LITERARY GAMING

Reviewed by Rob Harle. Email: <harle@robharle.com>. doi:10.1162/LEON_r_00985

Literary Gaming is a fascinating and detailed scholarly exploration of this fairly new field of academic inquiry. The book investigates the rather unique combination of literature, in its broadest sense, and games, especially digital computer games. I was fascinated to learn that the computer games industry has a huge financial turnover: “By the second decade of the twenty-first century, computer games have become a well-established art form represented by a global industry whose turnover exceeds that of both Hollywood and the music industry” (p. 34). Apart from the financial importance of this startling fact, the number of individuals involved in programming, designing, creating and playing all types of computer-based videogames is enormous. This alone justifies the detailed investigation that Ensslin has carried out and presented in Literary Gaming.

This book mainly looks at literary video games that combine substantial aspects of both the ludic and the literary. “They employ narrative, dramatic and poetic techniques in order to explore the affordances and limitations of ludic structures and processes” (frontispiece). Ludic, as used by Ensslin, “ranges from the kind of cognitive playfulness exhibited by ludic print literature to ludic mechanics, with the latter operating as an element of a ludic digital ‘book’ . . . or as the technological implementation of the rules of a literary game proper, that is, an artifact that has to be played, first and foremost” (p. 42). These games are different from conventional literary/word games, such as the long-standing and popular “analogue” game Scrabble—and also from a conventional book that has been reset as an eBook, basically a book under glass.

In her research, Astrid Ensslin developed what she calls the “L-L” spectrum by which to analyze and categorize the various and numerous literary video games available as both standalone or online, multi-user applications. Some games concentrate more on the literary side of things, others on the ludic; however, to be considered in this study both of these aspects had to form part of the game. The book is very well written and, despite some of the complex theories (communication, meaning, authorship and so on) discussed, remains accessible to the interested general reader. Literary Gaming is divided into two sections. Part I is an introduction and discussion of the theories and methodology involved. Part II, with seven chapters, analyzes the various aspects of literary video games using a number of actual games as case studies. This analysis includes: hypertext literature; ludic hypermedia fiction; anti-ludicity and ludic mechanics; and interactive fiction. Literary Gaming has a smattering of black-and-white images and concludes with excellent notes, references, glossary and index—very important inclusions in scholarly books. Examples of games discussed include The Princess Murderer, Blue Lacuna, The Path and Loss of Grasp.
In the introduction, Ensslin outlines the basic aims of her research as presented in the book:

The past decade has seen a proliferation of [such] digital media hybrids, and it is against this creative and cultural backdrop that this book seeks to correct the widely held view that games and literature do not really go together. It aims to draw attention to a new form of experimental literary art that is closely tied to digital media as a productive, receptive, and participatory platform, and that requires entirely novel ways of close play and reading (p. 7).

Ensslin notes that the literary side of the “L-L” spectrum is more developed and detailed than the ludic at present, then describes types of applications using the “L-L” models: (1) kinetic digital literature; (2) code works; (3) interactive generative literature; (4) literary 3D environments; (5) literary hypertext and hypermedia; and (6) ludic hypermedia literature. It is interesting to note that as soon as a thing becomes mainstream and accepted as a standard, a counter process becomes active to “subvert the dominant paradigm”; this is already happening to video games. Those that are established and commonplace are being abandoned or “hacked,” and newer, underground ones created to take their place. This is already happening even in this seemingly nascent field of literary games!

I have one minor criticism of this book, in that it would have benefited from an appendix that contained a comprehensive list of all the literary video games available, especially those discussed throughout the book. These, together with up-to-date URLs of the games, would make it easier for readers and researchers to access the games via the Internet. I think conventional books of poetry, short stories and the novel will continue to be popular and important, perhaps in spite of the ubiquity of digital computers and new media. However, I also believe a genre such as the short story is in dire need of a makeover—digital technologies may afford this experimental and exciting new approach. Speaking of the hybridization of digital games and literature, “This fusion is urgently needed to grant creative writing a more contemporary, media-savvy outlook, as well as to expand and advance the artistic and critical significance of games” (p. 1). I am sure Literary Gaming will become a core text in the academic fields of new media, digital gaming and literature itself. I cannot recommend the book highly enough to be included in all of the relevant university curricula, as well as being an excellent resource and inspiration for experimental game designers and creative writers.

**MARKETING THE MOON: THE SELLING OF THE APOLLO LUNAR PROGRAM**


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The Apollo 11 landing of men on the moon in 1969 was, in the words of Walter Cronkite, “the single great story of the century.” This book steps back from the story itself, to tell the story of the story—how the marketing and public relations efforts behind the Apollo project were, in an important sense, crucial parts of that project, making the very achievement possible. The authors are specialists in marketing as well as Apollo enthusiasts and collectors. Presenting a wealth of promotional material, along with latter-day reflections by those involved, they paint a picture of a nearly seamless collaboration between government, private industry and mass media.

Among the unprecedented aspects of the Apollo moon landing was the scope and avidity of its audience. Viewers primed by Jules Verne, Walt Disney and illustrated magazine features on the future of space travel were ready to tune in to the space program. Looking at how this audience was cultivated, and the kinds of information it was given and by what means, *Marketing the Moon* provides an illuminating overview of the Apollo project seen through the lens of public relations. It also offers some profound insights. Foremost is the way that the NASA Public Affairs office, “with a limited budget, made the most of what they had by adopting a ‘brand journalism’ and ‘content marketing’ approach” (p. xi). Information was freely provided to the press, and the press in turn did the work of disseminating that information at no expense. In this way, educating the public became synonymous with promoting the Apollo “brand.” Business partners likewise contributed to educational efforts.

Meanwhile, the makers of items used in the course of the Apollo mission (Hasselblad cameras, ‘Tang) developed ad campaigns based on this unprecedented “product placement.” The astronauts themselves became spokesmen but also celebrities, widely represented in the media. As crucial representatives of the program, their image was carefully managed and their appearances choreographed.

