LEONARDO REVIEWS
Editor-in-Chief: Michael Punt
Managing Editor: Bryony Dalefield
Associate Editor: Robert Pepperell
A full selection of reviews is published monthly on the LR web site: <leonardoreviews.mit.edu>.

REVIEW ARTICLE

STRING QUARTET NO. 2

Reviewed by Eugene Thacker, School of Literature, Communication & Culture, Georgia Institute of Technology. E-mail: <eugene.thacker@cc.gatech.edu>.

To many, the idea of listening to a 6-hour string quartet would not only be implausible, but also impractical. Trips to the restroom are needed. And food. Perhaps something to read, a book or magazine. Even the most rudimentary set-up would still retain elements of the world that would interrupt the listening. Interruptions abound. Nowhere is this more evident than when one meditates. This people meditate, in the most general sense, all the time—on yoga mats, in temples or in churches, yes, but also on the train or the plane, waiting in line, waiting for someone.

Morton Feldman’s String Quartet No. 2 was composed in the early 1980s. It forms part of the later Feldman oeuvre, in which single works with minimal instrumentation would last for extended periods of time (the piece “Piano, Violin, Viola, Cello” might also be mentioned here). At just over 6 hours, the String Quartet No. 2 (hereafter SQ2) stands out among even Feldman’s later works. Its duration alone raises a number of questions: Am I supposed to listen to this in one sitting? If not, then how do I listen to it? Is it necessary to listen to the first hour in order to appreciate the sixth hour? And how are the performers able to play this piece?

For a long time, a recording of the SQ2 has not been available, until Mode released this version, part of their collection of Feldman’s works. Performed by the Flux Quartet, the Mode edition of the SQ2 is played with remarkable delicacy and consistency. I half-expected the performers to become fatigued by the fifth hour, but even the most ethereal and dissipative chords are played by Flux with the same attention to detail in the last hour as the first. Mode has made the SQ2 available in two formats: a 5-CD set or a single audio DVD. For convenience, track markers are included and refer to page numbers in Feldman’s composition (over 120 pages, using Feldman’s grid technique).

Tom Chiu, violinist for the Flux Quartet, points out in the liner notes that the quartet had to undertake a sort of training for this performance that was analogous to that of a marathon runner. It would make sense, then, that the same applies to the listener. And at this point many would balk. We are used to our music being on-demand, instantly downloadable and capable of being shuffled on our iPods or played ambiently in the background as we work. So there is a commitment involved. Although, whereas the Flux Quartet performs the entire 6-hour piece, we as listeners can, of course, choose from several listening options— an hour at a time, bits here and there, etc. I couldn’t help wondering, though, what would it be like to listen to the entire piece in one sitting, as a whole?

So, I followed the Flux Quartet’s cue and developed a simple listening protocol. I would casually listen to different parts of the piece to become familiar with the basic “sound” that Feldman explores. Then I chose a weekend day and blocked out enough time. My cell phone was turned off. I forbade myself to use the computer, read a book or busy myself with chores. Now, the ideal listening situation would be to simply sit down, put on headphones, press play and stare at the wall for 6 hours. That’s the ideal. But of course there will be bathroom breaks, a snack, coffee or tea, stretching. Despite all this, the biggest obstacle was not these pragmatic concerns, but rather impatience, boredom.

The SQ2 is not a conventional piece for string quartet. It doesn’t develop linearly in time. Instead, it is composed of a series of modules, each of which is itself composed of combinations of repeating and varying elements: chords, short quasi-melodic phrases, variations in the notes played, loudness or softness, stretched out or compressed, and so on. These are the atoms of the piece. They may repeat several times almost exactly, or they may suddenly vary. These atomic units of repetition and variation form the larger blocks or modules, which may themselves be
repeated—2 or 3 hours later. But admitted-ly this is a simplification, for many of the modules are blurry and bleed into each other. Feldman’s work has never simply been structuralist, let alone serialist. So the listener is confronted with an interesting challenge: the piece is a whole, and the parts are intention-ally composed so as to make a whole, but the piece does not develop in time, linearly—and yet, one cannot but listen to the piece in time, sequentially.

Overall the SQ2 is quiet, delicate; but it is also marked by more abrasive moments. And this is the fascinating paradox of the piece. While it is relatively quiet, hailing the listener into a kind of meditative state, it is also formally hyperactive and complex, con-stantly innovating, varying, differing from itself. It is a “quiet complexity.”

What results is a humbling experi-ence. It’s not as if I have never medi-tated before. But I spent the first hour constantly thinking about how much time was left to go (particularly gruel-ling when only 15 minutes have passed). The second hour passed quickly, as I was more immersed in the music. But this led to false confidence when the halfway point wasn’t yet reached and I was battling the overwhelming urge to nap. The fourth and fifth hours were rather blurry as I oscillated between periods of focus and periods of day-dreaming. As much as I tried not to look at the clock, the last hour was fraught with tensions—the end of the piece was bearing down on me, while at the same time I found myself engrossed in the intricate permutations that the piece continued to pour out.

Time is a long-standing interest of Feldman’s. Silence, pauses and subtlety are hallmarks of his work—precisely those elements that, in fact, negate sound. But this subtractive music is not simply about abstraction or minimal-ism; the function of silence and quiet-ness serves to draw out or to compress musical time, to render time elastic—“What would it be like to listen to this all the way through?” Or better, “How long have I been listening to this?” This differential is felt by us on a daily basis (e.g. How long have I been waiting in line? How long will this lecture last? How much time do I have left to sleep?). In other words, the SQ2 pushes the tension between these two kinds of time— the external “clock time” of the digital readout and the internal experi-mental time of listening to the music.

The philosopher Henri Bergson meditated at length on this differential. In his early works such as Time and Free Will he noted this relationship between external and internal time, referring to the latter as “duration”: “Pure duration is the form which the succession of our conscious states assumes . . . when it refrains from separating its present state from its former states.” The exam-plary case of duration for Bergson was our own consciousness. Though we distinguish the past from the present, we rarely number our thoughts as such (e.g. “I had four thoughts today”).

