BOOKS

A STORY OF US: A NEW LOOK AT HUMAN EVOLUTION


Reviewed by Gregory F. Tague.

https://doi.org/10.1162/leon_r_02119

A Story of Us by Lesley Newson and Peter Richerson is a smart and engaging book by two seasoned thinkers and scientific writers. For an academic work the book is lucid with a pleasing narrative. I’m reminded of other strong writing teams, like Ann Druyan and Carl Sagan (Shadows of Forgotten Ancestors). The reference to Sagan is appropriate since Newson and Richerson include, like Sagan in Chapter 7 of his acclaimed book Cosmos, an account from the perspective of a human ancestor. The stories embedded in each chapter by Newson and Richerson are ingenious and appealing and reflect the solid scholarly material presented simply and directly before and after any given story. All the pieces fit together nicely. Newson and Richerson’s book is enjoyably readable and profoundly informative about the power of cultural evolution. I’d recommend this book to students of the human career, to borrow from paleoanthropologist Richard G. Klein, and especially to college instructors across disciplines using the word “culture” in their course descriptions. In this way students would better understand what culture encompasses, how it evolved through human history, and its continuity and discontinuity with our recent and distant ancestors.

In their title, Newson and Richerson emphasize “us” because human thinking and enterprise succeed via social learning and cultural networking. As cultural evolutionists, I wonder if their title is a response to Joseph Henrich’s book The Secret of Our Success. Henrich shamelessly touts how humans are supremely unique by having dominated nature. While Newson and Richerson lean in that direction, they are more realistic about the fluctuations in human prehistory and the questions about our future on the horizon. There is no special ingredient to being human; there is no human nature. Rather, what differentiates us from other species (a word they eschew) is our ability to evolve culturally, an evolution that can be rapid as opposed to the gradual changes that occur through natural selection. Philosopher of science Tim Lewens, as in his book Cultural Evolution, would say that Newson and Richerson are more geared to population systems as opposed to evolution via genetic inheritance. Of course genes respond to environment, so chemical DNA is inheritable through individual selection. Of course genes respond to environment, so chemical DNA is inheritable through individual selection. However, chemical DNA is not the whole story. There could be adaptive peaks—and apes evolved to fill their ecological niche in ways that early hominins did not. We pretty much left the forest behind. The authors’ discussion of Ardipithecus and Australopithecus, some of the early ancestral relatives of humans, is clear and easy to understand as they take readers through changes in physiology and morphology. They cover lots of territory but, importantly, they stress level. We start with ape ancestors to highlight the mother-infant bond and food foraging. From time to time, beginning at this point, the authors reference the human brain and how it’s larger in size than that found in living great apes. With care, they do not suggest that one species is necessarily better than any other. Rather, there could be adaptive peaks—and apes evolved to fill their ecological niche in ways that early hominins did not. We pretty much left the forest behind. The authors’ discussion of Ardipithecus and Australopithecus, some of the early ancestral relatives of humans, is clear and easy to understand as they take readers through changes in physiology and morphology. They cover lots of territory but, importantly, they stress...
the communal and social behavior of apes, spending most of their time on chimpanzees and bonobos, our nearest relatives. Chimpanzees are the most advanced and habitual users of tools, for instance. The upshot is, to use the authors' terminology, "culture introduces more flexibility." This means that apes'/humans' behavior is influenced by the practices around them and those they inherit through family, peers and other groups. This is echoed in the title of a book by Peter Richerson and Robert Boyd: Not by Genes Alone. Genes help bodies grow in reply to external cues, but culture helps young apes learn how to forage and for what, how to use tools to extract termites or nut foods, how to socialize, etc. These are cultural activities: Field primatologists know that inherited behaviors differ among groups across various locations.

Since australopiths around evolved bipedalism three million years ago and spent time outside of the forest in the savanna, cooperative groupings and signaling would have been advantageous. Different foods are spread more widely in this environment, so alloparenting was likely used for mothers to help each other. Newson and Richerson ably explain how adaptations from natural selection were beneficial, e.g. losing body hair for cooling while maintaining head hair for protection from sunlight. Importantly, the hominin-child bond is weaker than that in apes to allow for shared parenting by, mostly, females. In turn, this codependency helped evolution with brain adaptations for successful cooperative living, less aggression, emotional expression, demonstrative control and punishment. All of this explains cultural differences between groups. Cultural inheritance can be selective in how a youngster sees others process foods or behave socially, which is different from adaptations such as gut formation from genes. If many people (or apes) in the group vary a food processing practice, a youngster might be selective in whom to copy. In turn, this learning by imitating those most successful creates a feedback loop in the individual and group for innovation. Then, this group information is shared, copied, improved and passed on. While cognitive genes are part of this picture (the mentality of apes, as primatologist Wolfgang Köhler would say), intelligence output is geared more to the population. Any advantageous food processing and sharing would increase survival of individuals in the group, enhancing additional cultural advances. As groups become too large, they split and move on, with a transfer of cultural knowledge that can be ratcheted up yet more.

As the chapters logically proceed chronologically, Newson and Richerson get closer to our own time. Early humans from over one million years ago are covered. Beyond competition in natural selection, humans were— and still are, they insist—generally more cooperative than selfish. This supportive behavior helped early humans travel out of Africa to Asia, Europe and farther afield. Natural selection would enter the picture here in terms of favored traits, like altruism, which enabled families to thrive over highly competitive groups. Even Charles Darwin recognized this in Chapter 4 of The Descent of Man. The authors also connect the evolution of a larger brain to early human abilities of cutting, pounding, fermenting and eventually cooking a variety of foods. The technique of processing food so that it is, essentially, predigested reduced the size of our teeth and intestines in a gene/culture coevolution. However, some cultural adaptations can improve but not totally erase genetically evolved instincts. Nonetheless, cultural adaptations grew our brain, which required more energy and reformed our bodies to be more gracile since we could find and refine food in ways unlike, say, a lion.