“Communications,” broadly construed, were integral to the Apollo project, not only in the sense of developing systems of remote communication for the astronauts, but in the way the project was communicated to the public. Thus, one of the most crucial features of Apollo was the fact of its being televised—a fact that was
more of a hindrance than a help to the astronauts themselves but integral to the sense of the public’s vicarious participation. It was not a foregone conclusion that television cameras would be present in space, and once it was decided upon, new technologies were required. As the authors note, “The achievement of broadcasting live television from the Moon was nearly as astonishing as landing there” (p. xi). As a result, the moon landing became an unprecedented media event, represented in real time. As the book repeatedly shows, the press and broadcast journalists were part of the event.

In a sense, the Apollo program became a victim of its own success. Ultimately, “in the course of less than three years, an achievement that, when first accomplished, was acknowledged as a monumental turning point in human history, was slowly reduced in scope, magnitude, and importance into something commonplace” (p. 76). The impossible became the expected; just another space flight, just another moon walk. If the first had been unprecedented, successive moon walks became, in the words of a 1970 newspaper editorial, “virtual reruns” (p. 101).

In an effort to keep up public enthusiasm, NASA organized a 50-state road show featuring the lunar module and a specimen of moon rock, hugely attended but ultimately retrospective in nature. So closely linked were the fortunes of Apollo and its worth as a “story” that the diminishing television ratings for successive Apollo missions ultimately led to the premature cancellation of the program. For the authors, the end of the Apollo project and of manned missions beyond earth’s orbit more generally is, quite simply, a “failure of marketing” (p. 123). The brand was not kept alive.

But the book is more than a marketing analysis. It reminds us that if the Apollo landing was “the single great story of the century,” it was also a consummate event of its time, reflecting and also contributing to the American culture of the day. Television was on the ascent, picture magazines were still in force, advertising and corporate interests had reached an unprecedented peak of influence, and technology was entering a new age. But it was also a time of crisis in the economic and political life of the country, when realism was overtaking idealism. Kennedy’s “We choose to go to the moon in this decade” gave way to Nixon’s 1972 remark, in the wake of Apollo 17, that “This may be the last time in this century that men will walk on the moon” (p. 111). The enormous resources that the Apollo program required could not be justified to a public whose priorities had shifted. When widespread public enthusiasm for space travel did eventually remerge in the late 1970s, the authors note, it was no longer in the context of NASA programs but in the realm of pure entertainment, in the Star Wars movie franchise.

THE HUMAN FACTOR: THE FIGURE IN CONTEMPORARY SCULPTURE


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The human figure as a primary feature of both sculpture and image making has been as much a part of human history as the evolution of language, the creation of myths and the development of culture—until the early 1960s! The three decades that followed saw the absolute relegation of figurative sculpture to the category of persona non grata. “Caro’s pioneering painted metal constructions were hailed for ‘liberating’ sculpture from its hidebound association with the figure, while forming a more abstract and medium-specific language” (p. 11). This book is like a lamp illuminating a Renaissance in which the figure once again regains its rightful place as one acceptable form of sculpture in society, perhaps further nailing the lid on the coffin of the fundamentalist-like, postmodern absurdity of what is or is not acceptable as art. To put the situation in perspective, it must be realized that, as Herbert points out, “There was a period of perhaps 40 years when it was not particularly acceptable [figurative sculpture], and then only in the rarefied world of avant-garde art, to make such work” (p. 33). The Human Factor—published in conjunction with the exhibition of the same name at the Hayward Gallery, London—surveys the past 25 years of figurative sculpture—sculpture in which “the figure is the point of departure for engaging with a wide range of contemporary concerns.” Although I do not consider the book a definitive survey, and it is perhaps a little Eurocentric, the range of works presented is astonishing and broad enough to give the reader a good idea of where figurative sculpture “is at” in the first decade of the 21st century.

The book consists of a Foreword, then five interesting and informative essays as follows: “The Human Factor” (Ralph Rugoff), “Standing Sculpture at the Turn of the Century: Exchange Values and Metamorphoses” (Penelope Curtis), “Post-Abstract and Data-Mapped: The Conditions of Contemporary Figure Sculpture” (Martin Herbert), “After the Fall: The Re-Emergence of the Figure in Sculpture” (James Lingwood) and “Bodies Politic” (Lisa Lee). These chapters are followed by a black-and-white and color plate section featuring examples of each of the 25 artists represented, together with text descriptions of the works shown. There are a number of insert sections, with photographs of...
artists’ studios and works in progress by some of the sculptors. As Curtis notes in her essay, the haptic exchange between figure and ground, between body and material, unites an apparent eclectic range of artwork, and discourages us from making any simple conclusions about figurative sculpture in the early twenty-first century, other than to accept that it is being as abstract as it is figurative (p. 24).

This is a very different situation, and a healthier one I would suggest, than that of the previous decades, which saw no interrogation and reassessment of the figure at all. As a number of the essayists suggest, we can never go back, so to speak, to the way things were. This is indicated by the inclusion of both figurative and abstract elements, both in form and concept, in the sculptures featured in this book. It would be just as silly and futile for the neo-figurative artists to completely abandon abstraction as it was for abstractionists to abandon the figure—so carelessly and heartlessly.

Three characteristics of neo-figurative sculpture that were not particularly significant in traditional figurative work are: (a) any materials are fair game (truth to the material is no longer a compelling issue); (b) the majority of works are deeply concerned with important social, political or cultural matters; (c) the sculptures, often multimedia constructions, require close and careful attention by the viewer to reveal the full intention of the artist.