The other example Bergson uses is musical: when we listen to a bell tolling or the notes of a melody, our discrete counting of the bell tolls or the notes exists alongside our continuous experi-ence of sound, as the fading sound of one note melts into the emergence of another. The upshot of this is that, for Bergson, our notion of time is bifur-cated between a homogenous, discrete, spatialized quantity (clock-time, count-ing the notes), and a heterogeneous, continuous, dynamic quality (psychic states, the whole melody). Thus “pure duration might well be nothing but a succession of qualitative changes, which melt into and permeate one another, without precise outlines, without any tendency to externalise themselves in relation to one another, without any affiliation with number.”

But music is, of course, a game of numbers—or at least of counting (counting time, counting beats, count-ing measures). The process of listening to the SQ2 is a kind of game between checking the clock and, in effect, losing one’s sense of time (or losing one sense of time). But something else happens, for this notion of duration is not simply in our heads. Bergson, near the end of his life, recognized this. In his contro-versial engagement with mod-ern physics and relativity, Bergson began to explore a notion of duration that was not simply subjective or internal, but actually a property of the world as such. This thought requires us to think of duration outside of the thinking sub-ject—of duration as a nonhuman process—a preoccupation of early Greek philosophers such as Heraclitus or Democritus.

Perhaps, then, another way of think-ing about the SQ2 is not only that it expresses duration in Bergson’s sense of the term, but that it also evokes endurance. Not just physical endurance (though it is that too). We as listeners not only endure the work (and hope-fully it is a “good” or rewarding endurance), but, more importantly, the work endures as a set of sounds that at once demarcate time and render it as continuous. Feldman does this through the pair difference-repetition.

Musically speaking, the SQ2 is a complex work, to be sure. Within it Feldman performs experiments with time signatures, chord changes and composition. But we can add another layer to this. The SQ2 is not just about listening to sound and silence in time; its duration, or endurance—its “enduration”—is also about listening to time itself, or better, listening to duration.

**BOOKS**

**BUILDING A CENTURY OF PROGRESS: THE ARCHITECTURE OF CHICAGO’S 1933–54 WORLD’S FAIR**


Reviewed by Michael R. (Mike) Mosher, Saginaw Valley State University. E-mail: <mosher@svsu.edu>.

World’s Fairs are fun. Their crowds assemble to observe the exhibits, to participate as allowed and to spend money at this special, short-term event. Their innovations, eccentricities and spectacle spill over into histories long
Armaco-Ferro Enamel Frameless House. The Rostone House was built from synthetic stone made of dust and detritus from Indiana limestone quarries.

An octagonal glass-walled House of the Future was suspended from a central core, borrowing much from Buckminster Fuller’s unbuilt Dymaxion home design. Fuller’s house was not exhibited, but his ovoid Dymaxion car was. A long barroom on the fairgrounds, stocked with Schweppes beverages, was nicknamed “the doodlebug” for its similar shape. Considered too individualistic for committee work, Frank Lloyd Wright and Norman Bel Geddes were excluded from designing buildings for the Fair, but both published opinions and alternatives in architectural journals.

In this enjoyable book, Schrenk details the influence of the Fair on New York’s World’s Fair 5 years later. I would have liked her to trace more influences of the Chicago event upon the 1939 San Francisco World’s Fair, too.

SCIENCE AS A SPIRITUAL PRACTICE

Reviewed by Rob Harle, Australia. E-mail: <harle@dodo.com.au>.

Barušs, much to his credit, has dared to go where many others would not even dream of going with this book. In a sense, he takes on the whole scientific establishment and challenges them to break out of the dominant paradigm of “scientism” and once again start practicing true science. Barušs sees true science as a process where investigators attempt to solve an existing problem by starting out with an open mind, then proceed using all the methods at their disposal and subsequently report the findings, whatever they may be and however much they are counterintuitive or contradict the status quo. Much of modern science does not do this.

It is not only scientists who are criticized in this book, but virtually all of us who have not achieved some form of transcendence. Using the description that Plato contrived of individuals in the cave, Barušs has this to say: “I think the point of this analogy is that our ordinary interpretation of the world is seriously wrong. We are the walking dead busy deciphering the whisperings of the shadows. We are the mentally ill suffering from a mass psychosis” (p. 27).

Science as a Spiritual Practice is a slim book at just 159 pages. It is arranged in three sections. The first section, Beyond Materialism, deals with the problems and untenability of materialism and to a lesser extent physicalism. Barušs suggests that if scientists would seek self-transformation, they would have a much better chance of understanding reality. The second section, Access to Inner Knowledge, argues that through states of altered consciousness, brought about by various means such as meditation, drug ingestion or various other spiritual practices, scientists could gain insights to the problems they are trying to solve via their newly realized inner knowledge. The third section, Seeking Transcendence, looks at how by engaging in scientific practice, especially mathematical work, the practitioner may bring about transcendence. Barušs discusses the claims of Franklin Wolff to having achieved transcendence as well as Wolff’s philosophy.

With the exception of parts of the third section, when the discussion becomes a little complicated by rather arcane mathematical concepts, the book is easy to read and understand. I found Barušs’ constant use of “her” extremely irritating; this first-wave feminist convention, effective as it was at the time, is now passé. The use of the third person pronoun “their” or “they” draws far less attention to the actual writing style.

The book has a good index and exceptionally comprehensive bibliography and reference section.

