration bring us to projects that exhibit hybrid vigor in their respective resultants?

Maria Verstappen (*notnot@xs4all.nl*) *Driessens & Verstappen*
E-Volver

E-volver is an interactive 'breeding-machine' that develops digital images through artificial genetics and evolutionary techniques. Driessens & Verstappen developed software that generates artificial organisms. Each organism is made up of thirteen genes that together determine how the organism will behave on the screen. The way images look is not only a result of the collective behaviour of the organisms, but also the result of the people working in the Research Labs. By using the E-volver breeding units, one can influence the visual patterns that are being displayed on the monitors located in different parts of the building. In this way a group of organisms evolves that contain properties that generate the most intriguing collective image. Whereas the scientists are mainly focused on biochemistry, genetics and the evolution of biological life, the artists concentrate on the possibilities that the underlying mechanisms of these processes can offer art by implementing them as a purely visual and image-generating system. In this way E-volver reflects the complexity of the biochemical universe as well as humanity's desire for knowledge and understanding. Autonomous processes such as growth and evolution, which can maybe be understood theoretically but which are never directly perceptible in daily life, are made perceptible on a sensory level by E-volver. At the same time E-volver provides a genuine aesthetic experience.

7K: Legal Art and Literary Science (UT-101A)

Chair: Jeanne Gaakeer

Willem Witteveen (*W.J.Witteveen@uvt.nl*) *Tilburg University*

Found in Translation

Legal science has developed three complementary, and sometimes competing, understandings of law: a positivist one (law as an ensemble of texts, concepts and rules), a naturalist one (law as quest for justice) and a pragmatist one (law as practice and as the product of human interaction). These understandings include different conceptions of what the people of the law, the lawyers and judges and legislators and notaries et cetera, are supposed to be doing. In my paper I will explore literary texts that bear on these three different understandings developed in legal science. Elaborating on J.B White's theory of justice as translation, I suggest that the metaphor of law as an activity of translation sheds light on the third (pragmatist) model of law and maybe also on the other two. In doing so I will discuss various literary texts, among which are Eva Hoffman's *Lost in translation*, and William Empson's poem *Legal Fictions*.

Carinne Elion-Valter (*c.elion-valter@uvt.nl*) *Tilburg University*

Lost in Possession: Law between Art and Science in Rezvani's L'Origine du Monde

Serge Rezvani (1928, Iran) is a painter, filmmaker and writer. In 2000 he published *L'Origine du Monde, Pour une ultime histoire de l'art à propos du "cas Bergamme"* (*Actes Sud*). *The Bergamme Case* is about the attempt by the dwarf Bergamme to steal the legendary painting of Courbet, *L'Origine du monde*, resulting in the devastation of The Grand Museum and the death of some of its staff members. I'll discuss three possible ways of reading this novel: 1. Concentrating on the legal aspects of the case: What kind of 'interdisciplinarity' are we employing reading a novel this way? 2. Bearing on the novel's treatment of the question of representation in modern art and its relation to the scientific way of viewing the world: To what extent is a fragmentising and analysing science sincerely interested in reality? laborating on this we could put the same question to the scientific approach of law. 3. Bearing on the novel's treatment of the canonical status given to works of art: How do 'Law and Lit' scholars treat 'their' literary texts?

Sanne Taekema (*h.s.taekema@uvt.nl*) *Tilburg University, Faculty of Law*

The Truth of Fiction: Presenting Proof in Law and Literature

In adjudication, the relevant legal facts are usually the key to the judge's decision. To arrive at the truth of the legal matter, a judge needs to be presented with the true facts. What is the legal truth? This is a difficult question, which I do not purport to answer in this paper. However, I will adress two different routes to approach the legal truth: the way of fact and the way of fiction. The thesis I will ex-

amine is one defended by the Dutch author Multatuli, who states that poetic truth, as presented in his fictional story of Saidjah and Adinda, is more than the factual truth of statistics and reports. However, Multatuli is ambiguous about the need for factual evidence: he stresses that documents and witnesses exist. How should one prove one's case in order to convince the legal public? What role does fiction play? I will show how fiction and fact interact where legal truths are concerned and that in the realm of law a precarious balance is maintained between the two.