There are far too many excellent works to describe here, but I will discuss two that exemplify the neo-figurative underpinning. First is Katharina Fritsch’s Madonnafigur (Madonna Figure). At first glance the Madonna stands in a public courtyard; however, the size is not the “normal” size of a Madonna (it is smaller than life size), and it is bright yellow! What is Fritsch’s intention? “But the status of Fritsch’s statue remained elusive: it was a blank surface onto which different beliefs and anxieties could be projected” (p. 38).

The second piece is by Maurizio Cattelan: a clothed, kneeling child-size figure, which from behind looks like a child praying; from the front we are suddenly confronted with Hitler, looking very strange indeed.

The double take is a double shock; as Cattelan points out, “You don’t know if he’s praying to have six million more people to kill, or for forgiveness,” and it poses the question, “If Hitler asked for absolution, would God forgive him?” (p. 68)

The Human Factor is a beautifully produced book and, apart from being an important addition to art lovers’ libraries, it should be essential reading for all art students. It not only gives an overview of the past 30 years of figurative sculpture but also gives a sense of the history and process of how art styles and fashions come and go. This may help students find their own voice, one that is not bullied by hidebound art instructors and art gallery dictators. After all, it is “better to have no public than to have no self!”

ENLIGHTENING SYMBOLS: A SHORT HISTORY OF MATHEMATICAL NOTATION AND ITS HIDDEN POWERS


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From the outset, let me say that this is a good book. It is well written by an experienced author and is full of interesting facts about how the symbols used in mathematics have arisen. It would certainly interest anyone who studies the history of mathematics. Even for the enthusiast, however, there is danger, as the topic lends itself to reduction to a list of facts. This author avoids this trap mostly through his engaging style but also by breaking the book into short chapters, 24 of them, and avoiding being completely chronological. The first collection of chapters concerns the origins of the numerals themselves; some origins are of course shrouded in obscurity and controversy, and where this is the case, the alternatives are honestly treated by the author. The second collection is about algebra and is consequently more concerned with the culture of development and use. This contains a wealth of information and strays into anthropology and religion, including more of the beliefs of the author. Research into some of the origins of algebra remains an active area, and new forensic techniques are helping to disentangle who did what when. The third and final section, on the power of symbols is more philosophical and, dare I say, a little bit self-indulgent. It is still a good read, however. To pedants, some errors will be apparent; on page 139 there is a reference to Gauss using the imaginary unit in 1867. This is supernatural, as he died in 1855. There are probably others, but this does not detract from the book, as facts can always easily be checked in this Internet age. What we have here is a scholarly book written by an author in command of his subject.

The book is well structured, and the short chapters make it a useful reference book for scholars. It is written for the layperson, but some knowledge of algebra and complex
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hand, she argues very convincingly
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phenomenon that cannot be limited
that of autobiography in film, a
les an even more complex domain:


to discussion with great honesty the pos-
sible limits of corpus and approach.
The films that are analyzed in this
book all belong to a very specific type
of film: that of art cinema or, more
precisely, of auteurist cinema, i.e. a
type of film-making that appeared
in the slipstream of the French “poli-
tique des auteurs,” a post–World War
II movement (with a peak in the early
1960s) that states that real, authen-
tic films are the expression of their
directors and not the anonymous
vehicles dominated by either a studio
style or a movie star performance.


Rugg’s vision of self-projection is
described along four different axes:
(1) the physical presence of the direc-
operator on screen (as an actor), (2) the
references through the act of direc-
tion, (3) the use of actors, often linked
to the “real person” of the director, as
avatars, and (4) the direct or indirect
allusions to the technical apparatus,
which ultimately refer to the pre-
ence of a creator. Each of these axes
is illustrated with the help of a set
of well-chosen films, some utterly
famous, others rather marginal in
the oeuvre of their makers, which the
author close-reads in innovative and
challenging ways. Yet Rugg’s merit is
not only to make her point as clear
and convincing as possible, it is also
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discusses very frankly the gender dimensions of auteurism. It is linked to a certain period of film history, a period characterized by a strong tension between commercial and art cinema, but also a period highlighted by a certain technology and a certain apparatus closely related to the idea of creation, magic and invention. Rugg pays much attention to these limits, which she discusses always in a very open and stimulating way, which tend to show the usefulness of her concepts and categories for films other than those that dominate her corpus (Bergman, Truffaut, Hitchcock, Tarkovsky, Allen, Herzog, Almodóvar, to quote the most frequently studied directors). Digital film-viewing, for instance, no longer relies upon the notion of "projection": movies are no longer materially projected on the screen by a beam of light, and the idea of "self-projection" should therefore be elaborated in a perspective that is as much haptic as optic and that gives a different interpretation of the bodily, and of course also gendered, involvement of author and spectator. With the example of Alfred Hitchcock, a typical example of a director who is both a real auteur and a studio employee, it will be fascinating to transfer Rugg’s vision of self-projection in art cinema to the field of commercial moviemaking. One can already guess that strange discoveries will be found ahead.

**UMM KULTHUM: ARTISTIC AGENCY AND THE SHAPING OF AN ARAB LEGEND, 1967–2007**


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In her profoundly interesting first book, Laura Lohman examines the post-1967 career and legacy of Umm Kulthum, the Egyptian popular singer, a transcendent character symbolic of utopian Egyptian and pan-Arab aspirations. Presenting a classic example of how to convey a sophisticated ethnomusicological analysis to a broad audience in the humanities and social sciences, the study demonstrates how useful ethnomusicology can be for the historical study of the state, and how a gifted and politically astute artist is able to use and be used by the state to mutual advantage for the purposes of advancing nationalist agendas in very different eras.

This book will be especially useful for those working in the conjoined fields of popular culture, identity and nationalism, and life history studies of star image-making and audiences. Beyond illustrating the traditional categories of "classical" versus "popular" as “intersecting domains,” it adds a vital contribution to the historical study of music and war. A dense but readable combination of history and ethnography, it also brings ethnomusicology into productive relation with museum and cultural heritage as well as tourism studies, fusing the ethnomusicological and museological literature by paying careful attention to how museums and café culture in Egypt design and produce authenticity so as to celebrate and perpetuate Kulthum’s legacy.