This brings me to my main criticism of the book, which is its superficial treatment of a vast amount of material including DMT drugs, channeling (mediumship), teleportation, enlightenment, remote viewing, mystical states, trances, savants and so on. It is not that Barušs is necessarily wrong in his presentation of these phenomena, nor that he is flippanent in their treatment; it is simply that in a book of this size it is impossible to discuss any of them in depth. The book should have been at least twice the size and concentrated in detail on only a few of the many possible aspects associated with achieving transcendence. This would have presented a more convincing, solid case for science and the spiritual. After all, this book is pitched partly at scientists who generally dismiss superficial “popular” writing out of hand. Barušs is widely read and appears highly knowledgeable about his subject,
and if nothing else this book will serve as a guidebook for further detailed reading via the index and then the extensive reference section. The last sentence in the book pretty well sums it up: “Thus, this book is not an answer but a challenge. How can science be used as a spiritual practice?” (p. 126).

I only hope the very scientists that should read this book don’t put it down prematurely, as the possible rewards for themselves and the results of their investigations for the rest of us are immense.

MUSEUM FRICTIONS: PUBLIC CULTURES/ GLOBAL TRANSFORMATIONS

Reviewed by Jonathan Zilberg,
E-mail: <jonathanzilberg@gmail.com>.

_Museum Frictions_ sets the agenda for the conjuncture of critical theory and practice in the museum world and the arts and heritage industries as they continue to grapple with the effects of globalization. It is the last in a trilogy on museum anthropology, the first being _Exhibiting Cultures_ (1991) and the second being _Museums and Communities_ (1992). The series constitutes the tangible heritage of the Rockefeller Foundation’s and the Smithsonian Institution’s investments in funding, inspiring and assisting museum programs, exhibitions and scholarly research. If the first two volumes provided the proverbial intellectual wheels for critical museum studies in the 1990s, this volume provides the connecting chain to combine and advance all this knowledge so as to produce the conceptual power to sustain such intellectual energy in museums and the heritage industry for years to come.

Inadvertently perhaps, _Museum Frictions_ represents a productive conjuncture of anthropological interests in the politics of cultural representation with philosophical issues previously more central to cultural studies, specifically in terms of the shared interest in Jürgen Habermas’s notion of the public sphere. Working within this legacy it is an exceptional example of interdisciplinary fertilization in which anthropologists have responded to Tony Bennet’s groundbreaking contribution _The Birth of the Museum: History, Theory, Politics_ (1995), which advanced his earlier work “The Exhibitionary Complex,” published in _New Formations_ in 1988. No less significant is the opportunity that this engagement has provided for Bennet himself to advance his notions of the museum as a differencing machine and to develop a more qualified notion of the public sphere in order to more effectively engage the particularities of globalization. The total effect is a wonderfully energized set of emerging theoretical discourses and practices in tactical museologies and museum reconfigurations in which activist-scholars are applying and debating critical theory in the service of creativity and cultural production. Herein, the institution, activities, politics and even pre-colonial histories of museums become as much sites of observation, critique and action as do the nature of the exhibits themselves.

The study presents a diverse field pointing to the ever-expanding conceptualization of what constitutes a museum and its aims and content. These include conflicts, tensions and anxieties within tangible and intangible heritage industries, including community museums; slavery and holocaust museums as commemorative contexts for expressing grief; national parks as spaces of death, colonization and opportunity; Disney-fication and the neo-liberal Bilbao-effect; and much else. Despite this profusion of materials, a singularly powerful thread is woven intermittently through the text, namely the conceptual work performed on Bennet’s notion of the exhibitionary complex in developing the related notions of experiential and the exhibitionary complexes as deftly considered by Barbara Kirshenblatt-Gimblett. Extending this, and almost by way of epilogue, Fred Myers combines Bourdieu and Bennet, proposing an “exhibitionary field of cultural production” and exploring revelatory Aboriginal regimes of value and the way in which academic seminars complementing exhibitions highlight the dislocations that exist between the various participants. This adds tension to Howard Morphy’s prior questioning of the very notion of the exhibitionary complex, in which he proposes that exhibitions might more accurately be understood in terms of complex motivations and negotiated and highly motivated outcomes used by individuals, institutions and communities in order to achieve their different objectives.

Critique and extension of the Habermasian notion of the public sphere aside, similarly fascinating ideas and instances stand out, such as the term “tactical museologies,” the refusal in certain cases to include specimens or originals, the use of originals to magnify the aura of the copy and the simulacrum, the use of auto-critique to limit the inevitable controversies that result from exhibitions and even the destruction and removal of specimens to honor the intent or cultural logic and mores of the creators. From all these fascinating instances to the surprise and wonder in the Lucky Market in Phnom Penh and the transgressive flexibility of micro-museum circuitry in Peru, _Frictions_ provides a radically opened-up notion of what museums are and what such institutions can achieve—particularly in post-conflict and/or in disenfranchised and aggrieved communities.

In the spirit of the book, it is important to highlight at least two theoretical and philosophical frictions that exist within the text, firstly between Tony Bennet and Martin Hall over globalism’s assumed power, and secondly between the ancestral figures of Walter Benjamin and Andre Malraux over the power of the image versus the “authentic” object. As I see it, the ideal result of such intellectual frisson in this volume would be for activist-scholar-practitioners currently outside of this privileged community to generate applicable insights and energy out of these internal frictions. By transferring such tensions and knowledge from one context to another, they could empower themselves to use museums as democratization and educational machines and in the embryonic case.
popular movie semi-deity, depending and homes alike are adorned by some and unavoidable. Offices, market stalls soap, they are practically ubiquitous and used as wrappings for incense and circulated as posters for political parties on the occasion of religious festivals. They are also commonly used as gifts on the occasion of religious festivals. And there, especially in such emerging democratic environments, without the benefit of reading this book and becoming familiarized with these tactics and theories, professionals in museums and those interested in the museum world will not be able to conceptualize just how important, how exciting and how potentially productive the use of museums in promoting civil society initiatives is proving to be.

**GODS IN THE BAZAAR**


Reviewed by Stefaan Van Ryssen, Hogeschool Gent, Belgium. E-mail: <stefaan.vanryssen@hogent.be>.