Anna-Christina Giovanopoulos (*Anna.Giovanopoulos@mailbox.tu-dresden.de*)
Institut für Anglistik und Amerikanistik, TU Dresden
Science and Law in the Drama of the Exclusion Crisis

Based on the understanding that the seventeenth century was characterised by an epistemological change affecting intellectual fields as wide-ranging as science, literature, law, religion and history (see Shapiro, *Probability and Certainty*), this paper examines how this new "philosophical" (i.e., scientific) discourse is reflected in English drama. To this purpose, the interrelations between law, literature and science will be explored by analysing the drama of the Exclusion Crisis (1679-1682). Theatre constitutes an alternative site of discourse where issues concerning society are dramatised, questioned, affirmed or subverted. During the Exclusion Crisis, theatre became the place for the discussion of crucial legal concepts about the legitimacy and rights of the English monarchy. Far from choosing to create an autonomous cultural field, drama took up questions of loyalty and treason in its genre-specific terms and commented on the wider political debates. Therefore, in drama, the new scientific discourse characterised by empiricism and scepticism did not necessarily make itself felt in a plainer, clearer style, but there is evidence in, for instance, Dryden's and Lee's tragedy *Oedipus* (1678) that the concept of the fallibility both of senses and of understanding played a central role. These findings will be tested against further plays from the period.

Session 8: Fri, June 16, 09:00-10:30

8A: Posthumans in Literature and Film (BG5-213)

Chair: Manuela Rossini

Karin Hoepker (*karin.hoepker@gmx.de*) Erlangen University

"Intimate Caesurae": The Transience of the 'Human' in Recent Fiction

Following Agamben's argument in *The Open. Man and Animal* (2002/2004), the construction of a threshold situation as a rhetoric and epistemic device in literature and criticism is essential to our (Western) understanding of 'humanity' and its shifting taxonomies. Not only is a moment of anticipated crisis often used to trian-

gulate a new perspective towards the present, but a spatial limen of human and Other runs as an "intimate caesura" through the very core of human self-understanding. As a peculiar development, the subject matter of recently published mainstream novels converges towards futurity and topoi traditionally characteristic of science fiction such as clones, post-humans, and elements of the cataclysmic. A reading of recent novels such as Atwood's *Oryx and Crake* (2003), Houellebecq's *Possibilité d'une île* (2005), or Ishiguro's *Never Let Me Go* (2005) against Agamben raises questions on how the construction of a temporal and epistemic threshold, namely the future End of Man, as well as of a spatial limen of Other serves to negotiate our self-perception and generation of taxonomies of the 'human'.

Mita Choudhury (*choudhur@calumet.purdue.edu*) *Purdue University Calumet Whose Homeland? Origins of Engineered Bodies, Dimensions of New Empires*
Steven Spielberg's *Minority Report* and Margaret Atwood's *Oryx and Crake* surfaced at a time when the all-pervasive, post 9. 11, security-driven paranoia was at its height. In Atwood's apocalyptic landscape, the apple—the BlyssPlus Pill developed in the Rejoov complex—is not for local consumption at first but tested elsewhere; the subjects from the clinical trial are from the poorer countries. The temptation to create the perfect (post) human necessitates the subjugation of the distant object, so Crake's desire for power splits into a transcultural and at once an intensely xenophobic impulse. Judith Haberstem, Donna Haraway, and other philosophers of technology have made the cybernetic organism a utopian entity. Haraway's female cyborg can participate in the workings and strategies of hetero-masculinist power structures instead of being dominated by them. But if Haraway's cyborg myth is "about transgressed boundaries, potent fusions, and dangerous possibilities," how can we accommodate within this argument the hegemonic systems that profit from this myth and its regenerative functions rooted in ideas of progress and Enlightenment? My paper addresses the ways in which progressive media, science fiction, and cyber cultures conceptualize future scenarios that invoke cognitive landscapes of fear and desire (Lacan, Foucault, Zizek). In these scenarios, the concept of 'homeland security' and related grand narratives are very firmly rooted in the (interest of the) West.