Half a million years ago we were nomadic hunter-gatherers, much like our ancestral relatives of over a million years ago. At that time, Newson and Richerson say, some of our recent cultural traditions, such as arranged marriage, might have begun to take shape. There were not many humans then, compared to other animals, but their brains and culture helped people survive in ways where other creatures physically adapted. We know this because there were wide variations of climate temperatures that ultimately lead to ice ages. In a coevolution feedback, environmental fluctuations enabled a plastic brain to develop creative survival techniques such as cooperative group sharing of goods, services and information, which expanded the brain yet more. By around one hundred thousand years ago there were probably more stable family structures, the authors say, with the beginnings of a division of labor and a system of justice. We are a cultural species; feelings like shame and disgust are shared across societies but expressed in different ways. Social emotions are strong motivators, important tools for any group, and are why people from different cultures can ultimately assimilate into one not natively their own.

Culture is in many ways a network of brains thinking and acting alike, helping and caring for others without anticipating a reward. This is why, the authors believe, all prosocial emotions we experience are derived from our ancestors, since they survived to pass these feelings to us. Culture is like genes in the sense that it wants to reproduce. People who chose not to bear the hardship of pregnancy or the responsibility of parenting did not pass on those beliefs. Rather, the people who valued family passed on what humans inherited. They note that marriage became a stable norm, a successful cultural glue that was inherited and disseminated. Likewise, widening the sphere, these norms of connectivity helped groups interact, and so on.

In spite of the ice age around 30 thousand years ago, humans were thriving across Europe, Asia and Australia. Art culture began to appear in the fossil record, ranging from carved figures, jewelry, musical devices and parietal art preserved in caves. Mammoth hunting would have required considerable skill and the cooperation of many. All the dead animal's meat, fur and bones were used for some purpose. Culture adapted to the ice age and facilitated humans to adapt. Much more
sophisticated tools appear, from spear points, nets and hooks to needles for sewing together hide clothing and shoes. In this part of the story, some consideration is given to Neanderthals and Denisovans, early humans who died off perhaps because of their smaller groups. At any rate, by now some of the cultural practices include spiritual beliefs and rituals containing ceremonial burial and decoration of select deceased people. In spite of the rupture between groups because of spikes in cold temperatures, Newson and Richerson say there is evidence at that time of large meetings of many groups, which would have aided the sharing and spread of theoretical and practical understanding: culture.

The story of humans takes on new shape by around ten thousand years ago. There were more tribal groups and hence more conflicts, mostly, the authors say, because with a more stable climate there was now no “common enemy” that pulled different people together. There was less traveling and the beginning of sedentism, which implied food storage along with animal and property ownership. Competition for possessions would have affected cultural models. People were learning about new ways to produce different foods and experimented with growing crops. Tribal competitions and the demonizing of out-group people would be cultural. We seem to have inherited, Newson and Richerson say, this fear of and bias toward others through a closely knit culture we tend to favor. Familiarity would ensure the transmission not only of possessions, property and family values and traditions but of genes into future generations. Culture in some way creates an environment to which our genes respond. For example, more restricted diets evolved through agriculture, and our genes, in part, evolved and were driven by this agricultural change. Take, for instance, the example of lactose tolerance in adults. Much hinges on what is copied and how well genes or cultural beliefs and practices benefit. In this regard the authors offer a wonderful discussion of languages related to migrations across Western Asia and into Western Europe. At that time, quite a number of cultural practices were colliding, related to cereal farming and herding, where the herders seem to have gained an advantage.

Newson and Richerson’s story ends in modern times, and they note that now there are many choices open to an individual. This means that one does not necessarily have to accept, as in the past, the beliefs and practices of the family but can diverge and, in essence, move into another group with different values. In fact, we see that in how some children spin off from their families not out of disdain but simply because of vastly different cultural outlooks. Take for instance marriage: What constitutes or defines marriage today? We see in many modern cities various enclaves of different cultures living peacefully side by side, though not without tensions at times. The authors seem to suggest that low birth rates in the modern period, dating back to the eighteenth century, accompany dramatic cultural changes where the old order is questioned. Variations in human behavior, like fertility rates past and present, are transmitted mostly by culture.

Newson and Richerson remain optimistic about the future of humans because of our flexibility to adapt culturally. Their book is a delight to read and will be informative to many students and scholars across disciplines about the social dimensions of evolutionary change. Readers will no doubt remember best the compelling interpolated stories that mirror the impeccable research.

**CURATING AFTER THE GLOBAL: ROADMAPS FOR THE PRESENT**


Reviewed by Edith Doove, *Transtechnology Research, University of Plymouth*. Email: edith.doove@plymouth.ac.uk. https://doi.org/10.1162/leon_r_02122

Published in 2019, the hefty volume of *Curating after the Global: Roadmaps for the Present* has been sitting on my desk for most of 2020, I must admit. I had requested it for review as it seemed to be a timely response on the current state of curating, and I was curious to read what the same editors who brought us *The Curatorial Conundrum* (2016) and *How Institutions Think* (2017) had compiled as a possible answer. Based on a conference with the same title in 2017 at Luma Arles in France, one could say that the publication was already relatively late. It was however also bitterly overtaken by last year’s events that I don’t even have to name, which the editors could never have prevented and that was nevertheless global as well. I imagine that the team is already preparing the next itinerary as a response to the current crisis in which culture and exhibitions are largely branded as “nonessential” and that saw me personally develop a new way of curating an exhibition abroad by using WhatsApp as a tool. The time of monsters, as indicated by Simon Sheikh quoting Žižek in his introduction to *Curating after the Global*, has indeed arrived.

But also, without that still-current crisis, which actually might be seen as part and parcel of the monstrous situation it describes, *Curating after the Global* already has more than enough on its plate. It responds to the phenomena of a globalized (art) world of which contemporary art, with its now almost countless international biennials and art fairs, can no doubt be seen as one of the drivers. *Curating after the Global* tries to formulate an answer to this ongoing conundrum by addressing it in three sections: Diagnoses of the Current Conjunction, Exhibition Histories, and Institutional Re-Positioning. Of these sections, the first is a rather top-heavy, predominantly political analysis, whereas the second tries to offer hope by discussing projects that refuse “to engage with the global as driven by capitalist marketing, finance and data management” (p. 127). The third section evolves mainly around “Instituent
Solidarities toward the End of Western-Centric Globalism," as Paul O’Neill calls his introduction.