Indian "Calendar Art" is the collective name for the mass-produced, color-saturated printed images used in calendars, advertisements and packaging, featuring gods and goddesses, movie stars, babies, landscapes and more or less common Indian people. Distributed as gifts on the occasion of religious festivals and the New Year, circulated as posters for political parties and used as wrappings for incense and soap, they are practically ubiquitous and unavoidable. Offices, market stalls and homes alike are adorned by some image of Ganesh, Ram, Krishna or a popular movie semi-deity, depending on the taste of the user or his business partners. Airlines and supermarkets, domestic and foreign companies, local shopkeepers and multinationals—all of them seem to keep the tradition of presenting calendars alive. According to the status of customer and supplier, they range from glossy 12-pagers to single-sheet prints on the worst quality paper, but they all share a limited repertoire of images and stay within a narrow range of aesthetic or iconographical diversity. What is so special about them that they are worthy of a Ph.D. thesis in art history?

For one, it appears that the creation and production of these "calendars" is dominated by a relatively small number of networks, the center of which lies in the Southern city of Sivakasi, where most of the publishers and presses are concentrated. Orders are taken from all over the continent, and distribution relies mainly on the "bazaa," effectively connecting all regions, religions and ethnically different communities. Kajri Jain examines in great detail the role of each of the agents in the supply chain and describes how they take into consideration the differences in taste and sensitivity of the many regions and religious communities. She concludes that it is quite impossible to describe the bazaa system in the terms of standard Western—political economy or business administration. Rather, the system functions as a moral as well as a material or commodity market. "Vernacular" is the key word the author uses to understand how the bazaa copes with the divergent economic obligations of diversity and standardization. From a purely economic point of view, the introduction of the concept of the vernacular might not be necessary—at least Jain has not given arguments to convince me—but at a more encompassing level, taking all the other functions of the bazaa and the images into account, it nicely glues together different fields of analysis, and that is probably exactly what is needed to understand the extraordinary efficacy and performance of a postcolonial economic fabric.

Unfortunately, the voice of the consumer or end-user of these fabulous images—of which there are no less than 156 reproductions in the book—is almost absent. By concentrating on the supply chain and inferring from the choices of its agents, Jain probably has a pretty good idea of what calendar art is supposed to mean in the life of the average Indian, but any market analyst would want to know what the customer says.

A second problem I have with this book is the thick layer of poststructuralist parlance dousing the otherwise clear and fascinating account of the industry. Surely, it isn’t necessary to repeat over and over again that agents need to "negotiate" seemingly "paradoxical" demands. But apparently, a Ph.D. dissertation in art history needs to be drowned in this kind of rhetoric. Pity. What Jain achieved does not need all this post-whatever mumbo jumbo, and the book would be at least three times less voluminous and three times more readable without it. Look through the trees, however, and you will encounter a world full of surprising diversity, economic ingenuity and artistic acumen both from the author and her subject.

**COLLECTIVISM AFTER MODERNISM: THE ART OF SOCIAL IMAGINATION AFTER 1945**


Reviewed by Jan Baetens, University of Leuven, Belgium. E-mail: <jan.baetens@arts.kuleuven.be>.

The radical critique of art/Art in Western culture since Duchamp and, more generally, the birth of Modernism around 1850 has had, of course, its own blind spots—for instance, those linked with class, sex, gender, race and so on. The “expanded” radical critique of art
has tackled these and comparable issues, but its eagerness to unearth all hidden determinations of what we call art continues also to suffer from an even more special kind of blindness, because even the most critical art theory often still relies on an extremely individualist way of thinking. Neither the death of the subject, nowadays a commonly accepted notion, nor the widespread awareness of the institutional determination of any artist’s work have prevented critical art theory from adopting the traditional market-driven idea of art as basically made by individual artists and judged by individual standards and achievements.

The major merit of this fascinating collection edited by Blake Stimson and Gregory Sholette is not to claim room for a completely different approach (this would be nothing more than radical, countercultural or antiglobalist propaganda or wishful thinking, to name just some labels that have an obvious family resemblance with the collectivist stance). It is to offer a comprehensive analysis of the relationships between modernity and collectivism and to complete it with a certain number of case studies and surveys of collective art practices in Western and non-Western contexts.

Let us first see how, on a historical and theoretical level, the place and the stakes of collectivism are analyzed by the editors as well as by the various contributors of the book (there is indeed no sharp division here between editors and contributors: the former signs a comparatively modest, although far-reaching introduction; the latter are allowed to participate very actively in the elaboration of the theoretical underpinnings of the volume). Three key ideas constitute the backbone of the collection.

There is a fundamental association between Modernism and collectivism, at least in the pre–World War II period, when all modernist movements were, to a variable extent, committed to social change and the implementation of new—and often socialist—relationships within the production and reception of art.

This “natural” alliance was broken by the Cold War, which reinforced the anti-Modernism of art in communist countries and “decollectivized” Modernism in capitalist countries. Modern art in the West not only became more and more form oriented (and thus less and less content-oriented), but also erased any collaborative or collectivist tendency as ideologically and artistically suspect.

The hegemonic position of the individualist model, first in the West only, later worldwide, has never been complete, however. Forms of resistance have always existed, and their presence and importance are now spreading dramatically. In this regard, the editors—more than the authors themselves, one may have the impression—make a clear distinction between on the one hand modernist collectivisms—i.e. collectivist reuses and reinventions of the avant-gardes and other radical idioms—and on the other hand non-modernist collectivisms. The latter are either anti-Western and anti-modernist Gemeinschaft-like nostalgias (the name of Al Qaeda as a shortcut for this type of nowadays very violent movement is, of course, unparalleled) or hypercapitalist, rhizomatic, decentralized and virtual communities glued together by e-commerce (and the editors stress that these communities share with the anticapitalist group a deep longing for the same traditional relationships between the individual and the group, or between the individual and the State).

