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Leonardo Reviews
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<www.leonardo.info/ldr.html>
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Leonardo Reviews December 2006

One of the pleasures of editing Leonardo Reviews, and I hope also of reading them, is the combination of the novelty of new voices and the familiar tones of the regular con- tributors. Many of the review panel have been with us for more than a decade and it is often a delight just to touch base with them through their commentary on some new event or book. This month five great supporters of the Leonardo Reviews project, Amy Ione, Wilfred Niels Arnold, Rob Harle, Michael R. (Mike) Mosher and Stefaan Van Ryssen, fea- ture in our postings. Each in their own way make quite distinct interventions in the flow of published material that crosses our interest at the intersection of art and sci- ence. Vigilant readers will also notice a new "voice" from Australia, Kathryn Adams, and another relatively new name quickly rising to the status of a regular: Jonathan Zilberg. Featured below are three reviews from regulars; the rest, along with the ar- chive, can be found at < www.leonardo.info/ldr.html >

As we conclude another year, grateful thanks go out to all our reviewers who have con- tributed this year as well as the Leonardo Reviews editorial team of Associate Editors: Robert Pepperell, Bryony Dalefield, Dene Gregar and Martha Blassnigg without whom the reviews project would not be possible.

Best wishes

Michael Punt
Editor-in-Chief
Leonardo Reviews

< Camouflage >
by Neil Leach
The MIT Press, Cambridge, MA, 2006
289 pp. Paper, $ 24.95
ISBN: 0-262-62200-9.

Reviewed by Wilfred Niels Arnold
University of Kansas Medical Center
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A few years ago I reviewed False Colors: Art, Design, and Modern Camouflage, an enter- taining and informative study by my friend and colleague Roy Behrens (1). In another context, the late Bill Ober told me, "The plural of anecdote is data," and along the same lines I anticipated that by reviewing a second book with camouflage in the title I might be promoted to expert! But the present volume by Neil Leach lacks a subtitle and landed on my desk as a surprise: His is indeed an idiosyncratic approach.

Leach proposes that we are much influenced by architecture and creative design, and that we all seek to adapt to our surroundings. He goes on to develop a working hypothesis that "fitting in," "feeling at home," and "finding our place" promote a widespread desire for "camouflage." I wonder how broadly the arguments and opinions expressed in his book

will be embraced by the Leonardo readership. Leach's premise certainly could not be further from the view expressed by Julian Levy (2) that "the artist alone among all the world has the duty to pursue a special point of view to the farthest reach, to exaggerate and embellish just the things which others prudently modify, diminish, or retrace toward the common, less lonely, comprehensible, and useful center." Parenthetically, such a creative artist puts himself more at odds with society than does the creative scientist.

Perhaps a few quotes from his introduction will suffice to indicate the flavor of Leach's work: "We human beings are largely conformist creatures driven by a chameleonlike urge to adapt to the behavior of those around us. . . . Beneath the urge to assimilate at a physical level there also lies a desire to assimilate at a mental level. We have to think ourselves into the environment. . . . We human beings, then, seem to have the capacity gradually to 'grow into' our habitat, to familiarize ourselves with it, and eventually to find ourselves 'at home' there." Under the sub-heading, Consequences for architecture, Leach asserts that "[s]o deeply has technology embedded itself within our modern psyche that it has become part of our definition of ourselves. . . . [T]his process of assimilation suggests that architecture, and indeed the whole realm of aesthetics, can play a significant role in aiding these processes of identification."

As an original paperback, the book employs appropriate quality paper, and the overall production is handsome. The text has three parts, without clear explanation of how the divisions were chosen. On pp. 10-14, the author previews the contents of his chapters, which range from "sympathetic magic" through "narcissism" to "melancholia." The text concludes with a theory of camouflage in which the author remarks: "Let us start by clarifying that the term is being used here not within the narrow, conventional sense of military camouflage, but within the broader sense of representation and self-representation" (238-247). As mentioned above, the book is sorely in need of a subtitle. Thirty-seven pages of notes and references are assembled in the penultimate section. An adequate name index is provided, but there is no index of subjects.

Eighteen illustrations based on black-and-white photographs by Francesca Woodman have been nicely placed, each one preceding a new section. They are variously ephemeral, enigmatic or energetic and constitute an attractive visual feature, but on first riffle they do not seem much related to camouflage (either the traditional or the present author's definition). Leach claims that the photographs "capture very precisely the main theme of the book—the desire in human beings to identify with and become part of their surroundings."

Neil Leach is the author, editor or translator of more than a dozen books and has taught at a number of institutions. According to the MIT Press, his research "focuses on the interface between architectural theory and contemporary debates within continental philosophy and cultural theory."

1. W.N. Arnold, review of False Colors by Roy Behrens, Leonardo Vol. 36, No. 1 (2003) p. 83.

2. J. Levy, Memoir of an Art Gallery (New York: Putnam's Sons, 1977).

< Spectres of the Spectrum >
by Craig Baldwin
Other Cinema, San Francisco, CA
DVD, 91:00, col.
Rental, $ 26.95 individual; $100 institutional price
Distributor's website: http://www.othercinemadvd.com.

Reviewed by Michael R. (Mike) Mosher
Saginaw Valley State University

"Earthlings, there is a spectre haunting the planet! Electromagnetism is life . . . and death!" With this warning, filmmaker Craig Baldwin presents us a dystopic future (awfully near!), after war has burnt, brutalized, and stupefied all creatures, and "shredded the delicate tissue of the pulses". The yarn is richly written, tightly edited and filled with very rich imagery, some half-glimpsed in a millisecond. This reviewer saw a

rough cut of Spectres of the Spectrum in 1998 and found it slack, its talking heads too prominent. The heads are still there, but better integrated into short, pithy lesson-ettes and rousing science fiction, constructed upon a skeleton of past cultural detritus.