Although for a large part certainly fascinating and informative, I find this volume at the same time troublesome. This might be a personal issue. Having begun my own curatorial career in 1987 by "just" making exhibitions and eventually getting interested in them as a form of research, I observed with suspicious eyes the development of "the curatorial" and especially the seemingly endless stream of publications that surrounded it. At times this led to interesting insights, but as Yaiza Hernandez Velazquez suggests in her contribution, "a philosophy of 'the curatorial' is at risk of turning into philosophy minus the confrontation with philosophy's problematic history, that is to say, of turning into pseudo-philosophy" (p. 260).

It speaks in the editors' favor that the volume brings together various contributors who, at times, question the notion of "after the global" and put it back into context. Although I am certainly far from averse to a theoretical approach to curating and thus not one of those who urge curators to stick to the craft, as Hernandez Velazquez describes it, I do feel that at times the elephant in the room is more than overlooked. Curating and the curatorial these days are certainly not exclusively about art, as the terminology has been inflated to include practically any organizing activity. The lack of art per se and the caring for art seems, however, at the heart of the problem. When Paul O'Neill in his Postscript writes about exhibitions as being a form of escape for art to just being art, I slightly despair—and probably many artists with me. Might this volume then be proof of a final deficit of the curatorial? Or at least of how it is currently being practiced? Despite the fact that there's much talk about care, collaboration and attention for the other in the various contributions, the volume still seems to miss the point.

More than once the feeling arises that much of what is here being described as "Roadmaps for the Present" comes down to reinventing the wheel, which might have been avoided by a closer observation of what is being developed by artists and curators who continue their craft without the burden of the curatorial blowing in their neck all the time. The global indeed often reigns at cost of the local or the small. Quite symbolically, perhaps, this is also the case for the publication itself. At first sight it is beautifully designed, with extensive color pages dedicated to the installation Slow Rolls and Monopoles by Emmanuelle Lainé, shown at Luma Arles during the conference in 2017. At times, however, the contributions lack images, especially if they describe art works or practices. Ironically, it is exactly in design or more specifically "design thinking" where Prem Krishnamurthy and Emily Smith take refuge in order to develop a new curatorial methodology, which they call Responsive Curating, much of which seems actually to be daily practice for the average professional curator.

Despite all the care that managing editor Gerrie van Noord talks about in her "final word" and that she no doubt puts into her work, the footnotes must have escaped this care, since they are printed in such a light silver grey that they have become untraceable. Since, especially in her section they take up most of the page, this becomes problematic. Skipping the footnotes might be exactly the point where things go wrong.

Having gone through most of the contributions in detail and having read many with interest, it seems that despite all good intentions nothing much seems to have changed since The Curatorial Conundrum except for how the world functions these days. Maybe it's finally time for a radical overhaul of the curatorial as the one and only "Road for the Present"?

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RETRACING POLITICAL DIMENSIONS: STRATEGIES IN CONTEMPORARY NEW MEDIA ART


Reviewed by Brian Reffin Smith.
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Though some find solace in making pretty pictures, structures and interactive spaces, we must surely ask: If now is not the time to consider a political "new media art," as well as a politics of it, well . . . then when? I'm not talking about propaganda and mere sloganizing, nor about empty identification with the oppressed. As Art & Language, I think, said long ago, to paint a picture of a miner is not to be working class. But deliberately to aver one's eyes from a world in which political and social decisions by malign narcissists and poltroons are daily mediated by every possible means except art, or to accept that art should only be a refuge from it, is surely untenable today. As it was 50 years ago, when Jonathan Benthall, in his still useful book Science and Technology in Art Today, writing of GRAV (Groupe de Recherche d'Art Visuel) in Paris and New Tendencies in Zagreb, described them as "devaluing the art-product as a source of charisma. This was an important achievement for which we should all be grateful." It is a strange thing that although art, like science, generally proceeds by failure, and although technology frequently fails to deliver, we never read about media art failures.

If, as Walter Benjamin asserted, the aestheticization of politics is a hallmark of fascism, then is the politicization of art the reverse (in the sense not perhaps of an antifascism that we might optimistically take for granted, but rather an antikitsch, anti-pompiers stance)? If Trumpism was politics in the style of Jeff Koons crossed with the values of the Reichskulturkammer, then what style of representation—what index of possibilities—could be embraced to make an art whose
theory and practice would at the very least refuse to be thus co-opted and that at best might become political in a performative way (like "abra-cadabra" or "open sesame")? We need to problematize new media art, the making, theorizing, curating, teaching and historiography of it. But what do these questions mean today? It's all so chaotic.

Thomas Kuhn's model of scientific progress (to simplify) was that it proceeded via periods of "normality," with generally accepted paradigms, interspersed with periods of chaotic revolution when the paradigms became untenable, until a new dominant paradigm emerged and normality reigned again. The new dominant paradigm is surely a function of the old, due to evidence and other pressures: money, politics and zeitgeist all playing a part. In general, looking in the rearview mirror, we can usually see how we got "here." But with computer-based art, with new media, there is no normality at all, only constant revolution and turmoil, and if you look back in the mirror all you see is the preceding chaos: It can be hard to see how we got here. Little wonder that easy models for the progress of technological art, if progress it be—change, anyway—are technological ones (almost business models in the 1980s and 1990s)—but without the political dimension that normally might be expected to accompany even such an inquiry. Politics has no presence there. A politically characterized model of the development of computer-based arts and new media, their production, celebration, curation and memorialization, encompassing perhaps everything from SIGGRAPH and MIT to research centers, institutions, public versus classified research, individual versus communal activity, web art versus the gallery wall, telematic versus automatic and so on (not always in struggle, of course) would generally be seen as taboo. It is thus not surprising that questions within new media art have often tended to be devoid of political content, even when the purported subject of the work was itself a political object. It sometimes seems that everyone knows this, but no one actually does anything about it. So this book and other works by its begetters and contributors are very welcome. The editors explicitly have a paradigm that "the technological advances in current media cultures are best understood against a backdrop of an extensive media and art history" (p. 11), which is refreshing.

One of the editors, Oliver Grau, is an influential figure in the fields of media archaeology and humanistic investigations of what is going on when people make and experience media art. That he is also an art historian is a great antidote to those who would simply apply the internal criteria of media arts to any discourse about them. The other editor, Inge Hinterwaldner, has also researched, written and argued persuasively for deeper investigation in these and other areas, adopting a broad bandwidth of methodologies and stressing the importance of flow and fluidity against static (perhaps both literally and metaphorically) ways of interpreting. She too has plenty of background in actual art history.