Further specification of what modernist collectivisms typically (and positively) are can only be found in the various essays, whose theoretical ambitions are quite diverse. Some contributors limit themselves to a historical overview of the most interesting phenomena in the geographic area they cover (for this is the basic criterion of the book’s structure). Others, instead, use their case study or studies to present a more in-depth discussion of the theoretical questions that the concept of collectivism helps to raise. Recurrent elements are, for instance, the tension between the aesthetic and the social (in some extreme examples, there is nothing artistic left in the collective actions that are described), the hugely problematic relationship with the institution (always eager to appropriate its critique, even in the extreme case of the so-called “Trojan horse” techniques embraced by some of the groups), the relationship with the audience (that can no longer be just a consumer) and, last but not least, the possible ways to exceed the historical split in Modernism between Dada and Bauhaus, between collectivist destruction and collectivist construction. An exceptionally interesting piece is Okwui Enwezor’s discussion of collectivism in African art, which completes the introduction in four useful ways:

- It questions further the Western view on collectivism, mainly through a critique of the historical Grand Narrative of collectivism within (high) Modernism
- It reformulates the difficult relationship between individual and group, primarily through a discussion of the notion of “authenticity”
- It opens new ways of theorizing different kinds of collectivism, principally through the opposition between the more or less stable group as a kind of beehive-supra-individual (the vocabulary and metaphors are mine) and the flexible networks including shifting individuals on a more ephemeral basis
- It criticizes—very rightly I think—the confusion between ethics and politics, stressing that the current success of the ethical is in fact the direct outcome of a refusal of the political.

Yet, given the emphasis on the historical and contextual presentation of the collectivist “file,” the theoretical fine-tuning of collectivism is not the priority of this collection. One may regret, for example, the absence of a systematic debate on the differences between the collaborative and the collectivist, which are anything but synonyms. What we receive instead is a very rich, but sometimes overdescriptive and overdetailed, survey of collectivist artistic action in all parts of the world (only China, the Islamic world and Australia are missing). Most inspiring are also the many discus-
American Indian art began in the 1960s. In doing so, Anthes selectively focuses on the very different careers of Howe and the Pueblo painters Jose Lente and Jimmy Byrnes, the Ojibwe modernists Patrick Desjarlait and George Morrison, the Cheyenne artist Dick West and the faux Indian Yeffe Kimball. He weaves together a fascinating web of relations showing how the modernist conventions in these artists’ works connect to pre-conquest native traditions and how artists like Howe and West engaged modernism and modernized Native American painting in very different ways.

Native Moderns is a powerful warhorse connecting these artists into modern American art history. It is equally compelling in terms of revealing how Barnett Newman drew on local traditions to develop his notion of the “Inter-American Consciousness” and the “Universal Primitive,” with which he sought to define a unique American aesthetic while simultaneously rescuing it from European modernism. Ever the modernist, Anthes rescues tribal identities from a post-modernist sense of invention and self-invention, as in the case of Yeffe Kimball, the iconic instance of a non–American Indian claiming to be American Indian. Herein Anthes and the American Indian Movement (AIM) understand authenticity and identity as primordial and genealogical essences and not at all as invented constructs. In this, Anthes manages very successfully to reveal the innately hybrid identities of these artists and the cultural struggles between “tradition,” tradition and modernity that make this book particularly compelling.

Native Moderns does the important work of opening the canon of modern American Indian art to “non-Western” modern art in its broadest global dimension, appropriately advancing this project in the American Fourth World, that is, in terms of the ultimate colonized Other—those within the First World. Besides this other Modern art series in the same series Objects/Histories, namely Painting Culture (2002) and In Senghor’s Shadow (2004), this study adds substantial weight to the prior studies by even more extensively delving into the intriguing history of non-European artists previously excluded from canonical modernism. Hence we learn here about the crisis situation out of which new native traditions emerged, how abstract expressionism and modernism deeply informed some of these artists’ careers and how in some cases they and their descendants struggled to disavow any such influences, believing that it made their work somehow less authentic. We also gain fascinating insight into how non-native American modernists spiritually and conceptually drew on an inter-American heritage, adding an important element to the by now somewhat threadbare debate over modern art’s inspiration in “primitivism,” which usually focuses on the early 20th-century Parisian sources of inspiration in African, Polynesian and other Oriental traditions.

Native Moderns is a deft example of contemporary scholarship that is entirely accessible to the lay educated reader. Anthes bridges discussions on changing government cultural policies and the arts with those on how artists’ successes depend on their skills as culture brokers to mediate Western and non-Western worlds, on how educators and patrons are key agents in the emergence of new forms of modernism, as well as on the importance of place and experience in an artist’s evolving corpus and consciousness. All of the artists considered here had highly ambiguous identities and, in fact, as the author describes, their art can be seen as a self-conscious process of mediating their experiences as modernists rather than as traditionalists. In the case of Jose Lente and Jimmy Byrnes, this was more limited to their Pueblo heritage and their lives and labor in the American Southwest, whereas Desjarlait, Morrison, Howe and West had far more cosmopolitan life experiences. Yet Anthes manages to show how place and tradition continue to inform their work and consciousness, that is, how modernism does not necessarily preclude tradition. For example, he details how the mod-
ernist nature of their works in the simple planar and uni-dimensional treatment of form is not so much evidence of the influence of modernism but of an affinity which expressly refers to continuities with their personal tribal heritages and evidence of the multicultural heritage within modernism. It is of note however—unfortunately, or fortunately—that Anthes presents an explicit critique of “traditional art” as being degenerate tourist art, which for some might leave it on an arguably lame horse on modernist high desert plains, as perhaps best exemplified with the final figure, *The End of the Trail* (1970) by Fritz Scholder.

To conclude, *Native Moderns* is an intensely rich study best instantiated in the epochal story of Howe’s origins as an artist, in which his grandmother healed him through song and story after he had suffered a debilitating depression and illness brought on by the experience of detribalizing military education. As Howe relates through Anthes: “She would tell these stories, true ones, about culture and life and everything that was fine and good about the Dakota culture. . . . The language she used was so poetic and beautiful that I now try to equal them by giving them visual form.” Blind, she traced her memories in sand; healed, he made them modern.

