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BOOKS

IMAGINING EXTINCTION: THE CULTURAL MEANINGS OF ENDANGERED SPECIES
Reviewed by Jan Baetens. Email: <Jan.Baetens@arts.kuleuven.ac.be>. doi:10.1162/LEON_r_01501

If a great book is defined by the fact that it helps you think differently, then Ursula K. Heise’s new book is a truly great book. Next to its scholarly and stylistic qualities, which are great, Imagining Extinction is also a work that both frames and reframes the field of ecocriticism. It frames the field thanks to the broadness of the material and issues it studies. It also reframes it to its new, that is, cultural take, on the dispute on the extinction of species.

According to many biologists as well as the general public extremely sensitive to this kind of scientific research, we are currently facing a new mass extinction of species in the history of life on Earth. This crisis is not only studied by scientists; it is also a hot topic in cultural production and political activism. The essential claim of Heise is that it is time to reconsider the productive interaction between culture and science in the larger debates on extinction and biodiversity. Generally speaking, the relationship between both fields is seen as a one-way traffic: Scientists observe, measure, analyze, determine what is right or wrong, while cultural agents (writers, poets, filmmakers, photographers, etc.) come always after these specialists, their intervention being that of science vulgarization as well as of awareness and consciousness-raising. Cultural agents, in this perspective, have certainly a major role to play, but their impact is limited to social and cultural action and does not apply to science itself, which remains free from cultural speculation.

A representative of cultural studies in literature and science studies (to label her work as an example of ecocriticism would not do justice to the broad scope of her research), Heise instead makes a plea for the crucial importance of cultural elements for a better understanding of science itself. Such a claim is of course not totally new (the productive role of culture, more precisely of language, has been a permanent and extremely stimulating concern since the 1980s), but the foregrounding of culture, that is of cultural values having to do with the basic difference between what we value as a community and what we do not, be it by choice, indifference or ignorance, is an important innovation in the debate on biodiversity (which is the larger horizon of the extinction debate).

Imagining Extinction opens with a fascinating evaluation of the criteria that enable us to measure biodiversity. For even if it is “easy” to observe that this or that species has disappeared, there is no direct link between species extinction and declining biodiversity. This is not only because the disappearance of a species cannot be interpreted in absolute terms (it can be nuanced by historical criteria, for instance when we compare the current state of biodiversity with previous periods that suffered even greater species extinction than what may be happening today), but also because the “scientific” definition of a species is always biased or, more positively put, influenced and determined by other, that is, cultural, criteria: Certain species are considered more important than others, and the presence or absence of the former (the dodo, the whale, the gorilla, etc.) will have a completely different impact than the absence or presence of the latter (for instance a mutating virus). This difference is not just theoretical; it is directly and materially reflected in the actual research, which overlooks many species for reasons that are inextricably scientific, cultural and economic (as is well known, it is easier to get funding to...
study the possible extinction of a species we consider “essential” than to study the life or death of species that remain under the radar). Moreover, the debate on the place and role of species, which tends to isolate certain species from their environment, is very different from the more general discussion on biodiversity, which needs sometimes very different techniques of measuring and appreciation.

Heise’s book is divided in two major parts (each of them having three chapters). The first part is mainly devoted to a cultural reading of conservation politics and policies and offers comparative close readings of, for instance, scientific databases recording species and environmental laws. The comparative aspect of the analysis is key here, for it is what discloses the cultural embedding of what can no longer be called scientific “facts”: The way we measure, the way we protect, the way we evaluate the failure or success of biodiversity policies cannot be separated from a cultural context that proves extremely diverse. We imagine species very differently when the general framework is that of a species taxonomy than when we focus on the more encompassing ideas of landscape or environment. In a similar way, the cultural meaning of species or environmental protection depends a great deal on the way in which we establish a link with human beings as they interact with other species (if a certain species is considered harmful, its extinction will not be deplored) and with the larger environment (if biodiversity is seen as something that can help give poor people a better life, we may be more tolerant towards certain interventions that other groups may consider intrusive, if not utterly harmful).

The second part of the book takes as its starting point the often-strong conflict between animal welfare activism, which defends the individual rights of any individual animal, and conservationist groups or policies, which defend a more holistic approach of biodiversity. Here as well, the author’s thinking relies on the in-depth reading of certain cultural productions, whose sometimes overtly fictional character (Heise has a healthy interest in science fiction) is analyzed not as subjective or unscientific reworkings of the scientists’ work but as offering windows into the cultural roots of scientific thinking and opportunities to sketch both new insights and new solutions.

For Heise, the critical reading of the tensions and paradoxes displayed by works of fiction or cultural interventions in the scientific field is never a neutral, transparent or ivory tower activity. Although the author is extremely careful in discarding all monolithic interpretation or ecocritical radicalism (her critique of ecological nostalgia is one of the threads that runs through the whole book), Imagining Extinction is also a plea for a well-balanced and culturally aware environmental justice and multispecies justice that attempts to take into account both general principles and context sensitivity.

**ROGUE ARCHIVES: DIGITAL CULTURAL MEMORY AND MEDIA FANDOM**


**Reviewed by Jan Baetens. Email: <Jan.Baetens@arts.kuleuven.ac.be>; doi:10.1162/LEON_r_01502**

The archive has been at the center of a tremendous amount of scholarly, critical and political reflection for more than four decades. In 1969 Foucault published the book that triggered the renewed interest in archives—*The Archaeology of Knowledge*—and a sudden outburst of new publications, such as for instance those by Alan Sekula and John Tagg, appeared in the early 1980s. Within this field, the focus has increasingly shifted toward the medial infrastructure of the archive, both by opening the research to nonprint or nonpaper archives and, even more generally, by addressing the importance of the digital turn. Abigail De Kosnik’s book is a stimulating and innovative intervention in the field. Its originality is derived not only from the particular corpus that she examines (mainly fan fiction archives created and managed by minority groups—in this case female, feminist, global-South and queer groups), but also from the theoretical framework that she develops for the study of what she calls “rogue” archives—a type of archive that is much more than just a digital or a digitized archive but that rather exemplifies and implements several of the new opportunities disclosed by the digital turn.

For De Kosnik, whose book is based on an oral history project at Berkeley and interviews with some 50 “rogue” archivists in the domain of fanfic archives, a “rogue archive” (the metaphor is borrowed from the work by Jacques Derrida, who establishes a strong link between the figure of the rogue and radical democracy) is very different from a traditional archive, where the preservation, organization and presentation of a certain type of document of the past produces an official interpretation for present use that also aims at maintaining itself in the future. Rogue archives are created bottom up, by sometimes untrained and generally unpaid amateurs and volunteers sharing a special interest in a certain, often marginal or
marginalized field, whose ambition is less to transmit a certain idea of things past to future generations in a well-structured and tightly controlled way than to make possible the very survival of ignored or censored experiences as well as to generate a community life around an archive where all roles and functions become and remain blurred. Rogue archivists are almost always activists, and the driving force of their work is passion and commitment. Rogue archivists are in many cases not interested at all in technical or scientific standards and reliability and ignore or willfully break the current rules of copyright and intellectual property rights.

Examples of rogue archives therefore do not include YouTube channels or Facebook groups, even if much rogue archiving work can be done in these digital environments; the commercial interests of these platforms are in direct contradiction with the basic “no rules, no restrictions” spirit of the real rogue archive.