Kulthum’s music and legacy as a living force in the Egyptian and pan-Arab experience past and present is revived through this study for instance in how we are simultaneously returned to Kulthum’s lament for Abd al Nasir and introduced to the world of Egyptian cassette culture and popular dance. As Lohman relates, today the power of Umm Kulthum is experienced by millions globally, her musical influence extending far beyond the Islamic sphere. For instance, it has become a source of identification by Mizrahi Jews in Israel through Ben Zahava’s adaptations. And, through American Idol–type televised vocal competitions in the Arab world, even gifted non-Muslim Americans have been inspired and enraptured by the emotional and sonic qualities of Kulthum’s vocal art. In such an expanding heritage, this book has a relevance which extends far beyond the confines of any particular discipline and ideally well beyond academia. For example, surely Shakira will read it—or should, considering her use of “Inta Umrî” on the Oral Fixation tour in Paris in 2007.

In adding to Virginia Danielson’s study *The Voice of Egypt: Umm Kulthum, Arabic Song, and Egyptian Society in the Twentieth Century* (2008) and Scott Marcus’s *Music in Egypt: Experiencing Music, Expressing Culture* (2007), ethnomusicologists will find fertile ground here for future in-depth studies of vocalists who have been inspired by Kulthum, such as Ben Zahava, Shakira and the young American Jennifer Grout. More generally, as Lohman introduces in the final chapter, Kulthum’s legacy has a broad comparative relevance for the study of popular Arabic music as regards the crafting of tradition and modernity, specifically in terms of the way in which Umm Kulthum was able to generate shared ecstasy (tarab) in her audience, bringing us naturally to Jonathan Holt Shannon in *Among the Jasmine Trees: Music and Modernity in Contemporary Syria*, also published by Wesleyan University Press (2006), and trance music more generally [1]. This makes Lohman’s study an additional critical work for anyone interested in tarab music, wherever they might be working in the Islamic world and Arab Diaspora.

The six chapters explore Umm Kulthum’s later career from the time of the Six-Day War in 1967 to her death in 1975, her funeral having been attended by 4 million mourners from all walks of life. Thus the book starts with her work as an already mature artist in a period of performance activism that propelled her into the international arena, where she became a unifying modernist and yet traditionalist icon for the Arab world. Each chapter successively deepens our appreciation for the artist’s life,
for her work and patriotism and for how she strategically developed her career and shaped her legacy so as to become a legend while still alive. The chapters deftly reveal how she became a national icon, intimately associated with the state in the Sadat and Mubarak eras, and especially as incarnated after her death in the later period of Mubarak’s rule by the seductive Amal Mahir. The question must surely now be: How will President Sissi use Kulthum’s legacy to bring Egypt firmly back into the fold of a Mubarak-era vision?

For those interested in music, gender and politics in the Arab world, this study significantly advances the previous literature and is perhaps particularly relevant to Lebanon, where Kulthum as a maternal metaphor for the nation provides an obvious point of comparison with the aging diva Fairouz. Here Lohman takes a position very different from Christopher Stone’s generalization, in Popular Culture and Nationalism in Lebanon (2007), of the sexualization and maternalization of such figures as national projects for symbolizing heightened utopian collective hopes rooted in past golden eras. The similarities of Kulthum’s and Fairouz’s performance contexts in these nations’ most symbolically charged archaeological sites, for Kulthum at the Pyramids of Giza and for Fairouz at Baalbeck, are striking. Further afield, Lohman opens a vast territory for comparative case studies, for instance, in India, that of M.S. Subbulaksmi, or, in America, of Josephine Baker.

Finally, Lohman’s fine book invites future comparative research on the all-important issue of the production of authenticity in popular culture. Consider for instance the case of the Palestinian-American hip hop artist Will Youmans, the Iron Sheik, and the fact that, as a consequence of the persistent and intensifying crises in the region since the Arab Spring, American ethnographers and ethnomusicologists will probably have to conduct their research in the Gulf States or at home in the Diaspora, especially if it concerns music and the Muslim Brotherhood.

Reference
1 See <www.leonardo.info/reviews/nov2006/among_zilberg.html> and <www.leonardo.info/reviews/july2008/zilberg_traveling.html>.

FROM LITERATURE TO BITERATURE: LEM, TURING, DARWIN, AND EXPLORATIONS IN COMPUTER LITERATURE, PHILOSOPHY OF MIND, AND CULTURAL EVOLUTION

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When an earthquake hit California on Monday, 17 March 2014, the Los Angeles Times broke the news in three minutes, informing web readers that a 2.7 quake had just happened near Westwood. The article, covering the details of the strike, was ordinary but for its final line: “this post was created by an algorithm.” The text was effectively put together with the inputs of the U.S. earthquake notification service via software created by the journalist and programmer Ken Schwencke. That algorithm, Quakebot, is not the only existing bot reporter. Quite a few machines now can sieve data to provide timely information on corporate earnings, for example, or on sports statistics and financial markets. They take factual data, such as those spread on the web by survey systems, and fix them into templates prewritten for the newspaper’s management system, even sending reminders for the editors. This new kind of writing can be seen as the dawn of what the Polish writer and philosopher of science Stanislaw Lem anticipated ante litteram in a fictitious essay entitled “A History of Bitic Literature” (in Imaginary Magnitude [1973]), forging the neologism biterature to include any writings of nonhuman origin and designating bitic authors as computhors.