**DIGITAL PERFORMANCE: A HISTORY OF NEW MEDIA IN THEATER, DANCE, PERFORMANCE ART, AND INSTALLATION**


Reviewed by Dene Grigar, Digital Technology and Culture Program, Washington State Univ. Vancouver, Vancouver, WA. E-mail: <grigar@vancouver.wsu.edu>.

It’s hard to imagine a bolder or more in-depth book on digital performance than Steve Dixon’s *Digital Performance: A History of New Media in Theater, Dance, Performance Art, and Installation*. Exhaustive without being exhausting, *Digital Performance* includes 800 pages that outline histories as well as theories surrounding digital performance, with large sections of the book paying detailed attention to such topics as “the body,” “space,” “time” and “interactivity.” Along with providing a history of digital performance, Dixon addresses assumptions and critiques views taken by some at face value. Little escapes Dixon’s lens, for it is a book with roots in a long-running research project undertaken from 1999 to 2001 by Dixon and Barry Smith that “documented developments in the creative use of computer technologies in performance.” Called the Digital Performance Archive (DPA), the web-based archive included “live theater and dance productions that incorporate[d] digital media to cyberspace interactive dramas and webcasts . . . [and] collate[d] examples of the use of computer technologies to document, discuss, or analyze performance, including specialist websites, e-zines, and academic CD-ROMs” (p. ix).

The book begins with a revised perspective of the postmodern take on art, challenging Lev Manovich’s stance on new media art, which Dixon says “fetishizes the technology without regard for artistic vision and content” (p. 5) and views that ignore the importance of Italian Futurism’s (and those movements connected to it) influence on digital performance (p. 47). Section one of the book traces this influence as well as the development of digital performance in three periods, looking first at the avant-garde in the early 20th century, then to multimedia theater (1911 to 1959, and finally to technology-infused performance work from 1960 on.

Section two concerns itself with the “Theories and Contexts” surrounding digital performance, starting with the “liveness problem” (p. 115), then “Postmodernism and Posthumanism,” “The Digital Revolution” and “Digital Dancing and Software Developments.” Here Dixon critiques postmodern theories that he says “can . . . operate doctrinally to impose specific and sometimes inappropriate ideas onto cultural and artistic works” (p. 135)—and takes on the theorists who propose them, Jay David Bolter and Richard Grusin’s “remediation,” Dixon says, though not a new idea (i.e. it is itself repurposed from the “disposal and recycling industries”), does shed light on “inherent dialectical tensions at play within computer representations and simulations” (p. 136). George Landow, Dixon tells us, possesses “evangelical zeal typical of the writers at the time” (p. 137). Dixon points to Diane Gromala’s utilization of Lyotard’s language game to talk about new technologies, then of Deleuze and Guattari’s theories to explain her views of virtual reality; and, next, to Gregory Ulmer’s focus on Derrida, Lacan and Wittgenstein for theories of hypertextuality. A whole section is devoted to Jean Baudrillard, whose nihilistic and cynical view of technology, while “seductive and compelling,” is “over the top” and in the end offers a view that is for the most part one-sided and incomplete pp. (140–143). There is a section, also, on Derrida, whose theory of deconstruction (particularly that the “world [is] constant flux”) does not really fit the “liveness of theater,” which “conspires to fix time and space” (author’s emphasis, p. 145).

It would be easy to react to Dixon’s critique of theory as simply one of a Monday-morning quarterback able to make better claims in hindsight than those living in the moment of action, so easily does he pick apart past ideas, showing them to be hyperbolic or faulty. When he writes, for example, that “an inescapable fact about the progression of software is that after the initial miracle of new computer ‘life,’ a certain sameness and staleness creeps in through the repetition that replaced the initial awe and wonderment” (p. 208), we have to ask, isn’t this problem true for all new things? Is it just a problem with software? I say this because I remember having to explain to a roomful of college students why Piet Mondrian’s *Composition in Blue, Yellow, and Black* is, paraphrasing their comments, “a big deal, considering that the painting was just lines and squares that anyone can do with PhotoShop.” The fact does remain that postmodernism does (or did, depending on one’s perspective) offer an alternative to ancient Greek philosophy and worldviewsthat have dominated the Western world for over 2,000 years and don’t necessarily work for a contemporary world that is vastly larger and more technologically advanced than that of 5th-century Athens. At some point we do get excited about something new and must be able to map new views onto our new world. But the question Dixon forces us to remember is, When and which ones?

But this questioning of Dixon’s perspective on postmodernism does not mean that his insights are off base. Far from the truth: They are right on target for those performers and performance scholars who have long wondered about the wisdom of placing so much importance on theories not born out of performance practice to arrive a performance theory. Dixon’s views will be perceived as sensible and be felt as breaths of fresh air.
The next sections, as stated previously, look at the body, space, time and interactivity. There is a lot to like in the next 600 pages, starting with Dixon’s position that “bodies are not animated cadavers. . . . Bodies embody consciousness” (p. 212), to the dream quality of performance (p. 337), to the notion of “media time” (p. 517), to his definition of and categories for interactivity (p. 563), to cite just a few of the hundreds of pages of ideas and insights he offers.

Readers looking to consult the DPA database introduced at the front of the book will be disappointed that it is not currently available. Some may wonder why Dixon did not cite Mike Phillips’ wry work concerning Shakespeare’s works and monkeys but simply alluded to it (p. 166) or question his spelling of Margarete Jahrmann and Max Mosseitzen’s work, the “nybble-engine-project” (p. 611) when they themselves write of it as “nybble-engine.” Women who have been working with computers for decades may take umbrage at Dixon’s own assumption that the Internet was populated by cowboys, forgetting about us cowgirls (p. 160), or grrls, as many of us called ourselves.