The story is punctuated with clips from science, educational or industrial films, but "Spectres" makes best use of "Science in Action," a charmingly low-budget California Academy of Sciences production of the late 1950s and early 1960s, hosted by Dr. Earl Herald. Nothing dates like futurism; witness the geplonking electronic ukulele demonstrated on the show. Herald often demonstrated scientific principles using curious props, such as unspooling tape to indicate the duration of cosmography, superimposed portentous words in spinning block letters, and grim or befuddled military experts. One imagines smart little Craig at home in Sacramento intently watching the show. Baldwin remains fascinated by the voice of authority, dictating confidently some folderol to a cowed, rapt audience of good students or citizens. He juxtaposes these with clips from science fiction films, quirky visions of the future. Baldwin originally began filmmaking with found footage, for reasons of economy but also because so much of what had passed before the camera in decades past demanded a fresh, critical viewing (and its square-ness was laughable to a post-Punk, PoMo hipster audience). It can be re-framed in a political context: "Tribulation 99" critiqued US foreign policy towards the Caribbean by framing it as a last-ditch defense against space aliens (like Castro, Salvador Allende and the Sandinistas) from the Quetzal planet.

Since "O No, Coronado" (1992)——his commentary on the Spanish "discovery" and exploration of the western hemisphere——Baldwin has worked with actors, staging and shooting new scenes. This has been a learning process. In 2007, the heroic guerilla team in Spectres rushes to thwart a military-corporate attempt to generate a mono-polar pulse to erase the last vestiges of resistance in human brains. The story tells of BooBoo, granddaughter of scientist Amy Hacker (Dr. Herald's onscreen assistant), whom BooBoo is hastily burying in an opening scene. BooBoo's mother was a Russian agent skilled in remote viewing. BooBoo's father, Yogi, is a former government intelligence operative who now leads of a crew of rebels broadcasting dissidence on TV Tesla. A quick aside pegs Yogi as the son of Amy's liaison with Jack Parsons, who was a founder of Cal Tech's Jet Propulsion Laboratory. Parsons not only has a crater on the moon named after him but also he is the subject of Baldwin's current film project that makes connections between satanists, Scientologists and the JPL.

Yogi is played by skilled veteran actor Sean Kilcoyne, and BooBoo is mimed by Carolyn Koebel with the voice of Beth Lisick. BooBoo's spacecraft is crafted in the best tradition of low-rent science fiction movies, a flying miniature airstream trailer held jigglingly aloft with prominent wires. A rebel outpost called TV Tesla is manned by Erik Davis, Phil Patiris and Jesse Drew, like the stalwart "Lone Gunmen" investigators appearing a decade ago on "X-Files" (and, briefly, their own series). These savants are Baldwin's colleagues: Baldwin team-taught with cyberspace theorist Drew in San Francisco State University's innovative but now-defunct Inter-Arts Program. Baldwin's Other Cinema series has showcased filmmaker Patiris, who in Spectres calls on activists like BooBoo to "extrude space, external-internal media memory" in the defense of freedom. There is much serious historical information contained in this bricolage film, where biographies of Franklin, Tesla, and Morse jostle with clips from Frankenstein, King Kong and other monster movies. We learn of the nineteenth-century spiritualist Fox sisters, and the spiritualist interests of Alexander Graham Bell's assistant Watson. We are shown the struggle of Philo Farnsworth in San Francisco vs. David Sarnoff of RCA and Sarnoff's favored scientist Vladimir Zworkin. Corporate propaganda films unspool their weird poetry when innovations were asserted to have sprung from "General Electric's House of Magic in Schenectady, New York", or inventor Farnsworth was given a carton of Winston cigarettes for appearing on the game show, I've Got a Secret. We fly over Wilhelm Reich's research park in the western US, tuning the clouds, launching balloons——an idea co-opted by the US government, who hastily constructed extraterrestrial excuses when one fell near Roswell, New Mexico. We are smacked with a disturbing list of genuine military projects in the cosmos, including the rearranging of the Van Allen radiation belts, several of these schemes initiated by Dr. Edward Teller.

Spectres charts the militarization, then corporatization of all electronic media, first radio, then television, then the Internet. It quotes Subcommander Marcos's comments on globalizing effects of mass media. It reminds us that by 1990 the Internet was largely in private hands, tending to "theme parks and shopping malls." Bill Gates's spectacles are besmirched by a prankster's cream pie as he allies with Sarnoff's creation NBC to form MSNBC. In a poetic moment, the 1960s variety show host, Ed Sullivan, is sited as a hypnotist employing the CBS eye, perhaps the oculus struck by a pizza pie in Dean Martin's "That's Amore." Enervated by all this, our moods find balance and centering in the soothing organ music and mooning gazes of Korla Pandit. Yet Baldwin's love letter to the electrosphere culminates in a psychic kaboom, the fast-talking plot McGuffin of a climactic solar eclipse and the bittersweet BooBoo story's last heroic act (copped by the Hollywood blockbuster Armageddon). BooBoo acts upon Grandma's last words, delivered on "Science in Action", and Yogi muses, "Her grandma would've been proud." There are suggestions of a new day dawning, Spectres finally ends in a 1957 "Today" show, with hosts Dave Garroway and Frank Blair in momentary reverie as the music of the spheres penetrates the TV studio.

< Cybersounds, Essays on Virtual Music Culture >
by Michael D. Ayers, Editor
Peter Lang, New York, 2006
282 pp. Paper, $32.95
ISBN: 978-0-8204-7861-6.

Reviewed by Stefaan Van Ryssen
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Twelve essays on music and the Internet. One can imagine that copyright issues (Napster and KaZaa et al.), fandom, and online collaboration will be treated in depth, and so they are, but there is a lot more in this collection. What keeps the whole bunch together is an ethnographical and anthropological viewpoint and a high quality of scholarship, so editor Michael Ayers, professor of sociology and music critic, has kept up his end of the bargain. What makes it an interesting book is the inclusion of a few essays that break new ground, which is a rare quality in view of the high number of recent publications on the sociology of music in the digital age and on the influence of technological advances in the production and consumption of music.