Does it need emphasizing that the "art" bit of media art means that it has to be considered as . . . you know . . . art, and not just technological spectacle? The medium is not the art. The cellars of museums of modern art contain fractal images from the 1980s that looked a bit like art and arrived with their own aura of mystification in the age of their mechanically enthusiastic reception. Being able to enter a world of such stuff and explore it in 3D virtual reality might be many useful things, but it ain't art. There are many analogous works being produced in 2021. It also needs emphasizing yet again that decoration, even in n-D space, is not per se art, and neither is graphic design. My definition of art is "a more or less systematic inquiry, often visual, whose goal is knowledge," notwithstanding that other goals may include money, fame, applause, retrospectives, faculty positions and so on.

So . . . does this book help even so prejudiced and hypocritical an artist and theorist as this reviewer? We certainly need an examination of the political dimensions of new media art and its archaeologies. There are not enough direct studies around, although, of course, many touch upon this. The present work, based as it is on outcomes from the excellent conference series on the Histories of Media Art, Science and Technology, covers a wide spectrum. It must be noted too that the book is about media art as science, as polyvalent progress, among other things, and celebrates the work as more than artwork.

In their introduction, the editors write that the book "poses the question of what 'political iconography' is and means today. It asks which strategies are recognised, unveiled and commented on as the operational foundation, and which countermeasures are considered adequate. In new media art (theory), showing this is often closely linked to the operational, to action" (p. 11). So there we go: performative theory, which I like and which might be another near-definition of art.

The contributions are placed in five different sections, the first being Political Dimensions in Digital Imagery, in which Grau celebrates the multifariousness of digital media art as potentially able to deal with complex societal issues such as globalization.
or surveillance. He argues that we need to understand the mechanisms of its generation, how these correlate within and outside media art and how they impact on present and future societies. He even calls digital art “a political iconography of the present.” Of course, saying that doesn’t make it so, but it could be—and some might argue that it should be. Perhaps the best and worst is. Grau has sought to correct the lack of such art in various kinds of collections and memory banks, correctly arguing that society needs to see itself thus represented in order to understand itself, a complex representation that needs the richness of digital art to carry it. “We are . . . almost completely excluded by our own museums and archives from reflecting on the issues of our time through its relevant art” (p. 101). The Archive of Digital Art is just one of his corrective projects.

The trouble is again that of the spectacle, whose condition, like it or not, much media art does approach (although this is presumably what the present book seeks to correct). We might all agree that the museum, gallery and other curatorial spaces have to change, be dimensionally expanded or even replaced. But media art has a responsibility, as if it hadn’t already enough on its shoulders, to achieve adequacy as art, even if that art is to be redefined. It’s a two-way process that a perfect media art qua art could accomplish, and I believe that this is a goal to aspire to.

Most of the contributions use particular artworks, events or aspects of media and media art to point up discussion about surveillance, global ecology, AI and “The (In) Visible Structures of Information Systems.” Grau’s section is preceded by a more specific one from Ingrid Hoelzl: “Image-Transaction, What You See Is Not What You Get.” She applies a transactional process view to the status of the image in digital networks. Taking The Transparency Grenade, an artwork shown in Berlin’s Transmediale in 2012 and consisting of a model of a military grenade that captured nearby network traffic and audio, she argues that the fragments of this data shown on a screen change the image from a “lure” to a place of critique. Many of the other systems discussed in later sections also turn inside out the idea of an artwork or other cultural object or process as a result, a product, making public that which was hidden—be it data, assumptions or indeed the political dimensions underlying various aspects of the work, or society, the museum and so on. The point is to open up everything surrounding new media—its objects and artworks—and yet to somehow simultaneously incorporate them into the artwork in an experience of it. Examples of this are Mathias Fuchs’s opening up body movements, gestures and cues to emotions in computer games by discussing their actualization in real life, or an analysis by Elisa Arca and José-Carlos Mariategui of Teresa Burga’s use of her own body as source and ground for information-theoretical work back in the early 1960s.

In a way, these instances of “opening up and yet folding back in,” if I can call them that, remind me of cybernetics in early work by Stephen Willatts, such as his 1973 Metafilter, and the concept of a “state of agreement” mediated by a computer. Several parts of this book echo, overtly or in passing, a return to cybernetics as a valuable tool in understanding the participants, human or not, in systems of conversations about and contained in media artworks in the widest possible sense. It may be that the retracing of political dimensions in the art is itself a work to be undertaken by artists as well as historians and theorists. The corollary is that the deconstruction and reconstruction of media archaeologies, memorializations, conferences, events and, indeed, books profit from being seen as actual or quasi-artworks too. The questions we might ask then are the questions we should have been asking since media arts began. The book is a reminder of that and a way into problematizing and enriching, with the dimensions of all its surrounding cultures, an art which necessarily contains and examines within itself these connections and hence represents ourselves to ourselves, writ large, more transparent and possibly even savable. For those of us sitting wondering how on Earth art can reflect upon and contribute to the struggles we currently face, this book is very timely.

**GREEN ENERGY AND INFRASTRUCTURE: SECURING A SUSTAINABLE FUTURE**


Reviewed by Robert Maddox-Harle, Australia.

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This book is more or less a companion volume to Sustaining Resources for Tomorrow, which I reviewed for Leonardo (June 2020) [1]. The two books, by the same editors, are essential reading for all those interested in the immediate and long-term future of our planet. There are 13 chapters; all are well written and interesting. They may be read in any order to suit the reader’s specific interests. As with the companion book, the main thing that impressed me is the lack of hysterical, one-sided, fanatical hype that often accompanies the arguments on either side of the sustainable future debate. This book is in some sections a little complex, especially in the statistical analysis and specialized scientific areas; however, it presents clear factual discussions that appear unbiased. This is of the greatest importance because the stakes are so high—what we do now will either allow survival or bring about extinction of, at minimum, our species.

It is fairly obvious that if we continue producing and polluting as we have been, the future looks gloomy; however, the glib, poorly researched answers to our problems by extreme conservationists do not provide satisfactory, sustainable practices for the future. How do we proceed? This book does an excellent job in a realistic way by dispensing many myths as it attempts to bring the “facts” to

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our attention with detailed real-world scenarios.