The number of stories algorithms could potentially write is growing, along with the number of sensors and alerts that are available, but the path to biterature is not straightforward. The advent of new technologies always opens questions about changes in human attitudes and their consequences, relating technological changes with philosophical and social approaches. These are the fields of Peter Swirski, professor of American literature and culture at the University of Missouri–St. Louis, who has devoted his career to analyzing how scientific advancements affect literature, art and popular culture—he is, in fact, a renowned reviewer of Stanislaw Lem. This latest book confirms his skill in handling transdisciplinary studies, blending in the proposed route from literature to biterature issues of science, mind philosophy and society.

This is not a book of futurology or literary theory. According to the author, it should rather resemble an old-fashioned book of discovery or a
modern adventure story of the mind, meant to replicate for the computer what Darwin did for the human. The text adheres to no editorial codes; it consists of chapters and paragraphs cumulatively organized around the idea that, since artificial intelligence is evolving, computers will eventually be able, at least, to create works of literature of their own.

Unearthing the archaic power of narrative deep seated in consciousness and with the aim to exploit the possibilities of artificial tales as well, Swirski observes that access to writing created by machines adds literary opportunities but also spurs cultural and social concerns that call into question traditional ways of thinking. The scrutiny of the literature perspective—he warns—turns out to be more a pressing necessity than an academic divertissement. We have bot reporters and software that adjust their digital physiology in virtual environments as computer operating systems, but in both cases machines are only able to manipulate human data and generate automated information or advertisements, as done by Amazon, YouTube, or Facebook. In describing the state of the art, Swirski praises Charles Darwin, Alan Turing and Stanislaw Lem as pioneer scholars of biological and artificial intelligences and offers further examples of individuals who trusted artificial intelligence, such as the futurists Hans Moravec and Alvin Toffler or the genius of informatics Ray Kurzweil. What unifies their works is the genius of informatics Ray Kurzweil and Alvin Toffler or the futurists Hans Moravec and Alvin Toffler or the genius of informatics Ray Kurzweil. What unifies their works is the genius of informatics Ray Kurzweil and Alvin Toffler or the futurists Hans Moravec and Alvin Toffler or the genius of informatics Ray Kurzweil. What unifies their works is the genius of informatics Ray Kurzweil and Alvin Toffler or the futurists Hans Moravec and Alvin Toffler or the genius of informatics Ray Kurzweil.

Unlike machines, humans strive to interpret any fragment of information—in fact they frequently interpret too much. That is why machines, not capable of separating information according to significance, are yet excluded from creativity. However, the border is thin, and it relates also to our perception. There are computers setting up artworks well attended and appreciated, as well as dozens of titles composed by unimaginative writers who repeat their prose according to the formulas of conformism. We accept the latter as agents of creation, but not a computer working similarly—Swirski explains—because we believe that computers should think the way humans do. One point concerns awareness and consciousness of artificial intelligence. The only comparison we have is to biology, but it might be misleading. Self-analysis for hardware and updating programs for software are already available; if integrated self-organization were attained by computing machines, it would be difficult to deny the possibility of evolution and autonomous determination of bitic entities.

With similar capabilities, a redefinition is required for the concepts of development and adaptation, and many questions arise about robotic futures (most were tackled by Lem in science fiction stories). For example, we should reflect on how to pursue bitic education, or on the dreadful possibilities of robotic warfare, or on the integrated meaning that diversity, emotions and desire will assume. Maybe love affairs will resemble that of Samantha and Theodore, the operating system personified by a female voice and its/her human owner, respectively, central characters of Her, the Oscar-winning movie conceived by Spike Jonze after reading of Cleverbot—a PC algorithm used to talk with humans.

Swirski is confident that computers will soon be able to act as literary writers; also, independently of the mindfulness of their acts, they will learn to grow their software and hardware autonomously. The consequent scenarios would leave us behind as digital progression overwhelmed the pace of natural processes. “The future belongs to artificial intelligence”—Swirski concludes—if algorithms ever go native, nothing will be able to stop their evolution.

RE-COLLECTION: ART, NEW MEDIA, AND SOCIAL MEMORY


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Dedicated “to everyone who’s dead,” this volume concerns art made with digital media over the last 50 years or so, which will not exist for others to experience—indeed some has become extinct already. The galleries, libraries, archives and museums (GLAM), implicated so centrally in the priming and maintenance of our social and cultural memory, have been tardy in responding to the outputs from artists’ desktops working with applications sitting on various OS platforms.

In a series of well-constructed chapters, alternately written by each of the authors (with occasional questions of each other’s work, boxed
Within the text), the traditional methods and methodologies of the GLAM are surveyed. The solemnity of objects marooned in a space or on a wall, subject to the presentational whims of their custodians, is examined in relation to digital art and media artists. In the main, the authors’ exploration is of archival strategies more suited to cultural artifacts made by this group, which share participation, interaction and direct experience—a series of events.

Referencing artists from the late 20th century, methods of storage, emulation, migration and reinterpretation employed are assessed in relation to particular artworks that have suffered obsolescence, within analogue structures (from Flavin to Nam June Paik) and digital systems, (Silicon Graphics—based works by, for instance, Char Davies). The test for suitability of these methods is whether one or a combination will maintain the fundamental quality of the aesthetic experience as defined by the artist, with little or no concession made to the shortcomings of the tools employed to re-create that experience.

The institutional approach to the problems is described on several levels throughout the book. Both authors operate in these domains, but they quickly home in on the core of the book: “New media art operates like an algorithm that relies on dynamic external variables, taking it even further away from a definition as an eternal fixed object and towards performativity, relativity and variability.” The term variable media (unlike the familiar term variable dimensions) seems to confound the issue, but in developing the principle the authors reassure that “we can embrace change and turn it from preservation’s deadliest enemy into our greatest ally.”

The key to the approach is metadata—not just the integers hidden in the folds of file structure but human stuff to do with actions, lists, plans, intentions, reflections, along with names, even the names of those who experience a work for the first time and have something to say about it. Handling such a cornucopia of data, as Rhizome Artbase found, where folksonomy rubs alongside taxonomy, helped useful terminology to emerge like clarifying butter. Collaborating with some of the world’s larger collecting institutions, researchers developed the Variable Media Questionnaire and the Media Arts Notation System (MANS) employing XML-based indexing extensible and interoperable across systems.