8B: Sex, Gender, and Sexuality (BG5-221)

Chair: Jonathan Lear

Travis Landry (*tcl@u.washington.edu*) *University of Washington*

The Nineteenth-Century Novel and Selection in Relation to Sex

Current studies on Darwin and literature tend to focus on natural selection from *On the Origin of Species* and its resonance with specific Victorian authors. One

finds no comparable treatment of sexual selection as written about in the later *The Descent of Man, and Selection in Relation to Sex* and no sustained comparative studies that seek to test analogous hypotheses about the broader, European scale of his ideas. Such oversights leave unanswered many of the richest questions raised by Darwin. Whereas the *Origin* only implicitly deals with the topic of "Man," the *Descent* treats the subject directly. There, particularly in the second half, Darwin concerns himself with sexual selection and expounds at length on courting practices as psychological mating rituals upon which the preservation of lineage depends, on female agency (ambiguously attributed to acts of "passive choice"), and on rivalries between male suitors who compete with one another in ways apparently distinct from what is observable in the natural world. Not by chance, these very questions infuse realist fiction of the period both structurally and thematically with gender issues. Only feminist critiques, however, of related cultural and political corollaries can meaningfully frame the power dynamics of the discourse.

Moira Baker (mpbaker@radford.edu) Radford University

Spectral Dildonics: Early Modern Discourses of Female Same-Sex Eroticism and The Roaring Girl

The preface to Middleton and Dekker's *The Roaring Girl: Or Moll Cut-Purse* (1611) proclaims: "Venus, being a woman, passes through the play in a doublet and breeches: a brave disguise and a safe one if the statute untie not her cod-piece point!" As the preface calls attention to the eponymous heroine's modestly fastened codpiece, it suggests that it could be untied for the purpose of legal prosecution. Thus, it provokes speculation: Just what, if anything, does the cod-piece conceal? This study considers some of the culturally and historically specific sexual anxieties and fantasies inscribed on the body of this transvestite "codpiece daughter." Specifically, the study examines two early modern cultural fantasies related to female same-sex eroticism that haunt the unconscious of the text, constituting what I call its "spectral dildonics" and reflecting uneasiness over the masculinization of women. The spectres of the prodigious, enlarged clitoris and its prosthetic equivalent, the dildo, which haunt contemporary gynecological, legal, and moral discourses of female same-sex eroticism, are reinscribed on the body of the crossdressed roaring girl, Moll. Both spectres point to what Marjorie Garber calls a "category crisis" that marks the instability at the heart of early modern constructions of sex, gender, and the self (*Vested Interests*16). The medico-scientific discourses and the play reflect a deeper cultural anxiety: that there may be no fixed identity, no stable self, and no masculinity or femininity outside the performance of gendered scripts.

Margriet van Heesch (*m.a.vanheesch@uva.nl*) *ASSR (AISR) UvA*

Situated Medical Ethics in the Lives of Dutch People with Intersex Conditions

In the 1980's, Jennifer worries that she does not menstruate. A medical check up establishes Androgen Insensitivity Syndrome (AIS). Jennifer has XY chromosomes, while her appearance is female. Afraid to cause gender dysphoria, her physicians withhold the truth. How did this protocol, which neglects informed consent and right to self-determination, emerge? Withholding the truth for women with AIS is part of the Western medical protocol concerning intersex conditions, since 1950. Then, sexologist John Money developed his theory about male and female gender identity as a result of parenting. In 1972, Money proofed his assertion with the John/Joan case. A baby boy suffered penis ablatio and was successfully raised a girl. In 1996 the neurobiologist Milton Diamond exposed the John/Joan case to be a fraud and his alternative sex/gender model in which various gender identities have a neurobiological base is becoming popular. Rethinking sex and gender, scholars and scientists developed several models. In the 1970's feminists mobilized gender as the cultural interpretation of sex. In 1990, Philosopher Judith Butler published 'Gender Trouble' in which sex is an construct of gender performance. In this paper I would like to show how Syncretic and situated sex/gender models either reinforce or subvert the hetero-normative.