De Kosnik's book, which does not hide its sympathy for the anticanonical and politically inspired approach of rogue archivists, is an important contribution to a better understanding of the stakes of digital culture in general. First of all, the book offers a clear and well-informed state of the art of many smaller and larger debates that surround the issue of digital archives (in that sense, it is almost tailor-made for classroom use)—after all, the oral history project was executed with the help of MA students, and one feels throughout the book the strong commitment of the author to the intertwining of teaching and research). Second, and this is of course what stands out most, Rogue Archives is also an attempt to sketch a theoretical framework for the study of the countless grassroots initiatives that represent a huge percentage of the archival work that is being done online (the final chapter of the book proposes a big data analysis of the production as well as the reception of these online archives, and the quantitative figures are absolutely dizzying). De Kosnik does so by emphasizing the notion of archival “style” (a notion also fruitfully explored, yet in a very different context, that of the photo archive, by Robin Kelsey in an eponymous study, Archive Style [California, 2007]). Three types come here to the fore: (1) the universal archive (some rogue archives want to digitize theoretically everything—at least in a given field—and De Kosnik analyzes the consequences of the refusal to distinguish between what is worth keeping and what is, according to nonrogues, not worth keeping at all); (2) the community archive (many rogue archives are made by minority groups or communities of affinity, and the long-term preservation of material that would otherwise be lost is here an absolute priority); (3) alternative archives, which may overlap with the second category (here the idea of user-generated content is taken in a much more radical sense than usually known: The ambition is not to complete information that is incomplete or missing in official archives, for instance with the help of crowdsourcing mechanisms, but to generate “different” content and stories, that is content and stories that are not allowed to appear in traditional archives or that are simply ignored or discarded elsewhere).

De Kosnik rightfully insists on the necessity to think of the relationship between both archival categories, the canonical ones and the rogue ones, in terms of creative interaction, not of a priori antagonism. After all, it may occur that rogue archives are integrated into canonical archives, while the latter should also understand that the only way to have a real future is to adopt certain aspects of the former's creativity and dynamism. De Kosnik's book is an invitation to rethink the meaning of an understudied but key cultural practice while making us aware of the dangers of its smooth institutionalization, which would involve the inevitable loss of what makes rogue archives essential to an open and democratic society.

THE ORDINARY MAN OF CINEMA

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doi:10.1162/LEON_r_01503

Jean Louis Schefer's The Ordinary Man of Cinema is a strange and challenging book. It is strange because the author examines, in minute detail, a very personal universe of going to the movies. It is challenging because the language tries to convey the ghostliness of cinema rather than any particular material expression or historical context. There are no discussions of “the apparatus,” camera or editing techniques, directorial intentions or any formal exegesis of particular films. Fragments from genre films (mostly burlesque, horror and noir) are presented out of context and filtered by Schefer's idiosyncratic observations, associations and memories. In its extreme subjectivity and phenomenological reduction, The Ordinary Man of Cinema awakens the reader's own secret history with the cinema.

This English translation of Schefer's influential 1980 work comes at a time when “the cinema” itself is a ghost in contemporary culture. Cinema is undergoing either a crisis, a redefinition, a slow death, a technological transformation or even a rebirth, depending on whom you consult. But one reads The Ordinary Man of Cinema now as if it were addressing the ordinary person of the Internet age. What is the cumulative effect of all those screen images on our psyches and bodies? Can we even know? We take our seat with others in the theater. We settle into the bed with our laptop and earbuds. The cinema experience, then and now, is “shared,” but it remains “solitary, hidden, secretly individual.” The collective expectation (of producers, theater owners, streaming services and their custom-
images, lacking clear narrative pur-
teristically dense prose, on how some
most insignificant details work on us
we consciously attend to the plot, the
like a face to signify, but to pass, that
hand resting on a table and sweating
precise meaning. “I don’t expect the
connected to the narrative or to any
gestures, textures, objects and shad-
the story. A movie is made of details:
transport us into another world. But
ers) is that the movie will successfully
transport us into another world. But
as Schefer points out, there is more to
the story. A movie is made of details:
gestures, textures, objects and shadow;
and not all of these images are
connected to the narrative or to any
precise meaning. “I don’t expect the

Schefer avoids conventional expla-
nations or terms because they are
abstractions that mask a complex,
murky and contingent experience.
His writing style is sometimes as
dreamily opaque as the cinema he
writes about, as if the writing were
the commentary trying to catch up
with the flicker of the author’s ideas
and associations. But then there
are wonderfully clear passages that
embrace our collective pleasure and
pain at the cinema. A mummy is
“the bearer of all the bandages of
our lives, of our entire hospital life.”
Bursts of poetic montage startled
the reader from the hypnotic prose:
“a hand rises, a rowboat sways on
the waves, a rotating pane of glass
shifts a landscape.” Schefer sinks
into his own confessed ignorance
of film theory in order to explore
the residue of cinema’s “fund of
affects,” the unnamed and unthought
regions that remain when we leave
the theater. The work in form and
content is exhilarating and as relevant
to today’s media ecology as it was
in 1980.

THE SELECTED LETTERS
OF JOHN CAGE

The Selected Letters of John Cage,
spanning the life of legendary com-
poser John Cage, is akin to two books
running neck and neck with one
another. The first is the vast cache of
missives Cage wrote that reveal his
hidden struggles and insights with
notables the world over. For scholars
of Cage’s life, it’s the ultimate treasure
trove, and, for the rest of us simple
admirers, a jaw-dropping read of the
mundane and profound trials on the
road to achieve, maintain and recon-
cile avant-garde fame and notoriety.
The second book is much less notice-
able and written in 9-point type and
runs along the bottom of practically
every page. It is the 1,159 meticulous
and phenomenally well-researched
footnotes about those letters put
together by editor Laura Kuhn. It’s
a heroic effort where every person’s
station in life and specific relation to
Cage is identified. I suspect it took
more time to fact-check and collate
those notes than the actual editing
of the letters themselves. But with-
out these critical signposts the book
would not make as much sense. They
are the key to who Cage knew, how
he framed his world and how, in turn,
his world framed him.

Selected Letters is full of surprises.
Cage is, despite his eventual professed
homosexuality, at one time in love
with two women, both over twice
his age. Xenia, his ex-wife who was
a quarter Alutiiq, or Sugpiag (Eskimo),
had, at one point, been the lover of
photographer Edward Weston. By the
time Cage is 21, he is savvy enough to
hit up important contacts who could
further his career, including asking
Adolph Weiss to be his music com-
position teacher. He writes touching
letters to Weiss regarding his progress
studying with his newest mentor—
the master of 12-tone composition,
Arnold Schoenberg.

In 1939 during the Depression,
times were hard, and while teach-
ing in Seattle, Cage laments to fel-
low composer Henry Cowell, “I had
to go around and beg for money to
purchase percussive instruments.” By
1940 Cage tried to establish a center
for experimental music, begging
anyone and everyone for funds—
to no avail. He compares his found
percussion instruments to “what
many negro street musicians in New
Orleans had done” and “defined
music for myself as Organized
Sound.”