Less well covered in this proposed approach is where the skills and finance involved emerges; to set aside the time for a lengthy “debrief” at the completion of each project; and, later, the decoding of the score of the defunct system. This assumes that, further down the track, a new form of institution will have the infrastructure in place to fund the team of ethnomediologists and futurist technologists able to interpret “the score.”

The concept of a “franchised” Open (Meta) Museum and Interarchive is floated—an idealized notion responding to the difficulty of getting artists to agree to almost anything and begging the question as to exactly who approves the franchise. The kind of network employed for years by hacker culture is envisaged, and the countless volunteers building emulators for obsolete “video” games receives praise for their cascading approach to quality control and code advancement. These “unreliable archivists” and the tendency of media culture to proliferate are held out as examples of the kinds of imagination applicable to the problem.

The final chapter sets out to “future-proof contemporary culture” with a set of 12 “recommendations.” There’s something here for every stakeholder, even down to a table (or “weather forecast”) comparing the longevity of various file formats, for those contemplating pathways to immortality.

The focus throughout is on North American artists, with asides to Europe, and even one to Australia (though not to the Scanlines database, which might itself be described as an Open Museum). This is an engaging read in a conversational style, with plentiful headings to make retrieval of sections easier; there are copious references and an index, and the book is produced by MIT Press to the usual high standard of design and production.

**FORGETTING THE ART WORLD**

Reviewed by Flutur Troshani,
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While globalization is constantly reviewed vis-à-vis contemporaneity, art in recent years has been (re)positioned in ever more intensified—and significantly expanded—networks of production and consumption. As evinced by a vast array of global developments, national borders, local geographies and cultural identities have become increasingly “porous” in ways that have never been intimated before. The rise of Manuel Castells’s “network society,” the archaeological methodology of Michel Foucault and the “shifting paradigms” of Thomas Kuhn are just a few examples among many others of how contemporaneity foregrounds pluralities, instabilities and discontinuities. Along these lines, globalization—our persistent fascination with it—has engendered over the past decades an epistemic recalibration of the historical context and function of art. The more we try to capture and map the art world today, this study argues, the more frustrating the effort turns out to be. The traffic of biennales, art forums, group and/or personal exhibitions and other related activities is so accelerated by global (super)structures that it is impossible for a single person—either a critic, artist or amateur-like consumer—to keep track of. A possible...
strategy for rectifying this cul-de-sac, Lee suggests, is by “forgetting the art world,” which is to say that it is possible to have a more nuanced understanding of contemporaneity if we acknowledge that the situation of art at the present moment is asynchronous with the “historical”—somewhat more canonical and deeply sedimented—\textit{weltanschauung} of the previous century; or, better put, of late the art world as we have always recognized it-to-be-like is being swiftly pushed aside by a more transitory/transient global paradigm.

The critical implications of reading the reciprocal crossovers between globalization and contemporary art are valuable. Such relations are culturally ubiquitous; hence, opening with the observation that “art actualizes, iterates, or enables processes of globalization,” Lee shifts her discussion from tension to mutual acknowledgment. Her methodology brings into line the axis of artwork-to-artworld relationality and proposes to trace the aesthetic/semiotic undercurrents through which globalization is to be recognized as a foundational puissance. She leaves aside the definition of a work of art as an archetypal given—a “phenomenon of divisible sociological import”—and proposes instead to handle it as the material evidence of how and by what means “globalization takes place” (p. 8). This argument has been outlined into four chapters, dedicated respectively to Takashi Murakami, Andreas Gursky, Thomas Hirschhorn and the collective practice of the Atlas group (consisting only of Walid Ra‘ad) and the Raqs Media Collective (including Monica Narula, Jeebesh Bagchi and Shuddhabrata Sengupta). The resulting discussion oscillates, from one chapter to the next, between exegetical reading of individual works and an “injunction” to deploy the global/contemporary much more cautiously.

Globalization is frenetic; it is in the making and it is “happening” now (p. 17). So a full-fledged critique of its geopolitics must reference an enduring sense of post-Fordist aesthetics grounded in the commitment to modernity. In the first chapter, entitled “The World is Flat/The End of the World: Takashi Murakami and the Aesthetics of Post-Fordism,” Lee summons Gramsci’s concept of the “psycho-physical nexus” to speak of Superflat-ness in Murakami’s oeuvre, finding evidence in his DOB templates (section 1), a careful reading of his essay “A Theory of Super Flat Japanese Art” (section 2) and interpolating between the interfaces of screens and factories (sections 3 and 4). For the most part, these sections come together in the proposition that whenever Murakami’s work is concerned, time/space collapses in a dialectics of instantaneity/depthlessness, both a prerequisite and consequence of globalization.

It is therefore not surprising that in the second chapter Lee relates the underlying epistemology and post-modern impulse of Gursky’s large-scale “tableau form” photographs of “market floors,” “ports” and “factories.” The singularity of his artistic gesture is what enables structure, “far-and near-sightedness, perspective and scale” to be undone into some sort of “depthless depth of the image” (p. 72). That is, each print gives itself up cum an endemnic, unstable referent. It “projects” a slippery “world”—one “in which the availability of everything for visual consumption tallies with the seeing availability of communications and the market” (p. 77, italics from original text). And its ethereal \textit{effet de réel} signals transparancy, where representation is to be taken for granted. In conjunction with this emphasis on transitoriness—and, notably, slipperiness of both meaning and referents—Lee moves into a discussion about the “mixed-media displays” of Hirschhorn (chapter 3) and the “pseudo-collectivism” of the Atlas Group and the New Delhi–based Raqs Media Collective. Foregrounding the saliency of their practices, Lee’s approach takes on a theoretical framework that subsumes as much the materiality as the “mattering” of a work of art. There is a useful index at the end of this book.