Despite these issues, Dixon’s book possesses both depth and breadth that performance theorists and practitioners will find not only useful but also necessary for research and teaching. As such, Dixon’s book is not a history of digital performances but rather a book about the whole concept of digital performance.

CARTOGRAPHIC CINEMA


Reviewed by Jan Baetens, University of Leuven, Belgium. E-mail: <jan.baetens@arts.kuleuven.be>.

In the steadily growing literature on maps and mapping in the fields of literary theory, visual studies and critical thinking, Tom Conley’s book can be called a major achievement, both for the clarity and profundity of its theoretical insights and for the exceptional brio of its close readings. Moreover, Cartographic Cinema is not just a book that makes a strong plea for close reading but succeeds in demonstrating the theoretical necessity of this approach, provided it is articulated with strong theoretical perspectives. As such, Tom Conley has written a book that is a major contribution to film studies (and other related fields) as well as an exciting collection of essays on the history of 20th-century cinema, from René Clair’s Paris qui dort (The Crazy Ray, 1923) to Ridley Scott’s Gladi-

ator (2000).

How does Conley define the notions of “map” and “mapping”? A specialist on cartography, on which he has published widely, inside and outside the field of film studies, Conley argues first of all that maps are not just items or images that can be shown or mentioned in movies, but that movies themselves have to be considered maps (in the rest of Cartographic Cinema, this two-sidedness will be the leading thread of each analysis), that is, visual structures that shape the imagination of the spectator and can be used as tools for deciphering the world that is referred to by the movie. The meaning of maps and mapping is therefore much broader than mere geography (a map offers or imposes also a worldview), while it cannot be reduced to a linguistic approach to the world (maps do not transcribe speech, even if they happen to include many verbal and written elements). As a matter of fact, it is not only the film seen as a whole that can function as a map, but also each of its images, as they gradually unfold and change before the eyes of the spectator. For Tom Conley (and almost all the close readings of the book will provide evidence of the rightness of this conviction), “everything” can obtain a cartographic dimension: the logo of the film company, the credits and intertitles, the very images (with or without visible maps), and so on. In all these occasions, movies do function as actual maps, by showing “where” we are and by linking our identities to that cartographic issue (“who” we are cannot be separated from “where” we are), and just like maps this showing function is not only referential but also ideological, for maps and movies disclose relationships that go otherwise unnoticed. In that regard, it would be unfair to reduce the cartographic function of maps to the appropriative, controlling and administrative functions they are generally associated with.

Conley’s theoretical preferences and convictions go clearly in the direction of the singular and the event. Claiming that film studies should follow the hypothesis “to each film its map,” Cartographic Cinema builds mainly on the work of two other major theoreticians, André Bazin (who had already developed a theory of movies as maps) and Gilles Deleuze (whose writings remain an essential contribution to the modern theory of mapping). From Bazin’s defense of neo-Realism and his ideal of film as representation of the real, Conley uses the idea of the “image-field,” which is not the (secondary) background for what really matters, namely the action, but an existential space in which all places are as important as any other and which is shifting itself through time. From Deleuze’s ideas of the work as “open totality,” Conley borrows the suggestion that the spatial field on-screen is capable of producing events that modify our perception of the world itself. This openness to what may happen on screen, instead of being statically reproduced by the images, means that Conley’s focus—following in this also the major beliefs of Deleuze and Bazin—is actually less on the map than on mapping, less on the display than on the making of history, less on the map (and the film) as representation than on the map (and the film) as becoming.

It is this active dynamic that is foregrounded in the close-readings of the book, which are often breathtaking. In 10 chapters, Conley makes clear that the choice of the map as a privileged reading tool of cinema can be extremely illuminating and that the selection of films including maps is a very original and profound way to inscribe the reading of movies into the larger process of cognitive mapping,
which is, for Conley and Jameson, whom the author is following here, a way of linking the close-reading of often tiny details with contextual, historical and political issues. The reader of Cartographic Cinema will therefore always hesitate between two types of admirations, appreciating both the cleverness and hermeneutic power of the reading of so many details linked with maps (or made visible thanks to the emphasis put on fragments containing maps or fragments read as maps) and the author’s capacity to link these details with a larger inquiry on the historical and ideological positioning of the analyzed movies. In particular, one should mention here the exciting rereading of Renoir’s La Règle du jeu, Rossellini’s Roma, città aperta, Truffaut’s Les 400 Coups (three films one thought to know by heart, but which Conley manages to “reinvent” completely) or Kassovitz’s La Haine (whose dialogues and various inscriptions the author decodes with the same love and intelligence as did Stanley Cavell with the allegedly insignificant screwball come-
grace as did Stanley Cavell with the and various inscriptions the author Kassovitz’s manages to “reinvent” completely) or Rereading of Renoir’s historical and ideological positioning of the author’s capacity to link these details with a larger inquiry on the historical and ideological positioning of the analyzed movies. In particular, one should mention here the exciting rereading of Renoir’s La Règle du jeu, Rossellini’s Roma, città aperta, Truffaut’s Les 400 Coups (three films one thought to know by heart, but which Conley manages to “reinvent” completely) or Kassovitz’s La Haine (whose dialogues and various inscriptions the author decodes with the same love and intelligence as did Stanley Cavell with the allegedly insignificant screwball comedies in The Pursuit of Happiness, a book I think has quite a few analogies with Cartographic Cinema). But all analyses by Conley are convincing and rewarding, and since the author happily mixes art movies and “commercial movies” (from film noir to post-cinema and neo-cinema of attraction) it is no exaggeration to hope that his cartography may become a major paradigm in critical film studies.

**OHNE SCHNUR: KUNST UND DRAHTLOSE KOMMUNIKATION**


Reviewed by Stefaan Van Ryssen, Hogeschool Gent, Belgium. E-mail: <stefaan.vanryssen@hugent.be>.