Markus Giesler contributes "Cybernetic Gift Giving and Social Drama: A Netnograpy of the Napster File-Sharing Community." Borrowing from anthropological theories of gift giving, he stages the story of Napster and its descendents as a social drama ('drama' in the sense of anthropologist Victor Turner: a social process with relatively high visibility and very clearly recognizable protagonists, developing round an issue that takes on high symbolic significance for both actors and viewers). In a questionable but interesting argument, Giesler concludes that file sharing is practically the only example of gift giving without a trace of egoistic interest. This leads to specific moral consequences and a high potential for social change or at least some social upheaval, which genuinely deserves the epithet of "drama." (By the way, he pulls Moses Maimonides, Marcel Mauss, Marshall Sahlins, Derrida and Caillé into the mêlée, so these are fingerlicking pages for any social anthropologist.) Giesler's penchant for coining new words and drawing in just a little bit too many epistemologically diverse theoretical frames cast a shadow over the essay, but it offers undoubtedly a big step forward in understanding the cultural dynamics of file sharing.

Andrew Whelan's "Do U Produce?: Subcultural Capital and Amateur Musicianship in Peer-to-Peer Networks" presents a Bourdieusian analysis of virtual communities of "amateur" musicians and, thus, establishes a solid basis for a discussion about the very nature of music. The fact that he distinguishes between amateur and professional is echoed, if inversely, by the concluding essay of the book: Jonathan Sterne's "On the Future of Music." Sterne quite rightly points out that the analysis of the effects of the Internet on the production and consumption of music has been too narrowly focused on the professional, or rather the industrial field of production and on records and mass media as distribution channels. Amateur and local production with its much tighter feedback

loops tends to be left out of the picture while it is exactly that part—-a part where a lot of pure fun competes with high levels of uncensored creativity — that gets a boost from the Net.

The feedback loop in industrial music production is unquestionably mainly impersonal and purely functional: sales figures, airplay and (nowadays) numbers of illegal downloads tell the managers, professional producers and marketers something about the audience's appreciation of an album or recording. Again, the Internet is changing the situation, as Daragh O'Reilly and Kathy Doherty illustrate in "Music B(r)ands Online and Constructing Community: The Case of New Model Army." How the NMA band branding leads to a feeling among fans of belonging to a virtual family and how that family feeling again helps the brand is much more interesting than what we usually read about Deadheads and their relationship with their grateful favorites. (I must add that this has absolutely nothing to do with my personal taste — I dislike both the GD and the NMA, but the composers I prefer wouldn't have fan clubs, would they?)

There are six more essays in the collection, but one needs to be mentioned separately. Trace Reddell's essay "The Social Pulse of Telharmonics: Functions of Networked Sound and Interactive Webcasting" is the odd one out because it mainly describes the work of the author and a number of music projects that specifically exploit the technical potential of the web. I heartily welcome his categorization of networked music projects and interactive webcasting, but wrapping it in a rather pompous rhetoric wasn't necessary. Actually, referring to Debord, Bakhtin and their likes doesn't make the whole thing more intelligible. Entia non sunt multiplicanda praeter necessitatem, sayeth Occam.

< New Review Titles – December 2006 >

The following are new reviews posted on the Leonardo Reviews website December 2006. A selection will also be published in the journal Leonardo. For full review texts, visit the Leonardo Reviews website < www.leonardo.info/ldr.html >

< 2005 Daejeon FAST: Future of Art, Science and Technology >
by Jiho Lee
Reviewed by Stefaan Van Ryssen

< Camouflage >
by Neil Leach
Reviewed by Wilfred Niels Arnold

< Chats Perchés – The Case of the Grinning Cat >
by Chris Marker
Reviewed by Stefaan Van Ryssen

< Cybersounds, Essays on Virtual Music Culture >
by Michael D. Ayers, Editor
Reviewed by Stefaan Van Ryssen

< Daejeon Museum of Art >
by Lee Won-kon, Shin Bo-seul et al
Partially reviewed by Stefaan Van Ryssen

< The Future of Digital Art: From Hellenistic to Hebraic Consciousness >
by Mel Alexenberg
Reviewed by Rob Harle

< Memory Like Water >
by Matt Rogalsky
Reviewed by Stefaan Van Ryssen

< Out of Place: Memories of Edward Said >
by Makoto Sato
Reviewed by Jonathan Zilberg

< Piewacket >

by Puppetina
Reviewed by Kathryn Adams

< Shadows of Reality: The Fourth Dimension in Relativity, Cubism, and Modern Thought >
by Tony Robbin
Reviewed by Amy Ione

< Spectres of the Spectrum >
by Craig Baldwin
Reviewed by Michael R. (Mike) Mosher

< Tape Works >
by Anla Courtis
Reviewed by Stefaan Van Ryssen

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Leonardo Music Journal, Vol. 16
Noises Off -- Sound Beyond Music

These days sound is more than just music. Museums, galleries and artists' studios are
getting noisier: It's not that there is so much more "Sound Art," but rather that so
much more art has sound. Cell phone ringtones generated $4 billion in sales worldwide
in 2004. Incoming email and outgoing popcorn announce themselves with plops and gongs
and boops and beeps -- the emerging field of "sonification" addresses this proliferation
of all these "earcons" and other representational uses of sound. While CD sales shrink
with the proliferation of peer-to-peer file exchange, the creative use of sound is ex-
panding in almost every other part of our lives. The contributors to the special issue
"Noises Off – Sound Beyond Music" (LMJ16) address this expanded role of sound in art
and everyday life. The CD "Interpreting the Soundscape," curated by Peter Cusack, ac-
companies LMJ16.