8D: Imaging the Mind (UT-101)

Chair: Sabine Flach und Yvonne Wübben

Alexandra Lembert (*lembert@uni-leipzig.de*) *Universitaet Leipzig/Institut fuer Anglistik*

The Concept of 'Thoughts are Things': Thought Photography and Early 20th Century Detective Fiction

According to the American scholar Linda Henderson, Western society of the late 19th, early 20th centuries was fascinated by the invisible. Discoveries, such as X-rays, radioactive radiation and telegraphy, are well-known results of this fascination. Long forgotten, however, are experiments and discoveries which – though partly influential at the time – were later proved wrong. One such example is thought photography, which was “invented” by the Frenchmen Louis Darget (1847-1921) and Hyppolite Baraduc (1850-1909). Both were convinced that thoughts can materialize on specially prepared photographic plates. Although a number of contemporaries doubted Darget's and Baraduc's evidence, British authors such as Sax Rohmer dealt with thought photography in their works. Other writers such as Arthur Conan Doyle just referred to the concept of 'thoughts being things'. The aim of this talk is twofold: first, to give an introduction to thought photography and the conception of thought being things from a cultural perspec-

tive; and second, to discuss its representation in the detective stories by Rohmer (1920).

Jan Altmann (jaltmann@mpiwg-berlin.mpg.de) *Max Planck Institute for the History of Science*

Picturing Nothing? Scientific Images in the Age of Post-representation

What current imaging technologies, that have once started with x-ray photography, display, does seem to come from nowhere. They do not picture things that have already been there before. They visualize data sets or phenomena which lie beyond the scope of the eye, both optically and sensorially. They might even yet create the objects they seem to represent. The resulting images are representations without external references. In present science the interplay between images and reality has been becoming highly problematic. Even more than traditional forms of visual representation, the pictures constructed by means of advanced mechanisms of image formation are not representations of something but representations as something. They perform a dialectic of fact and artifact. In this regard they epitomize the signification of scientific activity: to produce traces as well as material metaphors and metonymies. Evidently, we can see something on these images, hence they do not picture "nothing". But do they still represent something? What is the framework of these "representations"? If it is "post-representation", how can we describe them instead? These questions will be addressed by the proposed paper with examples from microbiology and medicine.

Thomas Eder (thomas.eder@univie.ac.at) *University of Vienna*

Challenging the Poetics of Mind

Cognitive approaches dealing with figurative language believed to have added a new component to general cognitive science focused on literal language and to have found a way to describe the actual functioning of human cognition more accurately, as it is supposed to be structured by figurative and poetic processes even in its everyday, non-literary components (cf. Gibbs 1994, 1). In my paper I will try to present some objections to both, Lakoff's and Gibbs' approaches to conceptual accounts of metaphor, which are grounded in the notion of embodiment. I will try to outline a) an empirical-cognitivist objection (Glucksberg/ McGlone 1999, Murphy 1997) b) an analytic philosophical objection (Guttenplan 2005, White 1996, Fogelin 1988, Leezenberg 2001) and c) an intermediate position between empirical and philosophical approaches (McGlone 2001, Jackendoff/Aaron 1991). In addition to that theoretical considerations I will apply the mentioned cognitive approaches to the reading of poetry. In a partial "close reading" of Holderlin's poem "Andenken" ("Remembrance") I will try to show that the cognitive account can not entirely come to grips with the metaphorical dimensions in this poem. So in the end I ask why literary theory should resort to cognitive science when reading poetry and dealing with figurative language. I try to find some answers which

take into consideration Hoelderlin's poetological text "Ueber die Verfahrungsweise des poetischen Geistes". Does Hoelderlin's poetry provide some kind of poetics of knowledge which could be made consistent with nowadays' cognitive science and neurophysiology?

8E-1: Mad, Noble, or Simply Human?: Narratives of Scientists (BG5-212)
Chair: Sidney Perkowitz

Panel description Most people will never meet a scientist, yet even grade-school children "know" what one looks like: a white man with unkempt or facial hair, thick black-rimmed glasses, and a white lab coat. To adults, scientists are absent-minded, obsessive, even mad; aloof and arrogant; and ready to put science above humanity. While certain characteristics may define scientific types, the literary and mass media often support these stereotypes, or their opposite, improbably selfless scientists, to the detriment of science and society. The panelists explore how realistically scientists are portrayed in literature, drama, and film, illustrated with their own creative works.