The book has a rather poor, scanty Preface followed by the 13 chapters, numerous illustrations and a very good Index; all essays have detailed references, useful for future research. The chapter titles will help prospective readers get a clear picture of this book’s approach:

2. Green Design Effectiveness for a Mini Automotive Repair Facility
3. *Green Hospitals and Sustainability: Case of Companion House of a Research Hospital*
4. Indoor Environment and Well-Being: The Case of Historic Workplace in Historic Building
5. Properties and Conversion Technologies of Biomass
6. Wind Resource Forecasting Error in Flat and Complex Terrains
7. Wind Power Forecasting via Deep Learning Methods
10. Hydrostatically Compensated Energy Storage Technology
11. Bioconstruction and Harmonic Complexity of Biomimicry Organisms
12. Back to the Basics: Return to the Origin, Gaudi and Nature
13. Triple Bottom Line Analysis, Methodology and Its Implementation

The first is a very important chapter as the creation of our built environment uses massive amounts of energy and resources:

A major user of energy is the buildings and construction sectors, whether commercial or residential. Although the energy used in buildings as a sector does not attract as much media attention as the other categorized energy-usage sectors, it is proportionally just as significant, if not more so, than the transportation and industrial sectors. According to the 2018 United Nations Environmental Programme . . . report, the building construction and operation sector accounted for, 36% of global final energy use and nearly 40% of energy related carbon dioxide (CO2) emissions in 2017 (UNEP 2018) (pp. 1–2).

The last chapter looks at the big broad picture by discussing the three pillars of sustainability: environmental sustainability, social sustainability and economic sustainability. This chapter makes it quite clear that my previous remark about glib answers being unsatisfactory is correct, that we need to consider the overall complexities not just the “solar power will fix everything” mentality.

The road to achieving sustainability is a difficult one indeed; we cannot achieve sustainability without considering the three pillars of sustainability, just mentioned, or by leaving the problems to others. We all live on this planet together and have to be aware of the problems and make our own, however small, contributions to a sustainable future for ourselves and our children. This book helps greatly in this urgent action by putting into practice a C.S. Lewis quote in the Preface: “The task of the modern educator is not to cut down jungles but to irrigate deserts.”

As with *Sustaining Resources for Tomorrow*, this book is also essential reading for everyone interested in their own and their children’s futures. Also, as I previously mentioned, I can envisage many artists, including those avant-garde of the *Leonardo* community, being inspired by the wealth of information and ideas in this book to create works of art that will bring to the public’s attention sustainable ideas in provocative and stunning projects.

**Reference**

1 Printed in *Leonardo* 54, no. 2 (2021), the review may also be seen at: www.leonardo.info/review/2020/06/sustaining-resources-for-tomorrow.

**THE EMPATHY DIARIES: A MEMOIR**


Reviewed by Amy Ione

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Sherry Turkle’s exemplary research on technology as it relates to humans, personal relationships and children has provided key insights as the computer has ingrained itself in our world. While her early chronicles on innovative technologies were impressive, I felt that the more important contributions were her insights challenging the unbridled enthusiasm of innovative technologists and how technology often compromised privacy. This memoir—primarily devoted to the period from her childhood through her tenure appointment years (1948–1985)—presents more details related to the person behind early works like *The Second Self* than the researcher who later penned *Life on the Screen and Alone Together* [1]. That said, the book does cogently capture how Turkle came to the interdisciplinary framework that has often set her apart. Or, as she puts it, “I found my life’s work by navigating as a bricoleur, trying one thing and stepping back, making new con-

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admired: my aunt's intelligence and was focused on finally leaving home. Turkle's intent on going to Radcliffe: “I also learn she was an exceptional student, made her the center of their lives. We mother, and her Aunt Mildred—had added the sense (and the clarity) of an outsider. Some of this came about because her mother believed that any “reality” could be claimed as real. Turkle therefore had to decipher how her mother was interpreting reality because her mother’s “facts” didn’t always conform with the world Turkle experienced.

By contrast, her biological father’s love of science made it easy for him to lose touch with the human needs of his family. Then, once her parents divorced, her mother’s second marriage created identity problems because her mother wanted Turkle to use her second husband’s last name even before she was legally adopted. The upshot of this was that Turkle grew up with two deep convictions: The upshot of this was that Turkle developed the sense of belonging” (p. 326). Within this, a complementary thread was how her professors and colleagues helped her access the kinds of tools she needed to develop critical thinking skills and to capture her reverence for topics she cared about passionately.

Part II (1968–1975) introduces the author finding her voice even as she reestablishes that the “outsider” sense she developed as a child remained. Some sense of difference emerged at a young age a sense of dépaysement, the feeling of being a stranger in your environment. It does not fully grapple with the paradox that she felt like an outsider at Radcliffe, despite its reputation as one of the most elite (or insider) colleges in the United States. (Radcliffe was known as Harvard’s sister school, and while she was there the school offered joint Harvard-Radcliffe diplomas to undergraduates. Later the two schools were fully merged.) Rather, the focus is on developing the “outsider” theme that threads throughout the book. As an ethnographer of technology, she studied how people think about feeling like an outsider. As a social scientist who wanted to combine thinking and feeling, she was unlike those who cherished data sets and experimental methods. Later, as computers became more firmly entrenched, her critical questioning of some technological tenets continued to position her on the outside of mainstream trends: “So even when I got MIT’s imprimatur [tenure], I never had a sense of the psychology and ethnography would help her to analyze the inner history of ideas: the psychology of how people change their minds, in particular. A key insight is used to sum up this period. When she recognized that those at Harvard who studied the psychology of thinking were on a different floor from those who studied the psychology of feeling, she realized that she wanted to do work that put the two together. She also began to realize that she didn’t think like an engineer; rather, her bent was toward tinkering as a form of cognition.