Bauhaus artist Lázlo Moholy-Nagy,
who was teaching at the University
of Chicago, invited Cage and his
group of percussion players to per-
form, but lack of funds prevented
that excursion. He did, however,
manage to bring Cage to Chicago to
teach in 1941, accompanied by Xenia.
She was translating Italian Futurist’s
Luigi Russolo’s manifesto “The Art
of Noises,” and Cage remarked it was
about “the importance of the machine
and of electricity” in contemporary
music. It was also in Chicago, before
Cage and the dancer Merce Cun-
ningham became seriously involved,
that he noted “Merce has a serious
inferiority complex.” Yet by 1943 that
did not prevent him from writing
love letters to Cunningham about his
“enigma” and little friend (penises)
and compare Cunningham to the
muse Calliope, highest of all. Which,
by 1944, caused Xenia to up and
leave him.

Distraught, Cage traveled to Paris,
where he met composer Pierre Boulez
and introduced him to American
composer Aaron Copland. Soaking
up French culture, Cage dined out
with the haute demimonde, includ-
ing the Duke and Duchess of Wind-
sor and the Rothschilds. When not
ascending the heights of French society, he was showering at the public baths, as he was sans washing facilities in his spartan living quarters. He even wrote his mother to send him towels because he couldn’t find any decent ones in postwar Paris. Enamored of the work of composer Eric Satie, he spent days at the Bibliothèque nationale de France devouring every piece of music Satie ever wrote and penned rebuttals to critics who dared slander him. In the end, though, the City of Lights lost its allure, and Cage decamped back to New York.

He then began a legendary correspondence with Boulez, lasting from 1949 to 1954, which turned into the book *The Boulez–Cage Correspondence*. He wrote pianist David Tudor about how musicians and composers Morton Feldman and Christian Wolff were boooed and hissed when presenting their compositions and then admits to Tudor that he loves him. In other letters he outlines, in excruciating detail, how he threw the I Ching to create his compositions, and in the next sentence complains he is constantly working at composing but just not getting paid for it. This is not just empty bitching. He is so broke he tries to sell shares in his yet uncompoused works. Eventually he manages to raise five thousand dollars from Paul Williams to create the magnetic tape piece *Williams Mix*. He gives advice to his friends, drops names all over the place and argues with and corrects critics like Peter Yates. In 1954 he acknowledges the controversy he has stirred up from playing the silent piece *4’33*”, saying, “I attempt to let sounds be themselves in a space of time.” He ponders the morphology of sound—how it begins, continues and then dies away, yet in the next breath whips out a profit-loss statement about his last concert.

In 1959 he writes charming letters to friends and mentors like Morton Feldman, Christian Wolfe and even Nam June Paik, whom he refers to as a “Korean living in Cologne,” and alludes to Boulez dropping their friendship because of Cage’s embrace of chance operations. By 1960 he has grown confident enough in his own fame to conduct a brisk business by unabashedly asking for money. He mentions the class he was teaching at the New School, crowing about his best pupil, Toshi Ichiyanagi, who married Yoko Ono and ignited a new movement in contemporary music in Japan. He praises his other students like Alan Kaprow, who went on to create Happenings, and Fluxus progenitor George Brecht. He refers to himself as a “decomposer,” because after *4’33*" he has already “moved on.” He also sadly reveals that he is afflicted with arthritis so painful it was keeping him up at night.

Despite outright success, he was constantly burdened by money woes, so chunks of the letters are chockablock with requests for money, access to rights, bookings and corrections on translations. His personal responsibilities mounted: First his father passed away and then he had to support his mother, who had had a stroke, and finally he had to make his never-ending alimony payments to Xenia. In 1962 he was excited to going to the East, but in the end it was a bit of a disappointment. In a 1963 letter to Lou Harrison he complains that he can’t just live his own life but has to give lectures and play the piano despite arthritic hands that are so disfigured they can’t pick anything up anymore. He moans about returning home with no money to pay the bills. He is constantly in debt and has to borrow funds to pay his taxes. Despite issues with time management, he assumes the administrative arrangements for the Mycological Society, and those letters are fastidious with details for the society’s aims and ambitions. In 1964, always prescient about the next wave, he writes that Lejaren Hiller is beginning to compose music for the computer. In 1965, having read Philip Kapleau’s book on Zen, he remarks that he could never imagine sitting cross-legged.

By 1967 he is taking a twice-weekly course in the survey of computer music and thrilled to find out that a program in Fortran is being written for the I Ching. He tells Yoko Ono he is not interested in her bottoms project (films of buttocks) or in cellist Charlotte Moorman’s tops (breasts) or in anyone’s projects of “fixed ideas and feelings,” which decades later caused Cunningham dancer Carolyn Brown to accuse him of hiding his feelings behind his music. He talks about leasing, not owning, creative works, comparing them to cars, a very innovative approach that contemporary performance artists like Tino Sehgal now employ. He complains bitterly about having to fundraise but then turns around and writes an elegant fundraising request to a potential patron. By 1971 he has begun to perform less often, but when he does, those performances last up to five hours.

The final section of the book focuses on the last 10 years of Cage’s life (1972–1982). He catalogues his work, figuring out what collections should go where and writes that one day he will die. In 1973 he says, “As far as music goes I for one no longer need it; I find it all around me. I hear it all the time and it clicks.” In 1975 he finally got around to answering a letter, sitting around for decades, from poet Jackson Mac Low. In his lengthy response he mentions that he still uses the I Ching, but it is now computerized. He complains that he does not have enough time to accomplish anything and vows to stop listening to unsolicited manuscript cassettes. He embraced a macrobiotic diet, which helps to cure his arthritis, demanding special diets as part of his worldwide engagements. In 1997 he wrote about his exposure to one of the first computer bulletin boards (BBS). He mused endlessly about wills, foundations, requests, his health and, again, his diet. He takes great enjoyment in telling people he is 80 years old and has no time.

And then, unexpectedly, on 28 July 1992, his cranky, wondrous voice ceased. This time he is spot on: He truly and tragically has finally run out of time.
THE HIDDEN THIRD
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doi:10.1162/LEON_r_01505

The Hidden Third is a collection of well over nine hundred “poetic theorems” or “poetic aphorisms” from the mind and pen of Romanian theoretical physicist Basarab Nicolescu. This work is translated from the French Théorèmes poétiques by William Garvin. Nicolescu is a champion of, and very active in the field of, transdisciplinarity, being founder of The International Center for Transdisciplinary Research.

The poetic theorems are grouped under 13 sections so as to retain some vague coherence in the widely varying subject matter. I say vague because, as Tavares states in his Foreword, “these perplexing theorems follow no specific order: straying from the imposition of any narrative sequence or fixed relationship between cause and effect that so often restricts digression” (p. 10). The sections are as follows:

1. Levels of Reality
2. Reason
3. Science and Tradition
4. Meaning
5. Transdisciplinarity
6. The Quantum Poetic
7. Cosmodernity
8. Stupidity
9. Nature
10. The Hidden Third
11. God
12. Life/Death
13. I

To try and give the reader some real idea of this book, I am going to arbitrarily insert random selections throughout this review of the poetic theorems.

“The end of history is only a fantasy engendered by negligence” (91) (p. 94).