Dene Grigar (*dgrigar@twu.edu*) *Texas Woman's University*
Transgressing the Limits: Scientists in Science Fiction

Deluded, mad, enraged, despondent—these are but a few of the negative characteristics associated with scientists in science fiction novels and short stories. From Mary Shelley's Victor Frankenstein and Nathaniel Hawthorne's Rappaccini who transgress the limits of human knowledge by playing God, to H.G. Wells's Dr. Moreau and Margaret Atwood's Crake who transgress the limits of the human body with monstrous acts of barbarism, scientists have endured reputations best described as at odds with the humanity they seek to serve. But what lies at the core of such views? In answering this question, the presenter will draw from a wide array of narratives featuring scientists in science fiction and will focus on notions of Western mythology and views towards intellectualism and knowledge. In brief, the presenter argues that the scientist emerges in science fiction as an outlaw figure that, unlike other outlaw figures, such as Rick Deckard in Philip K. Dick's "Do Androids Dream of Electric Sheep" and Mark in Pat Cadigan's "Synners," that achieve some level of nobility or heroic status in the society they serve or reside in, the scientist-outlaw is unable to sustain comparable stature due to his particular quest for knowledge.

Sidney Perkowitz (*physp@emory.edu*) *Emory University*
*It All Started with Metropolis: Scientists in Film and on Stage**

Rotwang, the wild-haired scientist-wizard who created the robot Maria in Fritz Lang's *Metropolis* (1927), Dr. Frankenstein in *Frankenstein* (1931), and Dr. Carington in *The Thing* (1951) are early examples of scientists shown on film as ob-

sessed, mad, or fatally arrogant. Since then, many movies have portrayed scientists as caricatures. Only a few make the effort to present fully fleshed out scientific characters, showing either well-done fictional scientists like Ellie Arroway (Jodie Foster) in *Contact*, or real scientists, like Robert Oppenheimer in *Fat Man and Little Boy* or Dian Fossey in *Gorillas in the Mist*. The situation is different in works for the theater. Although Karel Capek's early play *R. U. R.* (1920) revolves around scientific arrogance, a comparatively large number of plays, from Bertolt Brecht's *Galileo* to Michael Frayn's *Copenhagen* touch on real scientific lives. Using comparisons of significant films and plays, and readings from the presenter's own play *Glory Enough: Rosalind Franklin and DNA* (produced 2005) this talk examines the differing portrayals of scientists in films and on stage.

* This talk was made possible by a faculty travel grant from the Institute of Comparative and International Studies, Emory University.

Jennifer Rohn (jenny@lablit.com) *LabLit Magazine*

The Invisible Career: Putting Scientists and Their Vocation Back Into Fiction

Although science fiction thrives, novels containing realistic depictions of scientists plying their trade – a genre I call 'lab lit' – are extremely rare, and those most heralded as literary scientific novels often contain the worst stereotypes of all. These inaccurate portrayals are not neutral but instead are actively harmful to science, fostering a sense of unease in the general public about the people who are wielding such intellectual power over technological advances, and engendering a mistrust about scientific results. Other novels occasionally contain more realistic scientists, but they and their science are not central to the plot, meaning that readers seldom learn anything about scientists, whereas they can become intimately familiar with other vocations. Novelists are encouraged to 'write what they know', but how can they know scientists enough to incorporate them into their fiction? And how can scientific information be presented without impairing the pace, enjoyment or readability of a narrative? By highlighting examples from literature, as well as from the speaker's own work, this presentation discusses solutions to the paucity and distortion of scientists in novels and suggests processes by which the writing, marketing and publishing of 'lab lit' fiction could be stimulated.

8E-2: Histories of Science and Fiction (BG5-222)

Chair: Christina Wessely

Christina Wessely (cwessely@mpiwg-mpg.de) Max Planck Institute for the History of Science

Fictional Objectivity: The 'World Ice Theory' (1894-1945)

In September 1894 Hanns Hoerbiger, an Austrian mechanical engineer, had a „spiritual experience“ in the course of which he discovered the Welteislehre (world ice theory), a cosmogonic theory stating that a large part of the universe consisted of ice. Although it was criticised by the scientific community as the dangerous, pseudo-scientific idea of a non-academic charlatan, the Welteislehre was highly successful in the 1920s and fascinated thousands of people. In the 1930s the National Socialists adopted the Welteislehre and institutionalised it in their research organisation Ahnenerbe (ancestral heritage). The paper will mainly focus on the diverse interrelations and references of science and fiction within the Welteislehre. This scientific story-telling was not just the basis of a 'strategic dilittantism' that introduced intuition and creativity as the new epistemic virtues but was in fact the basic principle of the theory's epistemology. The use of charts, curves and tables indicated the presence of 'objective facts' while attached illustrations, drawings and photos presented science as a spectacular narrative, a field of fantasy and visual sensations. By inseparably linking these two systems of knowledge production Hoerbiger positioned his theory as the Other of modern science and established a new epistemology basing on fictional objectivity.