Introduction

< Noises Off: Sound Beyond Music > by Nicolas Collins

Articles

< Interactive Sonification: Aesthetics, Functionality and Performance > by Gil Weinberg
and Travis Thatcher

< Listening to the Mind Listening: An Analysis of Sonification Reviews, Designs and Cor-
respondences > by Stephen Barrass, Mitchell Whitelaw and Freya Bailes

< space-dis-place: How Sound and Interactivity Can Reconfigure Our Apprehension of Space
> by Stuart Jones

< Notes on A Record of Fear: On the Threshold of the Audible > by Louise K. Wilson

< Acoustic, Electric and Virtual Noise: The Cultural Identity of the Guitar > Gavin
Carfoot

Artists' Statements

< Spatio-Aural Terrains > by Thanos Chrysakis

< Toward a Post-Phenomenology of Extra-Musical Sound as Compositional Determinant > by
Seth Cluett

< sLowlife: Sonification of Plant Study Data > by John Gibson

< 2006 Leonardo and Leonardo Music Journal Author Index >

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< Leonardo Network News >

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Leonardo Abstracts Service (LABS)

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Leonardo/The International Society for the Arts, Sciences and Technology is pleased to announce the publication of the top-rated abstracts the Leonardo Abstracts Service Databases during the 2nd and 3rd quarters of 2006.

Leonardo Abstracts Service (LABS), consisting of the English LABS database and Spanish LABS database, is a comprehensive collection of Ph.D., Masters and MFA thesis abstracts on topics in the emerging intersection of art, science and technology. Individuals receiving advanced degrees in the arts (visual, sound, performance, text), computer sciences, the sciences and/or technology that in some way investigate philosophical, historical or critical applications of science or technology to the arts are invited to submit abstracts of their theses for consideration.

Top-rated abstracts in both the English and Spanish language databases are chosen on a quarterly basis by peer-review panels under the guidance of Sheila Pinkel and Pau Alsina and published in the Leonardo Electronic Almanac.

The top-rated English-language LABS authors of the 2nd and 3rd quarters of 2006 are Patricia L. Adams, Anthony Auerbach, Jane Evelyn McGonigal, Joerg Mueller and Andres Vaccari. The top-rated Spanish-language LABS authors of the 2nd and 3rd quarters of 2006 are Alessandra Caporale and Sergi Jorda. Read their abstracts below.

< The Implications for Artistic Expressions and Representations of Corporeality of the Experimental Techniques of Biomedical Engineering > by Patricia L. Adams

Abstract: While biological scientists justify their research into human genetic engineering on the grounds of its "therapeutic" potential, art - particularly the genre of science fiction (whose origins can be traced to Mary Shelley's famous tale, Frankenstein) - has acted on the social through culture to alert us to the perilous repercussions of usurping the role of the "Creator of Life." Now, at the dawn of the new millennium, the scientific project of mapping human DNA seemingly complete, the plight of the genetically engineered human has become an intense focus of cultural critique. This research project can be differentiated by its focus on aesthetic inquiry into the implications for expressions and representations of corporeality in relation to contemporary biomedical engineering. It has incorporated stem cell research that entails the manipulation and redirection of adult stem cell fates. The methodology involves practical and theoretical investigations into cellular responses, and is framed within the matrices of both an innovative collaborative art/science research model and the evolving process of practice-led arts research. The exploratory research is discursively located within the system/environment paradigm. This allows for boundaries between the philosophic and scientific disciplines of:
• epistemology
• ethics and aesthetics
• biology and technology
to become nodes in a relational network associated with:
• living and non-living
• sentience and consciousness
• conceptions of humanness
The cycle of practice-led research culminates in a body of work that began with a project entitled apoptosis, and developed into a three part quasi-scientific vital force series of installations. Each of these installations references nineteenth-century scientific experimental processes employed in a search for the essential components of the human being itself. The series of interactive installations is discussed and the

processual, pioneering research model, whereby the artist becomes the "human guinea pig" is theoretically and visually articulated. In addition, time-lapse videomicrograph image data collected through laboratory experiments is interpreted and recontextualized by the artist-researcher for representation in the vital force series of immersive installations. In these installations the implications of the issues raised by biomedical engineering processes are expressed as a very physical, tactile encounter. The aim is that these encounters engender a multi-sensory experience for the individual viewer, who, when immersed in the aesthetic, corporeal, interactive installations becomes a participant who completes the work through engagement. Thus, the significance of the study lies in its re-privileging of the aesthetic experience of corporeality in the discourses surrounding genetic manipulation.

< Structural Constellations: Excursus on the Drawings of Josef Albers c. 1950-1960 > by Anthony Auerbach

Structural Constellations: Excursus on the drawings of Josef Albers c. 1950-1960
Anthony Auerbach, 2004
The dissertation falls into three unequal sections, each exhibiting a series of documents for analysis, reflection and discussion. The arrangement and treatment of the topics functions to place historical markers, to assemble theoretical models and to unfold partial narratives, 'returning in a roundabout way to its original object.'*

I: On Constellation and Interpretation: Walter Benjamin and Theodor W. Adorno

The opening section traces the modalities of the term Konstellation as it was exchanged between the two writers in their historical-philosophical work and their personal correspondence. The study highlights the shifting ambitions and alternating spatial and temporal aspects of the concept from its evocation in Benjamin's study of German Trauerspiel (1925), through its adoption by Adorno in his programme 'Die Aktualität der Philosophie' (1931), to its role in the epistemology of the Arcades Project (1935-40), the epistolary controversies of the same period and the legacy of this unfinished discussion in Adorno's late work up to Negative Dialektik (1966).

II: On Constellation and Drawing: the semiotics of star maps

This section proposes a semiotic 'assay' of star maps, that is: a test of their quality and purity as signs. The history of celestial cartography offers and exemplary archive of how the negotiation between knowledge and representation is mediated by drawing because, on star maps, a sharp distinction can be made between the base data (as also contained in the star catalogues and effectively constant) and the map data (the changing information and graphic elaboration provided by the map). The graphic elaborations on star maps are constellations. The study examines moments of reform (or attempted reform) in the post-Ptolemaic tradition of celestial cartography, including a treatment of previously neglected nineteenth-century maps. The interpretation of Peirce's semiotics advanced here provides analytical tools which are of considerable value in assessing the epistemological import of operations and devices such as projection and the grid which came to occupy a visible and central role in artistic practice with the advent of perspective and became prominent again amid twentieth-century attempts to reform the Renaissance tradition.