A sojourn in Chicago to study with anthropologist Victor Turner eventually led Turkle to see what she wanted to pursue an intimate ethnography of contemporary life. On returning to Harvard, her work with George Homans and David Riesman was influential. Reisman, in particular, informed her work on social media. The other-direction construct led her to postulate that, in social media terms, one might say, “I share, therefore I am.” A major issue that began to become clear to her during these Part II years was that her interest in social change and the inner life—the inner history of ideas—was not moving in the same way as the field of academic sociology, which was becoming more quantitative and focused on measurable outward behavior. Nevertheless, and despite her reservations about quantitative thinking, she was invited to fill a general slot in a program at the School of Humanities and Sciences that Harry Hanham was setting up at MIT. This proved to be a foundational part of her unusual career path. The idea was for her to finish her dissertation and then stay on as an assistant professor. Landing at MIT in the mid-1970s put Turkle in an environment where computer scientists and artificial intelligence researchers were develop-
The empathy component arises easily interwoven takes passion and grit. The empathy diaries give a sense of how and where Turkle began to perceive that the view of people as rational animals was being revised to denote people as emotional machines. Because the book gives very little attention to her work after she received tenure in 1985, this reader felt that a key part of the story was missing: We are not given information that covers how her thinking/feeling conversation with human/machine relationships stretched into simulation and virtual reality. Perhaps a second book is in the works that will cover 1985 to the present? This book seems to close on the note that her tenure case had revolved around rule-based thinking that reduced her to an object so as to avoid considering her as a person. Yet we hardly get to see the person whom she became.

These years are covered in a short final chapter, which covers 1985 to 2020. It briefly notes that with the entry of the personal computer, she moved from mechanism to simulation and began to study how the computer offered the illusion of companionship without the demands of friendship. She also notes that she remarried soon after her divorce from Papert and had a child. A few paragraphs explain that once she became the mother of a preschool child (her daughter was born in 1991) she gained another perspective on computers. Of course, as inventions like Facebook became a part of the societal picture, Turkle’s voice has been an important one as the social-media business model entered our consciousness and began to sell our privacy “in ways that fracture both our intricacy and our democracy” (p. 337). I wish she had said more about this period (and perhaps less about her early childhood).

In the epilogue Turkle sums up the book: Her sense of being a stranger allowed her to grow into a brave woman. Finding comfort in a life lived largely as a visitor taught her that solitude allows one to discover one's own company. As her academic work at MIT made her feel like a killjoy in the American love affair with technology, she found her own voice. She also found that writing the book was another kind of displacement, and one that allowed her to appreciate, among other things, her mother’s complexity.

As noted above, I hope that this memoir is merely intended as Part I and Turkle will release a second book to cover the years after 1985 in more detail. As rich as the writing is, it offers only a rather narrow slice of her life. It is because her later work is more broadly connected with society at large that key elements of who she is remain opaque to the reader. I also kept debating whether her trials within the ivory tower of the Ivy League showed that our humanness is complicated in all situations or if this narrow framing somewhat mitigated the broader experience of humans within the larger society unconnected to the ivory tower. Because her later work is done in a broader environment, it seems more expansive as it looks at how technology is changing us culturally and as individuals. More succinctly, her writings focus on her interactions with people she was meeting online and in classrooms. Given this, it would be fascinating to see how she continued to refine her inner self in light of these experiences once she has established a place for herself academically.

As excellent as this book is, I do have minor quibbles with its presentation. Maybe the reason there is no index is because this book is presented as a memoir? Considering that she knew so many people at the forefront of the computer revolution, her academic trajectory has an added value, and these reflections will no doubt become a classic as interest in this early period grows. One hopes the publishers will add an index to the second edition. (While they’re at it, they can fix the notes, which do not currently point to the correct pages. At some point they become about two pages off, perhaps due to last-minute edits?)

Finally, The Empathy Diaries, although presented as a memoir, includes a wealth of critical insights. What is particularly thought provoking about this reflection is how well it captures the complications of pursuing an interdisciplinary life, and that reconciling ideas that are not easily interwoven takes passion and grit. The empathy component arises...
as Turkle attempts to emotionally understand what other people feel. Her deftness in capturing her persona leads me to close by saying that I’ve always liked Turkle’s work to some degree but, as a process person, I have also struggled with her devotion to objects. She frequently expresses herself in terms of human subjects and objects, with particular objects holding a special place because she characterizes an evocative object as something that holds significant meaning to the person and not necessarily anyone else. It holds personal emotions, feelings or memories for that individual. She defines it by saying: “We think with the objects we love; we love the objects we think with” [2]. To be sure, while I’m still more inclined to the process by which we make objects we love, this book did succeed in giving me a fuller appreciation of her views and a deeper sense of how they arise.

References

LA CONVERSATION TRANSATLANTIQUE: LES ÉCHANGES FRANCO-AMÉRICAINS EN POÉSIE DEPUIS 1968


Reviewed by Jan Baetens.

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Literary history is now again, after a long hegemony of theory—cum-philosophy—inflected methods, a thriving part of the study of literature. The rise of media studies, the lasting impact of the archival turn as well as the perhaps-surprising return of book history (very cool today!)—all exciting side effects of the digital revolution in art and society—are key factors in this success. Literary history is all the more exciting since its contemporary forms do not abandon or censor the great debates of the 1970s and 1980s, when French theory hit the world. Abigail Lang’s meticulous study of what she calls the “transatlantic conversation” between French and U.S. poets, and poetry texts and practices, since 1968 is a marvelous example of what literary history is not only representing but also doing today: It is an inspiring mix of textual and archival close reading, also containing a broad analysis of the thriving forces behind cultural change, an open eye on postnational and plurilingual communication and last but not least a sharp reflection on what is at stake, both aesthetically and politically, in poetry, that most daring and self-reflexive but also most fragile form of writing and living in our modern times.

That French poets would start looking at the United States in the 1960s was far from self-evident, even taking into account that there existed after World War II a very dynamic American cultural center within the center of intellectual Paris, which did much more than provide France and Europe with anticommunist propaganda. The obstacles were indeed multiple. First, there was the typical French and widespread disdain of all things American, certainly in the postwar period with the cultural hegemony of the French Communist Party. Second, there was still the even-stronger prejudice that the real center of literary prestige could only be Paris—and not New York, as had become the case in painting. Yet for the new generations of poets, this twofold a priori was suddenly cracking. On the one hand, young authors found the French literary scene, heavily marked by post-Surrealism, old-fashioned and asphyxiating, lacking all sense of risk and experiment, fossilized by an age-old tradition of snoopy literary language deprived of any relationship with everything that had enabled the emergence of new poetical forms and practices in America: namely new media, mass culture, ordinary language—in short, real life and things as they were. On the other hand, these young poets discovered in the American examples working models of how to bypass the limitations of institutionalized literary and thus get rid of the national French style in radical ways. It also worked the other way around, of course, but clearly not with the same sense of urgency: American poets felt at home with the newest forms of French writing, and the transatlantic conversation definitely comforted them in their own attempts to reshape their own traditions, but it would be exaggerated to claim (which Lang doesn’t do!) that they would have been incapable of pushing the boundaries of their own tradition without the help of the French.