This book seems to be approachable on two distinctly separate levels. The first is a highly intellectual, deeply theoretical level, with an existing understanding of Nicolescu’s transdisciplinarity movement. It is as though Nicolescu is a guru uttering enigmatic little gems for his devotees to ponder or contemplate. His approach to understanding existence, life, and so on is from the perspective of the Hidden Third—the liminal zone between subjectivity and objectivity, the space between binary oppositions. The second approach is that of a curious lay reader perhaps interested in cross-disciplinary approaches to understanding quantum phenomena, cosmology and answers to the meaning of life.

“The only thing that’s really worth seeking in this world is the Hidden Third” (1) (p. 133).

The approach from the first level is reasonably clear: to disseminate the thinking of Nicolescu. As mentioned, at this level the book is only accessible to the very small minority of those in the know.

“The binary degeneration of religions can only lead to their dying out” (90) (p. 84).

The purpose and relevance of the second level of accessibility eludes me other than that it provides a single English collection of the “poetic theorems” of Nicolescu. Stretching the imagination, the book could be useful for: (a) finding an interesting, contentious quote for a greeting card; (b) finding one for contemplation.

From my understanding, a poetic theorem or poetic aphorism is a very short, poetic-style statement that embodies a more-or-less universal truth. An example, “The sun shines and brings forth life to the living”: This is not contentious and open to being dismissed as false—it also has a light poetic feel. The same cannot be said of Nicolescu’s blunt, unpoetic, openly controversial statements!

“The demonstration of God is a monstrosity, invented by lifeless thinkers” (99) (p. 37).

I must remind the reader this is not a critique of Nicolescu’s work per se; it is a review of a book. However, whatever the reader thinks of the extensive entries themselves, this is definitely not a book for the general reader, nor is it a book to sit down and read in long sessions, rather one to dip into from time to time.

“The greatest responsibility of all: the transmission of mystery” (14) (p. 166).

I think the book, and consequently the lay reader’s access to Nicolescu’s worldview, would have benefited immensely with two or three short explanatory essays to help with orientation. It is a shame the book lacks this as I believe he has many brilliant ideas and a unique approach to understanding reality that would benefit the general public.

As it stands, I found the book highly disappointing and possibly the most irritating book I have had to endure.

“Those we call ‘intelligent people’ are often merely brilliant apostles for the obscurity of stupidity” (25) (p. 100).

THE APPARENTLY MARGINAL ACTIVITIES OF MARCEL DUCHAMP
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doi:10.1162/LEON_r_01506

Rather tellingly, Elena Filipovic gives the introduction to her study the title “A History of Marcel Duchamp and Other Fictions,” indicating that his is a narrative like any other. What Filipovic makes clear is that the history of an artist like Duchamp is written not only by
boxed in by style, discipline or activities. Filipovic sums them up at the beginning of her introduction, this basically comes down to a "story of things: artworks invented or handmade, original or in copy, influential and in some cases revolutionizing" (p. 2) [1].

While Duchamp made it sufficiently clear that he was at a certain point no longer interested in painting due to its "retinal" qualities and therefore resorted to the selection of "readymades," or as Filipovic succinctly puts it, "nominating store-bought stuff as art," he seems to have also been quite happy with the limited view of what an artist constitutes in the eyes of many. This approach bought him, namely, the freedom he was after. If there is one reason Duchamp was rather instrumental in writing his own narrative. Anyone who is slightly familiar with that story knows the basic ingredients. As Filipovic sums them up, this is clear and further demonstrated why Duchamp still fascinates, then and in some cases revolutionizing (p. 2) [1].

That Duchamp early on had an interest in a wider scope of activities than "just" producing art is demonstrated through among other things his role in setting up the Society of Independent Artists in New York and being involved as head of the hanging committee for its inaugural exhibition in 1917. Even though the Society had promoted a jury-free setup and Duchamp subsequently advocated a democratic hanging according to the alphabet rather than subjective preference, the board of directors nevertheless famously refused to show his anonymously submitted readymade Fountain. Duchamp nevertheless became a sought-after curator, administrator and art dealer among fellow artists such as André Breton. Although Duchamp did not want to be reined in by the Surrealists as a member, this did not prevent him from collaborating with Breton and curating several exhibitions with him, making very clear that life does not come in the boxed entities of the art market or art history. Boxes, and especially ways to escape them, nevertheless played a significant role in his work, either literally or figuratively. Starting with his lifelong love for chess and its black-and-white squares that could be seen as equal and thus interchangeable, his female alter ego Rose Sélavy could also be regarded as a way of escaping too-fixed boundaries.

Filipovic rightfully points in this context to the problem of canonization of an artist who gets fixed in a certain view as to support the art market that is usually not open to artistic development and freedom. Especially in the case of an artist like Duchamp, it has turned out to be easy to pigeonhole him and not fully appreciate him in all his various aspects. Filipovic underlines how Duchamp's interest in organizing and exhibiting was thoroughly engrained in his work from the start, demonstrated by among other things his portable museum of miniature copies of his work in Boîte-en-valise (1943), his extensive use and research of copies throughout his work (including his notes and the readymades), the organization of various exhibitions and the extensive negotiations surrounding his final work Etant donnés or Given: 1. The Waterfall, 2. The Illuminating Gas. Filipovic describes how this installation in the Museum of Philadelphia was for a long time largely ignored by critics as it was regarded as redundant in comparison with the revolutionary introduction of the readymades. Duchamp worked on Given from 1946 to 1966 and managed to keep the production of it largely secret by pretending to no longer make art, demonstrated by a more public, “empty” studio and by apparently concentrating on playing chess. When eventually installed and opened to the public, Given was largely met with disappointment. Filipovic however rightfully regards it as an excellent example of institutional critique and questions why it has not been treated on the same
level as the work of that other Marcel, the Belgian artist Marcel Broodthaers and his contemporaneous Musée d’Art Moderne, Département des Aigles (Brussels, 1968). Broodthaers had suggested that it should be seen as “a situation, a system defined by objects, by inscriptions, by various activities.” With its “behind-the-scenes museum trustee meetings, elaboration of museum contracts, writing and construction of a Manual of Instructions, reorganization of a whole section of the museum’s contents and display, and even insertion of the work into the museum itself” (p. 263), Given is in fact doing exactly the same, but as Filipovic demonstrates, remained nevertheless largely ignored.

Duchamp was in all respects a true escape artist, making use of the art of smoke and mirrors, for which he gave good indications by his use of smoke or clouds both in his persona and in several artworks. He also was very aware how art was subject to a delay in appreciation, not only by a general audience but clearly also by fellow artists and critics. If Filipovic’s book demonstrates one thing, it is exactly this. Duchamp was regarded as somewhat passé at the end of the 1960s, while the likes of Broodthaers seemingly announced something new. As Filipovic, however, rightfully concludes, we might [want to] recognize how much Duchamp’s final work was not the “retardaire” lapse of an old man who “arrived a bit too late” but instead the neo-avant-garde gesture of an artist who never stopped articulating the terms of a criticality that operates in, through, as well as against the institution of art, and who had found one last way to do so (p. 266).

Note
1 This review was written based on an uncorrected proof copy. For exact quotations please refer to the final bound book.

**MIRROR AFFECT: SEEING SELF, OBSERVING OTHERS IN CONTEMPORARY ART**


Reviewed by Ana Peraica, independent scholar.