III: On Structure and Representation: epistemological wish-images

That geometry could be both the guarantee and the abyss of representation calls for an historical as much as a structural explanation. This section (nearly twice as long as the other two) considers drawing as the site of the entanglement of art and geometry. Its ten episodes examine the changing role of drawing in geometry, the role geometry — mediated by drawing — has played in art and beyond that, what epistemological or ideological claims — mediated by geometry — have been made by or for art.

1 Geometry and Drawing
2 Dürer and Alberti: Veils
3 Monge: Descriptive Geometry
4 Farish: Isometrical Perspective
5 Haüy: Crystallography

I. Reprise: Aesthetic Theory

The concluding pages of the dissertation pick up where Section I broke off, introducing discussion of Adorno's last work, Ästhetische Theorie. This section draws the threads of the foregoing essays together by suggesting a reading of Adorno's 'structural constellation of the conduct of aesthetics' after Albers, reflecting on the dialectical patterns deployed by the artist and the philosopher, the work of language and the notion of 'lateness'.

*Note: 'Method is a digression. Representation as digression — such is the methodological nature of the treatise. The absence of an uninterrupted purposeful structure is its primary characteristic. Tirelessly the process of thinking makes new beginnings, returning in a roundabout way to its original object.' Walter Benjamin, The Origin of German Tragic Drama, trans. by John Osborne (London: NLB, 1977), p. 28.

< This Might Be a Game: Ubiquitous Play and Performance at the Turn of the Twenty-First Century > by Jane Evelyn McGonigal

Abstract: This Might Be a Game examines the historical intersection of ubiquitous computing and experimental game design, circa 2001 AD. Ubiquitous computing, or ubicomp, is the emerging field of computer science that seeks to augment everyday objects and physical environments with invisible and networked computing functionality. Experimental game design is the field of interactive arts that seeks to discover new platforms and contexts for digital play. The convergence of these two fields has produced a significant body of games that challenge and expand our notions of where, when, and with whom we can play. This dissertation explores how and to what ends these playful projects reconfigure the technical, formal and social limits of games in relation to everyday life. To mark the heterogeneity of this experimental design space at the turn of the twenty-first century, I propose three distinct categories of ubiquitous play and performance. They are: ubicomp games, research prototypes that advance the scientific agenda of ubiquitous computing through game design; pervasive games, performance-based interventions that use game imagery to disrupt the normative conventions of public spaces and private technologies; and ubiquitous games, commercial entertainment projects that replicate the interactive affordances of video and computer games in the real world. I examine seminal games from each of these three categories, including Can You See Me Now? (Blast Theory/Mixed Reality Lab, 2001); the Big Urban Game (The Design Institute, 2003); and The Beast (Microsoft, 2001) respectively. My discussion draws on original gameplay media, design statements, and first-person player accounts. My critical framework is based on close readings of the play and performance values expressed in the founding ubicomp manifestos of Rich Gold and Mark Weiser. I argue that the persistent responsiveness developed by players to potential ludic interaction represents a new kind of critical gaming literacy. The gamers grow to read the real world as rich with ludic opportunity, carefully testing everyday media, objects, sites, and social situations for the positive and negative consequences of inscribing each within the magic circle of play. I conclude by outlining a course for the future study of these categories that is based in the pre-digital games theory of Johan Huizinga, Roger Caillois, and Brian Sutton-Smith. I argue that as the perceived opportunities for digitally networked play become increasingly ubiquitous, game designers and researchers must attend more carefully to the insights of philosophers, anthropologists and psychologists who historically have explored play as an embodied, social and highly consequential ritual, always already grounded in the practices of everyday life.

< Aesthetics, Writing, Networked Computers > by Jörg Müller

Abstract: Networked computers are ubiquitous, not just as desktop machines; they have been literally incorporated. From cars to cell phones to clothing to implants, computers have been spreading ever since the Information Technology Revolution took off. At the same time, aesthetic concerns abound. Fashion and product design, the media

sphere and personal lifestyle, body art and plastic surgery indicate to a rising creative imperative. Authors such as Jean Baudrillard, Paul Virilio, Vilém Flusser and Wolfgang Welsch have long drawn our attention to this multi-layered processes of aestheticization. Taking these two developments as a starting point, the present thesis is an inquiry into aesthetics at the interface of networked computers. Certainly, aesthetic discourse cannot be limited to its traditional territory of art production and criticism. To the degree that information technologies have disseminated into politics, economics, and science and have become the very fabric human activity is woven into, aesthetics itself is framed by technical standards, according to Friedrich Kittler. However if information technology is the signpost of the post-human (Hayles), how should we picture the post-aesthetic? A similar question follows when considering the leading paradigm in much contemporary thought, namely that of performance. At its core there lies an aisthetic imperative: to bear witness to the here and now. However, what happens to the awareness of the present, to aisthesis once the here and now is everywhere at any time? These questions sketch the shifting landscape of aesthetics and are all the more pertinent since traditional notions of aesthetics, creativity and intuition frame in turn our critical possibilities vis-a-vis intelligent machines. Both poles, aesthetics and computers, form a problematic and uneasy relation whose principal dynamic must be traced. Drawing thus on Gilles Deleuze, Henri Bergson, Jean Luc Nancy and Walter Benjamin, a changing, sensuous geography emerges that favors in sharp contrast to the immateriality of information the lower senses of proximity and contact, the corporeality of touch. However, the sensitivity thereby implied is transformed from contemplative receptivity to active engagement with technology, and coding in particular.