Lang’s study approaches these poetic exchanges from three points of view. First, she studies the French reception of the American objectivists (Reznikov, Oppen, Zukofsky) and “language” poets (Bernstein, for instance), not only at the moment of their discovery by young writers of a subsequent generation but also through the various polemics and reappraisals since their progressive and sometimes partial and shattered appearance in the French poetic field. Lang clearly describes the channels that enabled this discovery (she rightly emphasizes the role of anthologies) and the role of the various go-betweens (each occupying different positions in the literary field). She also convincingly focuses on the motivations of the French authors and the internal strategies, tensions and conflicts disclosed by their interest in radical American writing. Not all American poets were read the same way by various authors and groups, and the lessons that were drawn from U.S. models could also largely diverge. Yet in spite of the differences and skirmishes between authors and groups, the overall picture was strikingly consistent: All young French poets were turning away from “literature” (that is, from all types of alienated, artificial and socially disconnected forms of writing) and trying to explore what they labeled “literalist” forms of writing, both highly formalist and dramati-
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between writing and translation often ing (via translations, the difference specifically of collaborative writing—via translations, the difference between writing and translation often becoming very thin, if not utterly problematic) as well as new forms of presenting poetry by the poets themselves (and no longer by professional reciters) to a living audience (either physically present or listening to the radio or to a record, for instance). Of all these transformations, the poetry reading was, at least in France, the most challenging one, but this brings Lang to the last section of her study.

The second part of the book is a meticulous reconstruction, based on a wealth of archival documents, of what actually happened in terms of human and social interaction: Who was in contact with whom? How did these contacts materialize (correspondences, mutual invitations, translations, collective productions, reviews and criticism, etc.)? Key in this regard was the role played by the mutual enrichment of a strong DIY spirit (many poets practiced collective self-publishing, powerfully enhanced by technological changes: the democratization of not only new reproduction devices, from tape recorders to Xerox machines, but also the creative appropriation of old hand presses that commercial enterprises were massively replacing with offset presses), and the active involvement of well-funded institutional partners supporting travel and subsistence costs for moving poets. Radicalism was no longer synonymous with Bohemianism. What appeared thanks to the interplay of these forces was not only a new corpus of texts but also totally new forms of collaboration—more specifically of collaborative writing (via translations, the difference between writing and translation often becoming very thin, if not utterly problematic) as well as new forms of presenting poetry by the poets themselves (and no longer by professional reciters) to a living audience (either physically present or listening to the radio or to a record, for instance). Of all these transformations, the poetry reading was, at least in France, the most challenging one, but this brings Lang to the last section of her study.

The third part of the book addresses the issue of the “oralization” of poetry, a phenomenon that cannot not be reduced to the new practice of poetry reading (in the American sense of the word, very different form classic reciting in the French context). The oral turn—and here the banalized word of “turn” must be read in the strong sense of paradigm change—not only refers to the fact that poets are no longer exclusively focusing on the page or the book (most of them still do); it also stresses above all the idea that just like the visual experiments that characterized almost all written and printed poems by these authors, orality can become a strategy to achieve what experimental poetry is aiming at in general: namely highlighting the materiality of language as well as foregrounding the proximity with ordinary language, two elements that are imperative in the attempt to rethink the social and political dimension of poetry in the alienating context of standardized “literary” writing and institutions.

Lang’s book, which I can only hope to see in English translation as soon as possible, is a vital contribution to our knowledge of modern writing and the transnational dynamic of today’s culture. It is exceptionally well documented while escaping any form of encyclopedic piling-up of facts and figures. As shown by the clear structure of the book, the author succeeds in laying bare lines of force, which radically reshape our thinking of writing and literature. The mutual emulation of visibility and oral-ity, for instance, which at first sight seem to contradict and exclude each other, is thus powerfully unveiled. Lang also manages to avoid useless polemics: her presentation is sober and moderate, the main purpose of the book being to understand what, when, how and why people (for hers is a history of people, not of concepts or abstract forces) were doing what they were doing and to understand the consequences of their actions, including of course their failures, for the larger literary and cultural landscape. Power relations were a daily reality, just as were personal ambitions and rivalries, but the ambition of this book is clearly not to hint at winners or losers—a major difference in tone than much contemporary writing and criticism, often characterized by extremely violent and systematically scornful language. Finally, this book is also, despite the incredible wealth of documentary evidence and historical information, a real page-turner. It is written without any jargon while proving capable of summarizing extremely complex theoretical debates and controversies in simple and always very elegant words. Yes, this is not only a work on literary history, it is literary history in the making—and, why not, also literature itself.

BRUTAL AESTHETICS: DUBUFFET, BATAILLE, JORN, PAOLOZZI, OLDENBURG


Reviewed by Stephen Petersen.

This book is full of contradictions, paradoxes and ambiguous oppositions, starting with its title, which suggests at once the uncivilized and the cultured, the destructive and the creative. Originally a series of lectures delivered in lofty circumstances (the 2018 A.W. Mellon Lectures in the Fine Arts given at the National Gallery in Washington, D.C.), the subject of these chapters is the act of art making taken to its base level. The broad question throughout concerns what it means to be human, which is to say to create, in dehumanizing, destructive times. Following an introduction, each of five chapters explores the work of a single figure for whom
art offers a means of cultural survival, analyzing them in relation to one another and in light of a range of contemporary theorists.

Linking Foster’s chapters is Walter Benjamin’s concept of “positive barbarism,” articulated in 1933 in the lead-up to World War II and here applied to postwar art. In essence, “positive barbarism” is an artistic answer to the brutality of civilization; it is starting “from scratch” in the face of a malevolent modernism. In Benjamin’s analysis, modern technology unleashes destructive torrents but also opens up what Foster calls a “fantastic array of creative possibilities” characterized by “transformative imagination” (p. 4). This is exemplified nowhere more than in the early Mickey Mouse animations of Walt Disney, where human-animal creatures morph into things, things into creatures, sounds into music and back. Writes Foster, “each movie is a symphony of onomatopoeic barbarisms in which almost everything becomes an object or an instrument of magical transformation” (p. 4). This malleability bespeaks a dialectic of sign and substance where neither remains stable. Such creative instability corresponds with an era of destructive instability.