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doi:10.1162/LEON_r_01507

**Mirror Affect: Seeing Self, Observing Others in Contemporary Art** by Cristina Albu extrapolates a theme more frequently analyzed in image science and visual culture: the mirror (see, for example, Sabine Melchior-Bonnet’s *Mirror: A History*, 2001). Working a widened definition of a mirror as a medium that enhances a “miringing act,” Albu is not restricted to analysis of only mirrors and objects incorporating mirrors; rather, she speaks her interest over mirroring media, such as closed-circuit installation in video and interactive, or responsive, technologies, which are not necessarily visual. Defining the mirroring as both seeing oneself, imitating others and imaging displacing oneself, Albu crosses the academic fields of history of art, visual studies, media studies, phenomenology, the psychology of perception and neuroscience. Still, she writes from within an academic discipline of (contemporary) art history, respecting all the rules of the chronological narration, visual analysis and literary review.

The first chapter, covering art from the 1960s, deals with mirror used as a material of construction of the environment in artworks of Robert Morris, Lucas Samaras and Michelangelo Pistoletto. Chapter 2, dedicated to the 1970s, crosses over works of Dan Graham and Lynn Hershman, while Chapter 3 goes into contemporary installation art by Anish Kapoor, Olafur Eliasson and Ken Lum. Finally, the last chapter is dedicated to interactive media art by David Rokeby, Christian Moeller and Rafael Lozano-Hemmer, crossing over telematic pieces.

While mirrors in objects and installations of the 1960s were primarily constructed as sensorial experience, those of the 1970s were producing an additional meaning, commonly engaged in social relations and socioeconomic environments (often related to surveillance), slowly setting up new visuals paradigms. The new century has again withdrawn the communication in arts to a field of perception, which finally leads to a real interaction in arts and “development of interpersonal modes of art spectatorship.”

Choosing precise pieces to patiently interpret, Albu performs a deep analysis not only of visual artifacts but also of primary and secondary sources accompanying them. In the final chapters, she performs audience analysis in addition to visual and literary ones.

Although writing in a slightly limited, narrative frame of art history, the integration of media art into a conventional art historical narrative—by means of an idea of participation challenging the definition of art as a fixed object and perception as a lateral activity—is more than important. Besides major pieces addressed by analysis in Chapter 4 and an important analysis of works by Lynn Hershman, earlier art and technology groups such as GRAV, Nouvelle Tendance (New Tendencies), LACMA Art and Technology and such projects as E.A.T.’s Pepsi Pavilion and the Magic Theatre show are also covered.

The book recapitulates some well-known and less-known passages of contemporary art commonly not set together and jointly that are now unified via the research concept of the mirror. Although written for advanced readers in art history (or users that can browse the Internet simultaneously while reading, trying to see how these pieces looked, since illustrations in the book are rare, pretty small and black and white), *Mirror Affect* is an interesting reading for researchers in the joined field of art, science and technology. One conclusion after reading it is: It would be great to see a curated show with a precise selection of pieces.
THE NEW ECOSYSTEM: RETHINKING A SCIENCE FOR THE ANTHROPOCENE


Reviewed by Amy Ione, director, The Diatrope Institute.
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doi:10.1162/LEON_r_01508

Although global-scale human influence on the environment has been recognized since the 1800s, the term Anthropocene, introduced a decade or so ago, was only accepted formally as a new geological epoch or era in Earth history in August 2016. Then an official expert group said that humanity's impact on the Earth is now so profound that a new geological epoch—the Anthropocene—should be officially declared. Ironically, this geologic term, frequently associated with ecology, is generally attributed to Paul J. Crutzen, a Nobel Prize–winning atmospheric chemist. Schmitz, who is obviously neither a geologist nor an ecologist, explains its beginnings as follows:

The Anthropocene could be said to have started in the latter part of the eighteenth century, when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane. This date also happens to coincide with James Watt's design of the steam engine in 1784 [1].

Perhaps it is because Crutzen and Oswald J. Schmitz, the author of The New Ecology: Rethinking a Science for the Anthropocene, come from different backgrounds that there is a noteworthy difference in how each embraces the term. Schmitz's emphasis in The New Ecology is on optimism, despite what many see as a global environmental crisis. Crutzen, by contrast, sees more reason for concern, claiming that the discovery of the ozone hole over Antarctica served as defining evidence that human activity has moved us into a new epoch. Indeed, one of the defining features of The New Ecology is Schmitz's assertions that the idea that Earth's biota are doomed is incorrect: "The New Ecology reveals that species may rapidly evolve and adapt to their changing environmental conditions," and, perhaps more importantly given the concerns of many today, "[t]his gives hope that the future may not be as dire as it is often portrayed" (p. 104). In other words, while some see a grim picture, Schmitz, a professor of ecology at Yale University, declares, "the realization that evolutionary and ecological processes operate contemporaneously offers some hope that species have the capacity to adapt and thereby sustain ecological functioning" (p. 102). In support of this view, Schmitz further argues that new computational tools now allow us to account for feedbacks and nonlinearities. With the ability to understand the dynamics of complex ecological systems, he claims, we are able to use models to predict how feedbacks propagate throughout food webs in response to disturbances such as harvesting. Researchers can also explore different scenario outcomes.

Chapter 1, "The Challenge of Sustainability," uses the well-known debates about the short- and long-term impacts of mining the Bristol Bay region of Alaska to introduce how competing human values complicate ecological issues. Schmitz expands on this idea in Chapter 2, noting that even as we "pay attention" to known variables, there are many impacts we cannot evaluate in terms of valuing species and ecosystems. Of particular importance is that we must account for the fact that any action humans take reverberates through the rest of the interdependent chain. The difficulty in terms of scale and specific traits is the subject of Chapter 3, where the author turns to biological diversity and ecosystem functions. As he points out, the scale of a function as well as functional redundancy among species makes ecosystem evaluation even more challenging.

"Domesticated Nature," the topic of Chapter 4, extends this to the complexity of evaluating human activity. A key point of this chapter is that, in his view, there is currently an incorrect tendency today to "blame" nature's reordering on human actions despite the abundant evidence that environmental change is often engineered by species. Using beavers and termites as examples, the author argues that ecosystems often change when species perform ecosystem engineering without human intervention. He also points out that humans are unlike other species in generating transformations geared to steer primary productivity to just one species, their own. Thus, the end result is that human activity supports less biotic diversity. Schmitz's key point here is that how humans restructure the environment can contribute to a loss of diversity. He is also arguing that human influences need not be harmful; how we interface with the environment has an impact on the environment we have. In addition, population growth and shrinking habitat size means that we have less living space, and it is more fragmented.

By Chapter 4 it begins to become clear that Schmitz is presenting a particular approach to ecology—the New Ecology. While agreeing with its basic parameters, I had hoped for more of an entry into the nuances of ecological debates about global warming than a volume promoting a generalized ecological position on the New Ecology. The New Ecology stresses change more than constancy, in contrast to the old classic paradigm of ecology. According to Schmitz, the Old Ecology, though not named as such in the volume, saw nature as static because ecologists used to believe that ecosystems are self-contained, self-supporting systems. This kind of thinking led them to hold the view that anything that happened outside the boundaries of an ecosystem, including changes caused by humans, was irrelevant to the ecosystem's inner workings. Whereas I am inclined to agree with many of this author's positions, I nonetheless found his promotion of the New Ecology a bit too simplified given the
historical, philosophical and multidimensional elements of ecological thinking. Perhaps my resistance to this chapter indicates there is a downside to writing a book for the general public or it may simply be a result of how much I dislike umbrella terms like the New Ecology.