< Machine Metaphysics: Descartes, the Mechanization of Life, and the Dawn of the Post-human > by Andres Vaccari

Abstract: One of the defining features of posthumanism is the problematization of the ontological boundaries between organism and machine, nature and art, the living and the technological—the metaphysical counterpart to a real world proliferation of hybrids, natural-artificial entities such as cyborgs, artificial life, and genetically modified foods and animals. Although perceived to be a recent phenomenon, the roots of posthumanism can be traced to the seventeenth century, to Descartes's introduction of the machine metaphor in the life sciences (physiology, medicine and biology) in his Traité de l'homme (first published in 1662). Descartes is the mythical cradle of rational humanism; yet the Cartesian human is made possible by an ontological shift that can only be described as already posthuman. In Descartes's metaphysics, the immanent world of matter embraces physics, biology and technology, blurring the difference between these forms of knowledge. I trace the complex rhetorical and theatrical staging of the body-machine in L'homme through three main dimensions: ontological, disciplinary and representational / epistemological, examining the various aspects of the machine (automaton, optical illusion, object of spectacle and knowledge, among others) as it articulates Descartes' theory of life. The machine is firstly a metaphysical ploy, predicating a monistic, immanent identity across the whole of nature (or extension); this is accompanied by a concerted overturning of the ontological priority of nature over "art." In turn, if the world is a machine, it means that it can be understood as such; the metaphysical aspect is followed by a disciplinary rearrangement in which mechanics is elevated to a new place in knowledge (as an exemplar of how geometrical / mathematical thinking can be applied to physics). Finally, there is an epistemological and representational aspect: the perceptual apparatus is conceived as a machine, and epistemology grounded on a "machine semiosis" ruling the passage of motions along mechanisms. It seems, then, that a high-order metaphysical and disciplinary shift preceded the real world integration of organisms and machines (in a wide range of industrial, scientific, and military contexts) in the centuries that followed Descartes. But although the posthumanist shift is metaphysical, the genesis of the body-machine can be traced to a dense material-cultural network of early modern technologies: automata spectacles, the microscope, perspective representation, anatomical theatres, machine treatises, engineering problems, etc. Thus, although we can speak of a historical break or rupture, from another angle the body-machine is continuous and commensurable with its cultural and technoscientific milieu. Although my main focus is on the history of the life sciences, the Cartesian mechanization of life cuts through a number of dimensions, such as the notion of "extended" or distributed mind, uncanny simulation, the blurring of science and science fiction, anxieties about technological control, and the technological

enhancement of bodily and perceptual powers. Overall, I intend here to treat Descartes as an outstanding philosopher of technology, an aspect of his thought that is not usually considered.

< Video Activism in the Italian Centri Sociali. A Visual Ethnography > by Alessandra Caporale

Abstract: Este trabajo se abre con una reflexión acerca de como la aplicación de la fotografía y el cine en la práctica etnográfica ha contribuido a estimular el desarrollo de la actual sensibilidad reflexiva en antropología. Este ¿giro reflexivo¿ consistió principalmente en el reconocimiento y énfasis en la construcción social y en el carácter sujetivo de la representación, sea esta en forma de texto o de imagen. En este estudio etnográfico investigo la producción audiovisual de los Centri Sociali Occupati (CSO) italianos a partir del análisis de unos cien videos realizados durante los años 1991-2001. Utilizando la videocámara como herramienta metodológica, combino imágenes producidas durante la observación participante en unos CSO romanos con fragmentos de trabajos realizados por colectivos de video artistas que tienen sus raíces en la práctica autogestionaria propia de esta cultura underground. En el marco de una sensibilidad que ve la comunicación como un nuevo territorio de experimentación, con formas ¿horizontales¿ de representación política y de afirmación cultural, los CSO se apropian de los nuevos media adaptándolos a los principios de autogestione y autoproduzione. Los usos colectivos de la radio, la fotografía, el audiovisual, la televisión comunitaria e Internet mantienen un hilo de continuidad con la ética autogestionaria. Al mismo tiempo, cada uno de los nuevos medios tecnológicos aporta unas potencialidades, a nivel de producción y difusión, que reconfiguran el imaginario y las prácticas de los CSO. De la auto-documentación militante se pasa progresivamente a un uso del video como detonador de situaciones, y a una variedad de prácticas y estilos que tienen como principio base la creación colectiva. Finalmente señalo la convergencia entre el cine etnográfico reflexivo, el videoactivismo, el cine y el video arte respecto al uso de los medios audiovisuales como instrumentos de crítica cultural. Todas estas prácticas recuperan y reinventan en cierto modo las experiencias artísticas de la avant-garde y el pensamiento crítico de los anteriores movimientos políticos y contraculturales con sus performance y dramatizaciones colectivas. Los interrogantes acerca de la relación entre forma y contenido, entre representación y agencia política, entre autor y público, están en el centro de la reflexión sobre la representación etnográfica así como de la producción artística. Del dialogo abierto entre etnografía y prácticas artísticas emergen interesantes convergencias y diferencias que van abriendo espacios experimentales de creación y teorización.

< Digital Lutherie: Crafting musical computers for new musics¿ performance and improvisation > by Sergi Jorda

Abstract: Esta tesis estudia el uso del ordenador como instrumento musical, para la ejecución e improvisación de música en tiempo real. Su principal objetivo es la construcción de un marco teórico que nos permita evaluar el potencial, las posibilidades y la diversidad de estos nuevos instrumentos musicales digitales, con la esperanza de que estas ideas puedan servir de fuente de inspiración para la construcción de nuevos y sofisticados instrumentos que nos permitan crear y escuchar nuevas músicas maravillosas, inauditas hasta ahora. El diseño de nuevos instrumentos musicales digitales es un campo muy amplio, que abarca áreas altamente tecnológicas (e.g. electrónica y tecnologías de sensores, técnicas de síntesis y de procesado de sonido, programación informática, etc.) así como disciplinas ligadas al estudio del comportamiento humano (e.g. psicología, fisiología, ergonomía, interacción humano-computadora, etc.), con todas las conexiones posibles entre ellas. Mucha de la investigación aplicada existente, intenta solucionar partes independientes del problema. Este planteamiento, que constituye un enfoque esencial para cualquier progresión verdadera en este campo, resulta ser también, como demostraremos más adelante, claramente insuficiente. Estudios integrales, que tengan en cuenta no sólo factores ergonómicos o tecnológicos, sino también psicológicos, filosóficos, conceptuales, musicológicos, históricos, y por encima de todo, musicales, aunque no puedan ser totalmente sistemáticos, son absolutamente necesarios. En esta tesis se aborda la idea del instrumento digital como un todo, independientemente de los componentes que lo integran y de sus características potenciales (e.g. formas de controlarlo, tipo de sonido que genera, etc.). Se investigan la esencia y los puntos fuertes de estos nuevos instrumentos digitales, así como los nuevos paradigmas de in-