Nadine Jänicke (nadine_jaenicke@gmx.de) University of Leipzig

Narrating Globalization in Social Science Writing

This paper will explore the ways in which language contributes to the construction of meaning in the discourse of globalization. Scrutinizing the function of narrative through the analysis of, among other things, emplotment, intertextuality, voice and perspective, it provides insights into the generation of knowledge and belief structures in recent bestseller literature from the social sciences. The focus will be on *The End of History and the Last Man* (1992) by Francis Fukuyama, *The Clash of Civilizations and the Remaking of World Order* (1996) by Samuel P. Huntington and *Globalization and its Discontents* (2002) by Joseph E. Stiglitz. As the analysis shows that narrative elements participate in the creation of globalization as an object of inquiry, the question is to what extent globalization becomes a product of its scientific discourse by virtue of the constitutive nature of narrative. Thus, the analysis concentrates on explaining and evaluating the meaning-making processes of narration, particularly those of ideological implications, which generate various epistemic configurations of the phenomenon (globalization as a determi-

nistic logic of history, a postmodern fait accompli of technological advancement or a self-fulfilling prophecy for profit ends) in science discourse. The overall aim is to provide specific insights into the epistemological function of narrative within disciplines such as history, political science and economics. The paper will add new aspects to the interdependence between literature and science in the production of knowledge by reassessing narrative as a way for science to make sense of globalization.

8G: Discussion of Bio-Multimedia Performances ((UT-301)

Chair: Sher Doruff

Backstage information and discussion of yesterday's performances.

With the artists:

**Clementine Cummers & Natasha Myers and
Trace Reddell & Timothy Weaver**

8I: Gender, Culture, Agriculture

Chair: Susan Squier

Ruth Ozeki (ruth.mail@ruthozeki.com)

The Death of the Last White Male

In this session, I will read a new story, "Death of the Last White Male," written after the 2004 SLS(A) conference in Durham, where Susan Squier and I discovered a shared interest in chicken husbandry. The story is about a Chinese woman, who moves to rural Canada with her American husband after 9-11. I was inspired by an article that Susan sent me, "Otherworldly Conversations; Terran Topic; Local Terms," by Donna Haraway, in which Haraway riffs on LeGuin's "Carrier-Bag Theory of Fiction": "Bag-lady storytelling would instead proceed by putting unexpected partners and irreducible details into a frayed, porous carrier bag. Encouraging halting conversations, the encounter transmutes and reconstitutes all the partners and all the details. The stories do not have beginnings or ends; they have continuations, interruptions and reformulations—just the kind of survivable stories we could use these days....(T)he bag-lady practice...can remind us that the lurking dilemma in all of these tales is comprehensive homelessness, the lack of a common place, and the devastation of public culture." Avian flu was in the news. Susan and I began our halting conversation. Eventually, I put my story into a bag and sent it to her, as an MSWord file, entitled Cock.doc.

Susan Squier (*sxs62@psu.edu*) Penn State University

Auguries

As my contribution to our ongoing conversation about chickens, I will sketch out how Ruth Ozeki's "The Death of the Last White Male" brings together reproduction, race, species and sexual politics, inviting us to investigate how a seemingly rural event (the killing of a backyard chicken by a migrating hawk) can illuminate the biological and social impact of the collision between indigenous human traditions and accelerating global restructuring. I will situate Ozeki's short fiction in relation to several other fictions that also take the backyard chicken as their subject, thus functioning as natural-cultural interventions, our contemporary version of the ancient practice of augury: "the art of divination by observing the behavior of birds." (Redgrove 1920) Read as an augury, Ozeki's story voices two themes of importance to contemporary science studies: rural life as a place where selves are created and linked to the global, and the human-animal boundary not as a zone of difference, but of provocative, productive and perilous similarity.