Having established the need to focus on change, Chapter 5 promotes a socioecological systems thinking view as a counter to the old human/nature divide that Schmitz claims harmed earlier ecological thinking. The components are further unpacked in Chapter 7, Schmitz's proposals rest on the claim that telecoupling—socioeconomic and environmental interactions over distances—and an environmental focus on change, Chapter 5 promotes a socioecological systems thinking view as a counter to the old human/nature divide that Schmitz claims harmed earlier ecological thinking. The components are further unpacked in Chapter 7, Schmitz's proposals rest on the claim that telecoupling—socioeconomic and environmental interactions over distances—and an environmental focus on change, Chapter 5 promotes a socioecological systems thinking view as a counter to the old human/nature divide that Schmitz claims harmed earlier ecological thinking.

Like the New Ecology.

In ecological vernacular, open systems can be sustainable only insofar as raw materials and energy are supplied in unlimited quantities. This condition will not be met for systems that depend on nonrenewable materials and energy (e.g., fossil fuels and mineral elements). Environmental stewardship, for Schmitz, is the correct approach because it includes promoting sustainable technologies, planning ahead and building a circular economy (an industrial economy that incorporates closed systems). For example, while a linear economy is a "take, make, dispose" model of production, a "recycling" factor offers circularity to the system. Environmental stewardship respects various ethical positions and the nature of the social systems that determine them. It is an intermediate between anthropocentrism on the one hand and ecocentrism on the other. Essentially, humans have ethical obligations to one another that are mediated through their mutual relationships with the environment. Unlike historical conservation and management, stewardship includes minimizing potential damages created by society as it exploits ecosystems as well as improving environmental performance. In practice this is accomplished by protecting entire ecosystems, not just their parts. Therefore, we need to develop policies/regulations that minimize risks and maximize opportunities to sustain and restore natural ecosystems for current and future generations. Ethical stewardship is also an ecocentric ethic to some degree: "An ecocentric ethic thus recognizes that if humans are to be considered part of nature, they, like all other species, should have the right to exploit it." In other words:

Humans as biotic species are functional parts of complex adaptive ecosystems. While recognizing humanity's right to exploit nature, such an ethic is not intended to give humanity license to exploit ecosystems without regard to sustainability. Systems thinking teaches us that to maintain sustainability of the whole system, humans must act in ways that preserve food web structure, and also preserve the dynamism created by species interactions and feedbacks (pp. 145–146).

Chapter 6, "Hubris to Humility," shows how difficult it is to design ecosystems in a real sense. This chapter begins with Biosphere 2 (the Earth is Biosphere 1), a science experiment in the 1990s that took place in a fully enclosed glass facility near Tucson, Arizona. The enclosed space contained several miniature ecosystems, heating and cooling systems and space for human habitation and agriculture. Eight people were sealed into the facility for two years. The project included monitoring their health, the air, water and soil functioning. The problems the experiment exposed show how difficult it is to engineer a functional natural economy. Humans complained of hunger the first year, although they did adapt in the second. The ecosystems became undeveloped or transformed because of unforeseen limitations related to how the crafted environment evolved. The most significant challenge was maintaining balanced levels of carbon dioxide and oxygen. The experiment, which cost about US$200 million, was halted after two years because many species died and the humans began to experience apnea and chronic fatigue.

While I appreciate Schmitz's expression of the need for humility and his notations that the New Ecology offers an approach by humans and for humanity, a major reservation I had as I read was that humans in this book are more conceptual than "actual," because he treats humanity as if it is of one piece. People interested in learning about how an ecologist sees this vocation will no doubt enjoy this book, particularly those who desire a view that counters the idea of a global environmental crisis. Even so, it is hard to avoid concerns about the human enterprise, as Schmitz's comments about global climate change remind us:

Layered upon all of this, with potentially conflating effects, is global climate change. Domestication of nature by humans increases...
greenhouse gas emissions through land clearing and resource exploitation, land conversion for agriculture, rearing livestock, production and use of cement for infrastructure development, energy generation, and transportation of humans, their goods, and their materials. A warming Earth selects for those species with the suite of physiological traits that allow them to adapt to changing conditions. Those that are incapable go extinct (p. 84).

In summary, Schmitz’s arguments, while sensible, are presented without the cacophony of human voices. I would have liked him to critique his own proposals, to name competing ideas about proposed policies that aim to combat climate change and to have named theories to a greater degree (e.g. the Jevons paradox). I am not suggesting he should have given voice to environmental skeptics. Rather, as Schmitz tells us, scientific understanding of urban environments remains rudimentary. His discussion read like a story detailing ecology through his eyes; critical evaluation was sparse. Schmitz’s urge for innovations and a scientific approach to urban design, while compelling, did not include enough about human complexity. Perhaps this will come in another book? Suffice it to say, I was hoping The New Ecology would provide scientific details that would open entry into the issues circling within the implementation debates when environmental questions arise. Schmitz, instead, punts:

The specter that humans can instigate rapid evolutionary change is well appreciated in an environmental stewardship ethic. . . . But what it means operationally for the interplay between changes in ecological systems and social institutional change remains beyond current comprehension. . . . What is humanity’s obligation to ensure that evolutionary capacity—central to ensuring resilience—is sustained? It is humbling, even to think about all of this (p. 202).

Reference

The Participatory Condition in the Digital Age
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doi:10.1162/LEON_r_01509

The Participatory Condition in the Digital Age is a compilation of articles that tackles the issue of what participation means in an age of pervasive digital media. The editors state in their introduction that “the participatory condition names a situation in which participation—being involved in doing something and taking part in something with others—has become both environmental (a state of affairs) and normative (a binding principle of right action)” (p. vii). They advance that participation has always existed in social life, but what is new of the present condition is the level up to which participation has and is being thematized in every order of society. Thus this sort of generalization of participation seems to be bonded to the extensive diffusion of digital media. In fact, digital media can foster the sensation that one now interacts and participates in a greater measure than before in social, economic and political life—although participating implies some sort of power in decision-making, and thus what actually seems to happen is closer to “sharing” than to actually participating, at least for a great part of the actors/users.

In this context, the aim of the book is to unveil some of the mechanisms through which a rhetoric of participation may act as a counterfeit of actual participation. To do so, in the introduction the editors briefly explore participation as interpellation, historical participation, art histories of participation and media histories of participation, and then define four main axes according to which the articles are classified: Politics, Openness, Surveillance and Aisthesis.

Nico Carpentier’s text “Power as Participation’s Master Signifier” (p. 3) links participation to power through considering the former as a “political-ideological concept” from which social power struggles cannot be detached, subsequently delineating two strategies to cope with it.

In “Think Outside the Boss: Cooperative Alternatives for the Post-Internet Age” (p. 59), Trebor Scholz deals with participation, digital labor, automation and the future of work. After describing Amazon’s Mechanical Turk—an online crowdsourcing system founded by Amazon in 2005—the author reflects on digital labor as a new kind of oppression. Consequently, he proposes to think of new kinds of solidarity and workers’ mobilization through new platform cooperatives and in this way try to revert the use of digital technologies for labor exploitation to a tool of social mobilization.