terpretación musical y las músicas inauditas que éstos pueden aportar. Existe una compleja interrelación entre las tareas de imaginar, diseñar y construir ordenadores musicales, ejecutar e improvisar música con ellos, y analizar y comprender los resultados. Esta relación solamente se puede entender como un permanente acercamiento progresivo. Esta tesis es el resultado de quince años de experiencia como luthier improvisador. En ese sentido, puede ser considerada como un trabajo teórico o conceptual, a la vez que experimental, aunque los experimentos que en ella se documenten transcurran a lo largo de años o décadas.

To read all of the abstracts in the English-language database or to post an abstract, please visit: <leonardolabs.pomono.edu>

To read all of the abstracts in the Spanish-language database or to post an abstract, please visit: <www.uoc.edu/artnodes/leonardolabs>

The LABS project is part of the Leonardo Educators and Students Program. For more information, please visit: <www.leonardo.info/isast/educators.html>

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Leonardo Network News
December 2006

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The Newsletter of the International Society for the Arts, Sciences and Technology and of l'Observatoire Leonardo des Arts et Technosciences

CELEBRATING THE FORTIETH ANNIVERSARY of the LEONARDO NETWORK

Leonardo Network News Coordinator: Kathleen Quillian.
E-mail: kq [at] Leonardo [dot] info.

< John Hearst and Meredith Tromble Join Leonardo Governing Board >

Leonardo/ISAST welcomes John Hearst and Meredith Tromble to its Governing Board of Directors. Their terms will run from 2007—2009.

John Hearst is a co-founder of Cerus Corporation, where he served as a director from 1991 to 2002 and as Vice President of New Science Opportunities from 1996 to 2004. He has had a long academic career, having been a professor of chemistry at the University of California at Berkeley from 1962 to 1996. As an emeritus professor, Hearst retains the position of Senior Staff Scientist at the Lawrence Berkeley Laboratory (LBL). He also served as Director of the Chemical Dynamics Division at LBL from 1986 to 1989. Hearst is well known for his work on psoralen photochemistry, DNA replication and transcription, DNA excision repair, DNA helix elasticity, the structure of eukaryotic chromosomes and the first DNA sequences of the reaction center and light-harvesting genes associated with photosynthesis. The basic scientific foundation utilized in the Cerus photochemical inactivation technology was developed in the Hearst laboratory at UCB. Hearst received a Ph.D. in chemistry and physics from the California Institute of Technology. In 1992, Hearst received an Honorary Doctorate (D.Sc.) from Lehigh University and received The Berkeley Citation from the University of California at Berkeley in 1999.

Meredith Tromble is an artist and writer as well as a co-publisher of Stretcher.org. She is an associate professor in the School of Interdisciplinary Studies at the San Francisco Art Institute (SFAI) and faculty co-founder of SFAI's Center for Art + Science. In addition to Stretcher.org, she was founding editor-in-chief of Art Contemporaries, art editor for Breathe (2004--2005) and art editor for LIMN Magazine of Art and Design (1998--2000). As editor-in-chief of the original NextMonet.com, she created the on-line magazine Mark in 2000--2001. Before developing these publications, Tromble served as editor-in-chief of Artweek 1996--1998. She is the author of hundreds of articles, interviews and catalog essays and editor of The Art and Films of Lynn Hershman Leeson: Secret Agents, Private I, published by the University of California Press (2005). With the Stretcher collective, Tromble exhibited at the Yerba Buena Center for

the Arts and Southern Exposure Gallery in San Francisco, and as an independent artist she has shown work at venues ranging from Mills College Art Gallery to the Walter and McBean Galleries at SFAI.

< Leonardo Honorary Editor Herbert Franke Celebrates 80th Birthday >

We are pleased to congratulate Herbert Franke on his 80th birthday and his long association with Leonardo Journal as an Honorary Editor since 1972.

Herbert W. Franke, expert in media theory, pioneer of computer art and co-founder of the Ars Electronica festival, will celebrate his 80th birthday in May 2007. On this occasion, a cycle of several events, with the theme "art meets science" and dedicated to Franke's life's work, will take place at various locations in Germany and Austria from May through July 2007.

Within the scope of the "art meets science" events on the occasion of his anniversary, Herbert W. Franke will conduct "Science Talks" with scientists of very different backgrounds---physicists, computer scientists, artificial intelligence experts, psychologists and philosophers---on topics such as the future of humanity or the origin of art, and discuss questions such as "What does it mean to be a human being?" or such subjects as artificial intelligence, reality and cyberspace. The events will also feature Franke reading and interpreting some of his utopian short stories, which feature related themes. In addition, a collection of his stories will be republished by Phantastische Bibliothek of Wetzlar, Germany, on the occasion of his birthday.

Subsequent to the Science Talks, an exhibition of Franke's works of computer art or a multimedia arts event are planned, as Kunsthalle Bremen (arts exhibition hall) for instance, has acquired Franke's collection of computer art. It has been gathered over 50 years and contains his own works as well as some of the works of nearly every recognized pioneer in computer art worldwide. A selection from this internationally unique collection will be on display to the public for the first time, in a special exhibition at Kunsthalle Bremen in June 2007. Also, Karlsruhe's ZKM Zentrum für Kunst und Medientechnologie (center for art and media technology) will re-exhibit Franke's Hommage à E.M., a multimedia performance for dancer and interactive picture designer, first enacted in 1989.