In Foster’s view, Benjamin’s positive barbarism, although conceived in response to the ravages of the first World War and the dire years that followed, did not fully apply until after “the mass deaths of World War II, the Holocaust, and the hydrogen bomb.” “Only then” he writes, quoting Benjamin’s earlier definition of positive barbarism, “were artists and writers truly forced ‘to start from scratch, to make a new start, to make a little go a long way’” (p. 4). Yet this new start is hardly a fresh one. As Foster notes, “To begin again’ is an oxymoron” (p. 5)—starting from scratch is also always starting over, literally reinscribing. The ground is never pure, and brute origins are, ironically, something artists return to as a sort of last resort. Each of the figures in Foster’s study “proposes a different version of brutal aesthetics, one that pares art down or reveals it to be already bare, so that they might begin again after the compound devastations of the time” (p. 6).

The five postwar figures represent a range of nationalities and artistic movements. What links them is their investigation of “a beyond or a before to official culture” (p. 6)—animal, outsider, marginal, illicit. Stylistically they tend toward disfigured and decomposed imagery, while methodically they manipulate brute materials and reclaim debased remnants of culture. Despite this focus on destruction as a motif and a strategy, Foster’s brutal aesthetics is not, he says, nihilistic. Rather, as Claes Oldenburg put it, the task of the artist is not only to annihilate but also to illuminate. The shared aim of the figures, working in the wake of devastation and atrocity, is “to de-reify the world and reanimate life” (p. 17).

Embracing the idea of the “anticultural” as an antidote to the ills of modern civilization, the French painter Jean Dubuffet looked to successive types of art brut—art of children, of the street, of those with mental illness—as resource and models for his own paintings starting in the 1940s. In both their crude imagery and brute materiality, Dubuffet’s figures and landscapes subverted aesthetic norms. Above all, for Foster, they achieved a kind of destabilization of form as well as meaning: “Neither literal nor metaphorical, neither figurative nor abstract, the brut is pledged to keep not only material and process but also value and meaning unfixed” (p. 58). Dubuffet’s paintings equivocate between figure and ground, vertical and horizontal, form and unformed, cooked and raw, inside and outside of culture. For Foster these contradictions animate, as well as problematize, Dubuffet’s art.

In search of artistic origins as the end of human culture loomed, the French author and philosopher Georges Bataille turned to the newly discovered Lascaux caves, presumed to be the birthplace of art. Prehistoric images of wild animals and violent encounters cover the walls, suggesting a ritual function (known as a dissident Surrealist, Bataille employed both psychoanalytic and sociological methods). As Foster explains it, “Prehistoric art suggested to Bataille an origin that both repositions the role of the ritualistic in art and recovers the importance of the sacred in society, an origin story that, if reclaimed, might help postwar man to cope with his ‘passion for destruction’” (p. 75).

At Lascaux the “birth of art,” conceived as the emergence of the human spirit, was notably focused not on humans but on animals—in other words, the moment of differentiation of human from animal is ironically a moment of identification of human with animal. This play of differentiation and de-differentiation characterizes brutal aesthetics broadly. In the case of Bataille, the symbolic threshold between human and animal is crossed in both directions, again and again, offering a source of perennial rejuvenation: “For Bataille all society was in need of barbarization, by which he meant a fundamental recovery of sacred experience” (p. 21).

For the Danish artist Asger Jorn as well, the animal loomed as both image and force. As part of the northern European Cobra movement, Jorn saw “irrational spontaneity” as a way to “get closer to the vital source of life” (p. 105). His paintings feature fantastic creatures that combine animal and human attributes, crudely rendered in a fierce expressionist style. Not only a celebration of the primal energy of nature, Foster notes, “this creatureliness . . . also attests to the denaturing caused by the world war, the Holocaust, and the Bomb.”
debuted his career in 1956, declaring, “I like beaten, battered things” (p. 196). For Oldenburg, that which is damaged is also ripe for reimagining. His first major work, the funky installation titled *The Street* (1960), took both its material—corrugated cardboard—and its subject—everyday urban reality—from the rundown Bowery district. Formally it offered crude, cartoon-like renderings of figures and, especially, objects, a strategy Oldenburg follows through his famous *Store* (1961–1962) and into his soft sculptures. Echoing Dubuffet, Oldenburg cited his preference for “Present-day primitives: children, madmen, the American cultureless” (p. 196). The mundane stuff of urban life becomes, in his hands, reanimated. Oldenburg adopted the open-ended symbol of the Ray Gun to epitomize his process whereby objects come to life and, as Foster sees it, become ambiguously thing and being at the same time. In his soft sculptures of ordinary objects, “Oldenburg used softening not only to deform things but also to de-define them” (p. 237). This de-definition opens the door to the possibility of endless transformation. The Ray Gun, in Oldenburg’s formulation, is “both destructive and creative” (p. 240).

If the principal target of positive barbarism in the postwar era was initially mass destruction, with Oldenburg it becomes the perhaps more insidious barbarity of consumer culture. *Brutal Aesthetics* is bookended by references to Mickey Mouse. The first, from Benjamin in 1930, spoke to the playful transgression and imaginative metamorphosis that Mickey Mouse cartoons offered in a time of looming disaster. The second, Oldenburg’s “geometric mouse” from the late 1960s and early 1970s, represents a different cultural message, keyed to the postmodern era of multinational capitalism. Rather than promising transformation, Oldenburg’s schematic Mickey now epitomized corporate branding. “No longer a quixotic knight errant against the dark forces of capitalism, Mickey was now its mascot,” writes Foster, concluding that “the historical conditions that prompted positive barbarism had changed” and that “brutal aesthetics was no match for the society of the spectacle” (p. 247). And yet, *Brutal Aesthetics* seems rather timely. In both its realism and its spirit of resistance in the face of destruction, disaster and dehumanization, positive barbarism as an artistic strategy may hold relevance still.