In the summer of 2012, Salvatore Iaconesi, a well-known “Italian designer, open source activist, and digital artist” (p. 123), was diagnosed with brain cancer (which after some studies, fortunately turned up to be a benign tumor). Following some preliminary check-ups, he decided to make his disease open source. La cura (the cure) is both an artwork and the means Iaconesi conceived to cope with his disease. At the same time, he considers it what ultimately led him to the disease’s cure. “Open Source Cancer: Brain Scans and the Rituality of Biodigital Data Sharing” (p. 123) is authored by Alessandro Delfanti and Iaconesi himself. In the article, the authors analyze the potential use of hacking—understood as “perform-
ing technological alternatives in the public sphere in order to convey its emancipatory potential” (p. 124)—to understand and possibly create new ways of being a patient and to relate to one’s body and disease in an age of pervasive digital technologies.

Julie E. Cohen investigates the relationship between participation and surveillance (p. 207), arguing that the participatory turn is clearing the way of legal and social control for a pervasive exercise of surveillance, from commercial to institutional forms of surveillance. The text is revelatory in the ways in which individuals are pushed into voluntarily and sometimes even unwittingly providing personal data, mainly through gamified surveillance environments, and quantified self movement logic (p. 208).

In the series of chapters dedicated to Aisthesis, Bernard Stiegler advances in turn seven proposals to rethink the university in the Participatory Condition moment (p. 280).

Although the strength of The Participatory Condition both as a theoretical tool and as an actual social situation is not completely convincing—mainly because participation is too broad and general a term to have enough explicative power—the ensemble of contributions in the book offers a solid critical base on the diverse topics developed; and it can hopefully become a point of departure to further deepen and expand these issues elsewhere soon.

**THE ANCIENT ORIGINS OF CONSCIOUSNESS: HOW THE BRAIN CREATED EXPERIENCE**


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doi:10.1162/LEON_r_01510

Something wonderful happened around half a billion years ago and at least once. Todd E. Feinberg and Jon M. Mallatt take us through a very methodical and highly convincing argument that consciousness has its roots in vertebrate evolution and thus consciousness (as defined by American philosopher Thomas Nagel as an experience of what it is like to be) is likely to be ubiquitously represented among all vertebrates we currently live alongside. The conclusion that all vertebrates have always been conscious is not widely accepted by experts and seemingly not particularly palatable to a species that considers itself unique (and behaves accordingly) in the ability to think and consider its existence in the context of the world. Feinberg and Mallatt remind us that we are investigating a very basic consciousness but consciousness nevertheless. Some species understand their existence, that they are; others may muse on that in itself; and still fewer (perhaps just the one) consider that this is an interesting enough phenomenon to write a book about it. *The Ancient Origins of Consciousness* is a comprehensive update on the hard problem of consciousness. There are no prizes for guessing why philosopher David Chalmers named the task of objectively explaining the highly subjective nature of experience the Hard Problem. This Hard Problem is of enormous interest to all who think, and its study has been traditionally the focus of philosophical investigation. As a hard problem, Feinberg and Mallat argue consciousness needs a multidisciplinary approach.

How does this physical thing mostly housed in our heads behind our eyes produce this phenomenal experience of consciousness and an understanding of what is like to be? The strapline *How the Brain Created Experience* hints that this study looks back at the evolutionary arrival of consciousness. On the dust jacket, Thurston Lacalli points out that hard problems need to be tackled at a base level, and in this case, it seems sensible to ask what are the rudimentary forms of these phenomena as they emerge in evolution?

This study (and that is what it is—a serious study), *The Ancient Origins of Consciousness*, approaches the **hard problem** from philosophical, neurobiological and neuroevolutionary positions. The work is a result of the cross-discipline collaboration of Feinberg and Mallatt. Feinberg is a neurologist, a practicing clinical psychiatrist (Icahn School of Medicine, NY) and the author of *From Axons to Identity: Neurological Explorations of the Nature of the Self*. Mallatt is an evolutionary biologist, associate professor of biology and medical science (Washington State University and University of Washington).

Grounded by the basic philosophical puzzles of consciousness, the authors go about very methodically investigating the structures of existing species and what we know of ancestral species using morphological (current and fossil), molecular and functional evidence. In this process, Feinberg and Mallatt ask very straightforward questions. What are the basic features that are needed for consciousness? When did these features first appear? Evidence strongly suggests that consciousness first appeared during the Cambrian explosion, when vertebrates first started to visually map their environments.

In a dedicated chapter, Feinberg and Mallatt raise the question “Does consciousness need a backbone?” Posed in another way, could consciousness have evolved indepen-
Consciously aware of the risks and advantage for any organism that there exists a very significant survival occasion. This is strong evidence that consciousness, then without a doubt consciousness is considerably more widespread than is currently thought and has also emerged from the evolution of quite different neural structures. Independent evolution would help explain emerging evidence that other invertebrates may possess consciousness. Honeybees, for instance, appear to have learning and memory abilities sufficient to comprehend certain abstract things. This seems incompatible with the size of their brains, which are very small but rather denser than ours. In addition, the insect brain has neural apparatus similar to the vertebrate midbrain, backing up the idea that insects may as individuals have subjective awareness and at least some sort of basic consciousness.

There it is. Consciousness predates us, and not just us. Consciousness predates primates and mammals and possibly arose on more than one occasion. This is strong evidence that there exists a very significant survival advantage for any organism that is consciously aware of the risks and rewards of external environment, of its internal state, and has an experience of being, an awareness of self. Hence, it seems that we share a planet with conscious beings who experience what it is to be and understand themselves as distinct from others. More study no doubt will shed more light on the extent of this, but consciousness, it seems, is quite possibly significantly more common than we might have believed.

While The Ancient Origins of Consciousness may require some commitment from the reader to navigate the multidiscipline approach necessary to address the complexity of the Hard Problem, this well-structured book is very much worth the effort required. As the authors state in the preface, “We do not skimp,” and they certainly have not; but they have also designed this book thoughtfully to ensure that nonexperts can remain engaged and informed as they encounter very robust arguments and conclusions well supported on all fronts. From this perspective, no review can do justice to the work behind The Ancient Origins of Consciousness.

THE PERVERSITY OF THINGS:
HUGO GERNSBACK ON MEDIA,
TINKERING, AND SCIENCE FICTION
edited by Grant Wythoff: University of
Minnesota Press (Electronic Mediation
Series, no 52), Minneapolis, MN, U.S.A.,
2016. 384 pp., illus. Trade, paper. ISBN:
978-1-5179-0084-7; ISBN: 978-1-5179-
0085-4.

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doi:10.1162/LEON_r_01511

Best known as the founding father of science fiction as an established literary genre, Hugo Gernsback, a Jewish emigrant from Luxembourg and editor of the first SF magazine, Amazing Stories (launched on 1 April 1926), did not start his career as an editor and a writer. After arriving in New York at the beginning of the century, he first founded an electrical supply shop while trying to make his way as an inventor and progressively started to publish newsletters and small magazines—some short-lived, some very successful—whose actual function proved to be multifold: promoting electrical parts sold by Gernsback’s companies; offering a platform to a community of tinkerers and amateurs; and trying to make sense of an emerging technological culture in which notions such as electrical device, medium, research and utopic thinking were not yet “functionally differentiated,” as sociology of Modernism would put it.