Ruth Mendum (*rmm22@psu.edu*) The Pennsylvania State University

Transferring Knowledge: Gendered Herding in Northern Mexico

In the Northern Mexican Tarahumara village of Caborichi, corn fields, apple trees, even forest lands are eroding at an unmeasured but dramatic pace. Each year as the arroyo that runs along the edge of the settlement carries away meters of soil, the inhabitants strive to supplement their inadequate diet with meat from goat herds. Sheep from those same herds produce meat and wool which when spun and woven into rugs, can be sold for cash to outsiders. Herding is women's work and constitutes a major portion of women's contribution to community sustenance and well being. Yet, the dense, tightly controlled herding patterns of the Tarahumara exacerbate erosion and loss of vital topsoil. This presentation discusses the dilemma presented by a situation in which traditional women's expertise has become calcified and inflexible in the face of starvation conditions to the point that indigenous practices mimic industrial patterns. At the same time, advocating radical changes in herding by external advisors threatens to undermine the status of women or simply fail. Gendered work roles, biodiversity, cultural autonomy, and contact with industrialization intertwine to produce a situation with few obvious solutions.

8K: The Illegitimate Parent: (Re)aligning Gender Roles in the Family (UT-101A)

Chair: Caroline Wiedmer

Panel description A recent parliamentary motion in Switzerland calling for joint custody as the legal norm argues that in the present situation fathers are dis-

criminated against: in nine out of ten cases mothers are awarded sole custody of the children in case of a divorce and the fathers receive some form of visitation right. This motion has incited a debate which circles around issues of equality, of the role of fathers and mothers in Swiss society, and of the putative good of the child. Caroline Wiedmer investigates the kinds of characters, traditions and life designs the proposed law undermines or provokes and Sara Steinert Borella traces the roots of contemporary Swiss family law in the Rousseauian narrative of family life in *Emile ou l'Education*. Each paper offers a different approach to the dichotomy between law and the humanities diagnosed in the description of the stream; a common thread throughout the panel will be the reflection of the effects such shifts in legal hermeneutics bring with them.

Caroline Wiedmer (cwiedmer@fc.edu) *Franklin College*

Judging the Law: Shifting Perceptions of Gender Based on a New Evaluation of Parental Roles

My paper considers the proposed legal change in Swiss child custody law and the discursive field created in its wake as an arena in which new cultural meanings of mothers' and fathers' roles within Swiss society are generated. I will suggest that any assessment of the proposed legal change will necessitate an evaluation not only of the cultural context in which the change is being proposed, but also of the sorts of identities the change might cultivate. My questions begin with the very general--how are our interests and preferences contingent upon the social roles available to us? How does law work to make roles available to us?—and then move to the more particular-- What sort of characters, sensibilities, roles, myths and traditions are invoked or rejected or invented in the debates at hand? What sort of norms of masculinity and femininity are invoked? What sorts of desires (for responsibility, for control, for "equality") are being rehearsed in these debates? Against the backdrop of a cultural studies approach to law, I will argue that the kinds of gendered roles manufactured currently in the discussion in such media venues as the Zischtigs Club and Der Beobachter—namely a kind of simplistic dichotomy between the victimized father and the controlling mother—are incommensurate with the identities likely to emerge should the legal change be effected.

Sara Steinert Borella (ssteinertborella@fc.edu) *Franklin College*

Rereading Emile ou de l'éducation

Much has been made of the incongruity that arises between Jean-Jacques Rousseau's personal life and the educational theories presented in *Emile ou de l'éducation*. As Michel Launay notes in his 1966 introduction to the text, "Comment prendre au sérieux un livre sur l'éducation de la part d'un homme qui abandonna "gaillardement" (c'est lui-même qui l'avoue dans les *Confessions*) les cinq