**Einstein and the Quantum: The Quest of the Valiant Swabian**


Reviewed by Christopher B. Germann, Cognition Institute, Plymouth University. Email: <christopher.germann@plymouth.ac.uk>.

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This book sheds new light quanta on Einstein’s multifaceted life. The take-home message is that Einstein’s thinking was essential to the development of quantum theory even though his contributions are usually underemphasized or even neglected in the scientific discourse. The book is subdivided into 29 chapters, and the text is peppered with numerous footnotes of historical facts and bibliographical details about many of the significant physicists of this era, such as Planck, Bohr, Schrödinger, Heisenberg, de Broglie, Dirac, Born, etc. The reference section includes a comprehensive collection of Einstein’s correspondences, his landmark papers and his lesser-known works.

Stone highlights the role of the “valiant Swabian’”s creative genius as pivotal to the evolution of modern quantum theory. On the one hand, the scientific community primarily associates Einstein’s contributions with the “relativity revolution,” which fundamentally changed our conceptualization of the cosmology of the universe (e.g. E = mc²). On the other hand, he is perceived as being antagonistic toward the subse-
quent “quantum revolution,” which revolutionized our thinking about the nature of matter and the development of which is mainly (but according to Stone wrongly) attributed to Max Planck. Stone illustrates Einstein’s aversion to the indeterminism inherent in quantum theory by citing his famous “God doesn’t play dice” quote. Moreover, Stone demonstrates that Einstein was clearly discontent with the epistemological implications of quantum theory, as exemplified by one of his critical remarks concerning this matter: “Do you really think the moon only exists if I look at it?”

These statements can be regarded as evidence that Einstein vehemently disagreed with the fundamental stochastic indeterminism and nonobjectivism advocated by the adherents of the quantum school of thought. Nevertheless, Stone makes very clear that it is Einstein’s (not Planck’s) unorthodox and nonconformist creative thinking that is central to the genesis of quantum theory. In particular, Einstein’s first (sole-authored) paper in his “annus mirabilis” (1905), in which he developed the quantum theory of light, heralded the century of quantum theory. His ingenious idea was that light is quantized into indivisible discrete particles, which we now call photons. When he later received the Nobel Prize in 1921, the existence of quanta was still highly controversial. He was credited for the explanation of the photoelectric effect, which is just one of the many implications derived from his deep insights into the quantum world.

In the majority of physics textbooks, Einstein’s key contributions to quantum physics are either underestimated or completely ignored, but Stone is not the first author to try to rectify historical facts. For instance, Thomas Kuhn, in his book Black-Body Theory and the Quantum Discontinuity, describes Einstein’s indispensable contributions to the development of quantum theory. However, Kuhn’s book is mostly inaccessible to nonphysicists due to its highly technical nature. Stone clearly and persuasively articulates that it was Einstein’s creative mind in which the basic concepts that initiated the shift toward the modern quantum theoretical paradigm evolved. Stone enlists four seminal contributions by Einstein to quantum theory: quantization of energy, wave-particle duality, the probabilistic randomness of quantum mechanics and what Stone calls “quantum unity” (a.k.a. entanglement). From a cognitive science perspective, this book is currently highly relevant because it is related to the newly emerging field called quantum cognition. This novel paradigm utilizes the mathematical axioms of quantum theory to model cognitive processes (e.g. Pothos and Busemeyer, 2013). In particular, the chapter titled “Quantum Dice” provides a neat introduction to the counterintuitive logic that underlies Bose-Einstein statistics. In conclusion, the book at hand is pertinent to anyone interested in physics and the history of science and is for the most part accessible by a lay audience.

However, even though mathematical equations are rare, it should be noted that some background knowledge in physics is required in order to understand the discipline-specific terminology and to fully appreciate the depth of Stone’s elaborations. Having said that, even specialized physicists will not be disappointed by the author’s scholarly efforts.

**Bibliography**


**LOVE OBJECTS: EMOTION, DESIGN AND MATERIAL CULTURE**


Reviewed by Jan Baetens. Email: <Jan.Baetens@arts.kuleuven.be>.

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Love Objects is a fascinating collection of 12 essays on a traditional, if not classic, object, made quite popular via books such as Sherry Turkle’s Evocative Objects (2007): Objects are not mere objects; they can only come into existence thanks to the meaning that they achieve through use (and which in its turn transforms our way of using them). Last but not least, these meanings are deeply rooted in emotional layers that make objects into parts of ourselves (and vice versa, needless to say). This well-established theme, however, is inspiringly refreshed by the interaction between emotion studies, anthropology, cultural history and gender studies and the growing awareness of ecological and sustainability issues in design.

The enumeration of all these disciplines may give the impression that Love Objects is the umpteenth fashionable gathering of disciplinary approaches of one specific topic aiming to become an illustration of the benefits of interdisciplinarity, but the
The reality of this book as a whole as well as the various essays that compose it is anything but that. Throughout the whole publication, the strong editorial hand of Moran and O’Brien has succeeded in producing chapters that seamlessly combine diverse perspectives on a wide range of subjects (pun intended, given the objects’ agency) while presenting the same basic structure and contributing each in their way to the overall structure of the volume (this paradoxical homogeneity of the essays is one of the many good surprises of *Love Objects*). The way in which all essays end up with a “conclusion” that links the given case study with the general research question of the book is exemplary in all regards and so is the exceptional “unity in diversity” of the book in terms of topics and methods.