It is the gray zone between two key moments in 20th-century technological and cultural history that is at the heart of Grant Wythoff’s study. On one hand there was the disappearance of dime novel pulp culture in the late 19th century and the explosion of technological inventions and innovations, just before the transformation of this incredible amount of social energy into well-structured and bureaucratiﬁed research centers and industrially organized R&D plants. On the other hand, there was the appearance of the new artistic genres and scientiﬁc disciplines such as science ﬁction and media studies in the 1920s. Wythoff’s book contains an exceptionally well-edited body of “transitional” work by Hugo Gernsback, inventor, editor, media theoretician avant la lettre, businessman and political thinker on the one hand, but also spokesman and shortcut of a whole community of otherwise unorganized technology fans and tinkerers whose importance for the creation of modern media and technology culture has never been taken seriously. Gernsback himself has long been seen as a sympathetic but somewhat clumsy and often boring dreamer, while the role of amateurs and fans was made properly invisible by the increasing institutionalization of technological research as an industry-driven activity. Wythoff’s selection of articles and stories published by Gernsback in one of his many magazines—in which the distinction between editor, author and reader was not always easy to make—convincingly demonstrates that there are good reasons to challenge this negative judgment and to make room for a new reading that highlights the
key importance of the role of the amateur in cultural and technological change. In that sense, the Gernsback
universum—by which I mean both the writings by this famous editor or those simply inspired by the example
of his magazines and the large but amorphous community of all those who participated in the social life of
the technological and cultural inventions of his time—can easily be compared with phenomena such as the
open source movement in software development, alternative forms of working such as peer-to-peer econ-
omy, fan fiction or many other forms of collective intelligence.

Wythoff recovers this lost history in two ways. First of all, by gathering a large sample of Gernsback’s writings
from the decades before Amazing Stories (which ends the chrono-
logical survey one finds here in this book), he offers direct insight into what anticipated as well as prepared
the emergence of science fiction (to use the modern term). What these articles on all aspects of modern tech-
nology (but this is a contemporary term as well) make very clear is the complete merger of aspects and issues
that are now clearly separated: techniques and media, faction and fiction, content and materiality, form and
function, private and public, meaning and use, etc. Second, by contextualizing as well as close-reading this truly
amazing body of work and stressing the intricate relationships between editor and tinkering community, he
also elucidates the social environment that animates the technological craze of these years: the desire for upward
mobility and job security thanks to technology among new immigrants; the link between feminism and the
participation in technological culture in the domestic sphere (women readers of Amazing Stories expressed for
instance their dislike of the romance aspects of the SF short stories, which they judged discriminating); the mul-
tiple connections between the ideas that burgeoned in the amateur sphere and the industrial patents that were
the subject of fierce battles; and above all the universally shared belief in the benefits of progress (which translated
in the Depression Era into a clear but cautiously formulated sympathy for “technocracy” in politics).

The quality of Wythoff’s editorial work is outstanding and is served
well by its clever typography. It is also pleasant to read, well indexed,
and nicely illustrated. Thanks to this work, it should be possible to reframe
the figure of Gernsback, whose role cannot be reduced to that of a some-
what old-fashioned forerunner of a literary genre that has moved eventually
away from the “hard technology” side it had in the beginning, when
one of the aims of the stories was not to create new story worlds but to
fictionally demonstrate how certain things actually worked. There is a lot
of McLuhan in Gernsback, and it is to media studies and media archeology
that his life and work really belong.

But what about the “perversity of things,” finally? It is the title of a 1916
article by Gernsback in The Electrician (here pp. 165–167).

In this text, he addresses an old subject: “the recalcitrant behavior of
things in general toward us humans,” which he reads as an invitation to
all tinkerers to remediate their “lack of knowledge” and through study,
research, work and trial and error to get a better “intimate knowledge” of
the things in order to better subject them to make them do what we want
them to do. His conclusion: “If people would only stop to think how infi-
nitely little we know about everything about us, and how thoughtless we
are in our relations to all inanimate things, we would not be so apt to
complain about the fabled Perversity of Things.”

Curated Decay: Heritage beyond Saving by Caitlin DeSilvey. Reviewed by
Jan Baetens.

Peters’ Music Therapy: An Introduction, 3rd Edition, by Wanda Lathom-
Radocy. Reviewed by Richard Kade.

Future of the Brain: Essays by the World’s Leading Neuroscientists,
edited by Gary Marcus and Jeremy Freeman. Reviewed by Amy Ione.

To See without Being Seen: Contemporary Art and Drone Warfare by

Svea Bräunert and Meredith Malone. Reviewed by Jane Hutchinson.

Essentials for Composers: Creative Process by Design by Jonathan Mid-
dleton. Reviewed by Richard Kade.

The Ancient Origins of Consciousness: How the Brain Created Experience by
Todd E. Feinberg and Jon M. Mallatt. Reviewed by Craig Hilton.

APRIL 2017
Impersonal Enunciation, or the Place of Film by Christian Metz; translated

MAY 2017
Lewis Carroll Society of North America: Spring Meeting, San Fran-
cisco Public Library. Reviewed by Amy Ione.

For Folk’s Sake. Art and Economy in Twentieth-Century Nova Scotia
by Erin Morton. Reviewed by Jan Baetens.

Leonardo Reviews

Impersonal Enunciation, or the Place of Film by Christian Metz; translated
by Cormac Deane. Reviewed by Ian Verstegen.


*Giambattista and Domenico Tiepolo: Master Drawings from the Anthony J. Moravec Collection* by Adelheid M. Gealt, with contributions by George Knox. Reviewed by Michael Mosher.


**MARCH 2017**


*The Camera Does the Rest: How Polaroid Changed Photography* by Peter Buse. Reviewed by Ana Peraica.

**FEBRUARY 2017**

*Conjugal Visit* by Charles Krafft. Reviewed by Richard Kade.

*Philosophy of Language* by Rodrigo Maltez Novaes. Reviewed by Ana Peraica.


**JANUARY 2017**

*The Intermediality of Narrative Literature* by Jørgen Bruhn. Reviewed by Jan Baetens.

*Pirate Philosophy: For a Digital Post-Humanities* by Gary Hall. Reviewed by Rob Harle.

*Control—Digitality as Cultural Logic* by Seb Franklin. Reviewed by Ana Peraica.

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**ANNOUNCING**

**Leonardo Art Science Evening Rendezvous (LASER)**

Since 2008, the Leonardo Art Science Evening Rendezvous (LASER) series of lectures and presentations on art, science and technology has provided spaces for progressive thought leaders to come together to form community and explore the intersections of disciplinary thinking. Owing to its success and popularity, LASER has expanded beyond its birthplace in the San Francisco Bay Area, first to the U.S. East Coast, then across the Atlantic to London—the home of the first European LASER—and today continues to expand to new locations nationally and internationally. We thank all of those who have spoken at, participated in or attended LASER events throughout the years. We owe a special thank you to Piero Scaruffi, LASER founder and chair, for his inspiration and continued dedication, and to the growing list of LASER hosts around the world. To follow LASER events, see <www.leonardo.info/laser-talks>.