For more information on Herbert W. Franke please see <www.herbert-w-franke.de>.

Events and venues can be found at
<www.art-meets-science.info>.

< Leonardo Welcomes New Intern Marie-Douce St-Jacques >

Leonardo welcomes Marie-Douce St-Jacques as a new intern. The new Concordia/Leonardo internship brings together graduate students from Concordia's Department of French and the Leonardo community through which Concordia's students can explore both the world of art and science and the world of professional publishing. Marie-Douce St-Jacques is completing her MA at Concordia university in "Littératures francophones et résonances médiatiques." She got her B.A in visual arts at Concordia (Interdisciplinary Studies) where she mainly focused on film studies and art history of the past century. She founded the magazine aMAZEzine!, an independent publication focused on the musical avant-garde scene in Montreal, and has contributed to the on-line magazine Mondes Francophones under the "cyberspace" section. She is currently writing her thesis about reality put to the test by fascination in Pierre Perrault's "Shimmering Beast."

< Leonardo Education Forum Events at CAA Conference, February 2007, NYC, NY >

Leonardo Education Forum (LEF) will participate in several panels, a business meeting and an exhibition at Hunter College during the College Art Association Conference, 14-18 February 2007, New York City, NY.

The sessions will include the Leonardo Mentoring Session "Thinking vs. Making," chaired

by Gabriel Harp (Thursday, 15 February, 12:30 - 2:00 PM, West Ballroom, 3rd Floor, Hilton New York); The LEF Business Meeting (Thursday, 15 February, 5:30 - 7:00 PM, Regent Parlor, 2nd Floor, Hilton New York); and the LEF-sponsored session "Ecology and Ethics of Art|Science Projects" (Saturday, 17 February, 2:30 - 5:00 PM, Trianon Ballroom, 3rd Floor, Hilton New York) Chaired by Victoria Vesna, with Jill Scott, Daniel Bisig and James Gimzewski.

The LEF Exhibition "Lines of Flight," sponsored by The Leonardo Education Forum, The Hunter College MFA in Integrated Media Arts and Film and Media Department, The Savannah College of Art and Design and Bitforms Gallery will take place at The Black Box, 543 Hunter North Building at Hunter College Main Campus, 695 Park Ave., NY 10021, U.S.A. "Lines of Flight," curated by Celina Jeffery and Gregory Minissale, addresses lines between technological, scientific and artistic practices and processes of taking flight from the gravity of digital capitalism, privilege and stratification. Participating artists include Rafael Lozano- Hemmer, Thompson and Craighead, Peter Horvath and David Crawford. The reception is Friday, 16 February, 4 - 7 PM, with a Curator's Talk and Tour on Saturday, 17 February, 1-4 PM.

See <fm.hunter.cuny.edu/lef/> for more information.

< Electronic Access and Discount Back Issues Available to Leonardo and LMJ Subscribers >

All issues of Leonardo and Leonardo Music Journal dating back to 1999 (Volumes 32 and 9 respectively) are available on the MIT Press journals web site <www.mitpressjournals.org> for free to current Leonardo and Leonardo Music Journal subscribers. You must first register an account with MIT Press before accessing electronic articles. Subscribers are also reminded that for an additional $25 fee, they can access and download PDF files of articles in the Leonardo and Leonardo Music Journal archives dating back to volume 1 (1968) through JSTOR. To register for JSTOR, contact MIT Press at <journals-orders@mit.edu>.

Beginning with Volume 40 (2007), MIT Press will offer a permanent 35% discount on back issues of Leonardo and Leonardo Music Journal to all subscribers.

< Leonardo/OLATS Collaborates with the Regional Cultural Centre Letterkenny >

Regional Cultural Centre Letterkenny, Donegal County, Republic of Ireland to Host Leonardo 40th Anniversary Exhibition and collaborate on Art and Climate Change Project "Lovely Weather"

<www.donegalculture.com>
<www.leonardo.info> & <www.olats.org>

We are pleased to announce a three year collaboration between Regional Cultural Centre Letterkenny, and Leonardo in celebration of Leonardo's 40th Anniversary.

The collaboration will include an exhibition coupling Pioneers in Art, Science and Technology with younger artists working in the same conceptual territories. The Project is tied to the Leonardo/OLATS Pioneers & Pathbreakers Project directed by Annick Bureaud: <www.olats.org/pionniers/pionniers.php>

In addition we are initiating a three year project to explore the ways that artists and scientists are collaborating to address issues around global warming and climate change. This is tied to the Leonardo/ OLATS project on the same topics led by Julien Knebusch: <www.olats.org/fcm/artclimat/artclimat.php>

For further information, contact:

- Regional Cultural Centre Letterkenny: John Cunningham, jcunningham [at] donegalcoco [dot] ie
- Leonardo/OLATS and Pioneers & Pathbreakers Project: Annick Bureaud, info [at] olats [dot] org
- Art & Climate Change: Julien Knebusch: julien_knebusch [at] yahoo [dot] fr

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< The Camargo Foundation Residential Center Call for Applications >

The Camargo Foundation, located in Cassis, France, is a residential center for compos-
ers, writers, and visual artists (painters, sculptors, photographers, filmmakers, video
artists, and new media artists) pursuing creative projects as well as for scholars pur-
suing studies in the humanities and social sciences related to French and francophone
cultures. Residencies are one semester (either early-September to mid-December or mid-
January to the end of May) and are accompanied by a stipend of $3500. The Foundation's
campus includes thirteen furnished apartments, a reference library, and three art/music
studios. Applicants from all countries are welcome to apply. The application deadline
is January 12 for either semester of the following academic year.

For more information and to apply, please consult our web site at < www.camargofounda-
tion.org > or write to apply [at] camargofoundation [dot] org.

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