*Love Objects* studies well-known objects but through the lens of surprising and always very interesting cases that cover less-analyzed aspects of design and material culture in the 19th- and 20th-century U.K. and U.S.A. One will not find here readings of cars, road signs, furniture and the like, which are the usual suspects of this kind of collection, yet their absence is more than compensated for by brilliant essays on, for instance, the playboy’s pipe (why did *Playboy* magazine in the late 1950s rely so much on the image of the briar pipe—smoking bachelor in its marketing strategy?), the spread of sex shops for women in posh London neighborhoods (an essay that might remind readers of the ground-breaking essay by Andrew Ross on female pornography, cf. “The Popularity of Pornography,” in *No Respect: Intellectuals and Popular Culture* [1989]), or amateur female shoemaking around 1800 (a revealing piece on conflicting class- and gender-related values that will eventually condemn a practice that seems at first sight totally neutral and inoffensive but that actually contested rigid social and ideological barriers).

The particular strength of this book resides in the perfect balance between the originality of the case studies (if the objects they illustrate are very usual, the examples that illustrate them are often quite the contrary) and the capacity of the authors to enrich their own methodology, which is either theoretical (the common denominator being in many cases a certain emphasis on anthropology) or practice based (the volume contains several contributions by artists with strong theoretical interests), with a strong sensibility of the political dimension of the personal. All chapters offer a robust theoretical underpinning of the point they make, but none of them does it the same way.

Certain authors focus on a mythology analysis indebted to Roland Barthes or the memory studies paradigm in family photography initiated by Mari-anne Hirsch; others are more oriented toward psychoanalytical interpretations of the relationships between subjects and objects or the historical decoding of cultural conventions, constraints, taboos and censorship as imposed by the disciplinary force of culture in the work of Foucault. But all of them take great care in shaping their argument with the help of both a very concrete corpus analysis and a well-chosen set of theoretical references. The chapter on the pipe, for instance, makes very clear why it was important to foreground the pipe, instead of other tobacco-related items, what it had to do with issues of gender and lifestyle, and why it appeared with such insistence in exactly these years.

Ten out of the 12 contributors to this book are female, but the great variety of voices guarantees a very welcome innovation involving objects traditionally linked with the female, domestic sphere. Several objects may seem narrowly feminine in the most conventional possible sense of the word, such as knitting, giving presents or home decoration, not to speak of the importance of “caring for objects” or “touching of objects,” both also often linked with a female perspective. It is actually the contrary that occurs in this book. All essays offer very innovative interpretations of femininity and masculinity, defeminizing and sometimes even queering them, not only through the analysis of the cultural and historical conventions that surround them but also through the lines of resistance and empowerment that love objects may disclose.

**META-LIFE: BIOTECHNOLOGIES, SYNTHETIC BIOLOGY, ALIFE AND THE ARTS**


Reviewed by David Etxeberria, School of Arts and Design, Polytechnic Institute of Leiria, Portugal. Email: <david.etxeberria@gmail.com>.

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META-Life: Biotechnologies, Synthetic Biology, Alife and the Arts is a fascinating book that will be of interest to many Leonardo readers and art-and-science enthusiasts. Most of them will find a large number of familiar essays that were important in the construction of a reflective thinking about the coupling of art, synthetic biology and ALife. Even if this book doesn’t go far enough in the theoretical conception of meta-life, surprisingly, it creates an excellent theoretical field, gathering 45 articles that inspired a growing practice in the contemporary art of the last few decades.

Thus, this is a book that tries to outline not only a future for the couple of art-and-science but also the construction of a real bridge between the past, the present and the future of art and science collaborations. Consequently, META-Life establishes, simultaneously, several discourses that seem important to highlight: The theoretical and historical context of artistic actions that operate between biology and life; the combining of artificial life and artistic practices; bioart; the emergence of bio-fiction, biodesign and bioarchitecture; and, lastly, DIY Biology.

All of these are admirably discussed by authors from different fields who try to present new dis-
The idea that these new contributions to art and science can enrich society. This is especially noticeable in Morgan Meyer's essay, which reveals the phenomenon of democratization of biology at different levels: spatially, technically, socially and economically. However, this policy of intervention can be found transversely in almost all the testimonies given in this book. One practical example of the necessity of the creation of social platforms through art, of the compulsion of establishing new forms of social engagement, are artworks such as the Worry Dolls of the Tissue Culture and Art Project, artworks that operate with and for the audience.

Despite the importance of the whole book, which presents several important perspectives (historical, reflective and practical) due prominence must be given to the final section—primarily because this section was especially commissioned for this edition, but mainly because the DIY Bio "community" represents a recent phenomenon that pushes further the possibilities for true participation by citizens in discussions about life. This question is decidedly important to retain (even if this community is still somewhat limited and still too heterogeneous), because it may enable the possibility of new advances in educational and social goals in the establishment of a true science for citizens and, in terms of the market, a step forward to the empowerment and autonomy of the citizen in the decision-making processes about life.

The book is a great resource both in its ideas and as a theoretical and practical (reflective and practical) due prominence must be given to the final section—primarily because this section was especially commissioned for this edition, but mainly because the DIY Bio "community" represents a recent phenomenon that pushes further the possibilities for true participation by citizens in discussions about life. This question is decidedly important to retain (even if this community is still somewhat limited and still too heterogeneous), because it may enable the possibility of new advances in educational and social goals in the establishment of a true science for citizens and, in terms of the market, a step forward to the empowerment and autonomy of the citizen in the decision-making processes about life.

There are a few examples that illustrate this approach among several experiences and reflections. But it seems more interesting to identify common threads among them. One such is the "policy of openness" and the idea that these new contributions at the intersection of art and life can enrich society. This is especially noticeable in Morgan Meyer's essay, which reveals the phenomenon of democratization of biology at different levels: spatially, technically, socially and economically. However, this policy of intervention can be found transversely in almost all the testimonies given in this book. One practical example of the necessity of the creation of social platforms through art, of the compulsion of establishing new forms of social engagement, are artworks such as the Worry Dolls of the Tissue Culture and Art Project, artworks that operate with and for the audience.

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Environment 2.0
Guest Editor: Drew Hemment

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