enfants qu'il fit à Thérèse Levasseur? ". [How can one take seriously a book on education written by a man who "happily" abandoned (he admits as much in the *Confessions*) the five children he had with Thérèse Levasseur?] Launay goes on to explain that Rousseau wrote *Emile*, at least in part, to assuage the guilt that obsessed him. In fact, innocence and guilt may be more relevant to our reading of *Emile* in Switzerland in the twenty-first century than ever before. This paper offers a reading of *Emile* as a fundamental narrative to modern legal texts. It will compare Swiss family law to passages in *Emile* in order to show that the theories on education in *Emile* provide much of the narrative background for family law today in Switzerland. Rousseau, citizen of Geneva, thus provides the tools by which to measure and define guilt, innocence, and parental roles within the family structure. In particular, this discussion will focus on gender and gender roles dictated by both Rousseau and the law. How does Rousseau configure the father's role in education? Likewise, how does he construct the mother's role in bringing up her children? How are these ideas applied to the lives of Emile and Sophie, and later to the very structure of family law in Switzerland? How are the same ideas played out in the discussions and decisions that then determine parental custody rights today? These are principle questions that will drive this paper and provide a literary background for the panel's discussion of narrative, science, and the law in the context of family law and parental rights in contemporary Switzerland.

Session 9: Fri, June 16, 11:00-12:30

9A: Critical Posthumanisms (BG5-213)

Chair: George Rousseau

Stephen Weininger (stevejw@wpi.edu) *WPI/MIT*
Chemistry and the Collapse of the Natural/Artificial Distinction

The notion of a "posthumanist" society could not have arisen without the collapse of the natural/artificial distinction. This breakdown is usually connected with the arrival of genetic engineering, but its origins are much earlier – the late 18th/early 19th century and beginnings of modern chemistry. Natural scientists traditionally spoke of "discovery", implying they only uncovered that which already existed. This was true of chemists as well, yet their increasing mastery enabled them to create as well as "discover" things. In some cases these discoveries had been previously unknown, but in others the "new" substances seemed indistinguishable from entities already found in nature. Were the two sets of materials in fact the same? The answer evolved in stages, first with respect to mineral substances, then with respect to compounds extracted from plant and animal tissue. By the late 19th century the distinction between natural and synthetic had virtually disappeared in chemistry, preparing the ground for its collapse in biology. This story

has several ironies – chemistry’s rise as a science coincided closely with the arrival of the Enlightenment, and today chemistry is generally viewed as the model of the pragmatic, non-ideological science. They will be explored as time permits.

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“The Shadow of the ‘People to Come’”: Human or Post-Human?

Deleuze and Guattari’s *What is Philosophy?* defines thought in terms of its confrontation with chaos, both a great enemy and a great friend of thought, indeed its greatest friend, especially in thought’s yet greater struggle, that against the opinion, doxa. Deleuze and Guattari also argue that philosophy, art, and science are the primary means of this confrontation, which takes a different form in each of these human endeavors. On the other hand, as it introduces a new concept of the brain, the book’s conclusion, “From Chaos to the Brain,” invokes “interferences” between philosophy, art, and science that point beyond them, toward a different future of thought, “In this submersion [of the brain in chaos] it seems that there is extracted from the chaos the shadow of the ‘people to come’ ... -- mass-people, world-people, brain-people, chaos-people.” This paper will argue, with Deleuze and Guattari, that this conception of “people to come” enacts one of the most radical critiques of humanism, which is complicit with the privilege role of philosophy, art, and science. The shift of the emphasis from thought to the brain and the (political) concept of “people to come” are signs of this critique. The paper, then, will argue that this shadow of “people to come” is equally shaped by “bio-people,” on the one hand, and “techno-people,” on the other. The first concept redefines the boundary between the human and the animal, and the second the boundaries between the human and the technological, from the materiality of the first human tools to the biological and digital technologies. Both concepts, “bio-people” and “techno-people,” or their avatars, such as “becoming animal” or “machines,” are manifestly important for Deleuze and Guattari’s earlier work, but are peculiarly missing in *What is Philosophy?*, although, as the paper explains, the idea of brain-people in effect implies or even defined by that of bio-people. The paper will offer a post-human view of the brain as a technology of thought. The paper will argue that both concepts, bio-people and techno-people, are crucial for understanding the nature of thought—never non-animal, never non-technological—including as a confrontation with chaos and for defining the “people to come”—bio-people, mass-people, world-people, brain-people, chaos-people, techno-people.