In 2004, the City of Cuxhaven in Germany commemorated the founding in 1904 of the first radiotelegraphy station to guide the ships sailing the Elbe with an exhibition and colloquium on the theme of wireless communication and art. The project chose the somewhat naïve expression “Ohne Schnur, Kunst und Drahtlose Kommunikation,” literally “Without Cord, Art and Wireless Communication,” as its title, referring to a 1997 TV commercial. The idea was to better convey the fascination that is linked to this form of communication, which technically speaking would have to be termed wireless and not cordless.

The book contains essays by the participants at the colloquium and brief presentations of the art projects that were presented during April and May 2004. As soon as wireless—or cordless, if you like—communication became a technical reality, it was appropriated by both visionaries and artists for their dreams and projects. In 1904, Hungarian inventor Nikola Tesla wrote: “A cheap and simple device, which might be carried in one’s pocket, may then be set up somewhere on sea or land, and it will record the world’s news or such special messages as may be intended for it. Thus the entire earth will be converted into a huge brain, as it were, capable of response in every one of its parts (p. 17). And in the same year, futurist Filippo Marinetti coined the term “immaginazione senza fili” (imagination without cord) to express the total freedom of artistic expression in an analogy to “telegrafia senza fili” (cordless telegraphy). Wireless surely captured the imagination of hundreds of artists, and each scientific or technological innovation was practically immediately used by someone or other to exploit its potential of quasi-simultaneity. Artists used telegram, fax, satellite, mobile phones, wireless LAN etc.—admittedly not all of them cordless—to transcend the physical limits of person-to-person communication and bridge the distance between even the most remote places on earth, and in space.

Kasimir Malevich, Suzanne Duchamp, Guillaume Apollinaire, Viktor Tatlin, to name but a few, were among the first to be inspired by radiotelegraphy, as Dieter Daniels notes in his insightful essay “The Miracle of Simultaneity.” According to the author, radiotelegraphy marked the beginning of another phase in globalization at the beginning of the 20th century. (That other icon of technical ingenuity, the Eiffel Tower, was only saved from demolition because it found a new function as a radio transmission station.)

From the other essays, it is worth mentioning that Stephen Wilson attempts to develop a taxonomy of wireless artists in “Artists as Researchers in Wireless Communication,” and Wolfgang Straus, Monika Fleischmann and Stephanie Zobel analyze the transformation of physical, emotional and epistemological spaces through the use of mobile means of interaction.

**DUB: SOUNDSCAPES AND SHATTERED SONGS IN JAMAICAN REGGAE**


Reviewed by Stefaan Van Ryssen. Hogeschool Gent, Belgium. E-mail: <stefaan.vanryssen@hugent.be>.

Dub is the lesser-known brother of ska, reggae and ragga, the highly recognizable export products of that Caribbean musical hotbed Jamaica. Probably every music lover over the age of 20 knows reggae star Bob Marley, and names like Peter Tosh and Black Uhuru might even ring a distant bell, but the grandmasters of dub are hardly known. If you recognize names like Lee Perry, King Tubby, Scientist or Coxsone Dodd, either you are a diehard reggae and dub lover, a historian of music engineering and producing or someone with an encyclopedic memory. There’s no shame in that. Dub artists have never been in the spotlight the way their reggae brethren were. Their biotope is—or rather was—the recording studio control room and the mixing boards. So, what is dub?

Michael Veal takes us on a trip—pun intended—through the Jamaican music scene from the late 1950s till the mid-1970s to explain how this extraordinary style evolved serendipitously from the earliest roots of reggae as an amalgamation of Latin-American, Western and African influences. When the live orchestras that animated public dances became economically insupportable, they were replaced by mobile “sound systems” operated by small entrepreneurs. A small number of engineers/producers provided what one could call the rhythmic and harmonic scaffolding sound mixes for the “toasting” by deejays that rode these sound systems (toasting being the vernacular term for commenting on the music, introducing the songs, announcing upcoming events and egging on the dancers). The mixes basically consisted of a recognizable drum and bass line with only sparse if any instrumental harmonic and vocal additions. In fact, adding is precisely the opposite of what the dub producers actually did, because they
stripped pre-existing songs of their riffs, lyrics and melodic lines rather than building up a mix from scratch. At least, that is how it all started.

Over the years, the dub masters became very prolific in using reverb, echo and all kinds of sound effects to mix unique “versions” because of the necessity to provide several competing sound systems with different mixes of a single recognizable “riddim.” Gradually, the producer/engineer overtook the musicians and vocalists in musical creativity and ingenuity, working their own magic to create an almost entirely autonomous subgenre of reggae. One should read the insightful analyses Michael Veal makes of some 50 dub versions of reggae songs to get an idea of the range of imaginative techniques that were developed and used by the most important artists, and of course one should listen carefully to some of the dub compilation albums that are still on the market—preferably on vinyl and with one’s private sound system in overdrive.

Fortunately, dub is much more than a list of names and a history of a music genre. The author situates the lives of the main artists and their music against the cultural and political backdrop of Jamaican history and analyzes the dialectics of music and technology. In an extremely interesting epilogue, he explores the surprisingly wide and ongoing influence of dub on American and European popular and art music. To sum it up, dub is “a system of atmospherically remixing techniques that emphasize all kinds of spatial and textures as primary musical values” (p. 61). And “to measure dub in terms of the criteria of market popularity misses the point. It is more appropriate to speak of dub as a body of production techniques that, like any innovation, is gradually subsumed into the common practice of a given tradition” (p. 189).

**LAWS OF SEEING**


Reviewed by Amy Ione, The Diatrope Institute. E-mail: <ione@diatrope.com>.

Originally published as Gesetze des Sehens (in 1936) and recently translated from German into English, Wolfgang Metzger’s (1899–1979) *Laws of Seeing* is a necessary addition to the library of anyone drawn to Gestalt Psychology. As a whole, the book demonstrates the degree to which perceptual phenomena influence studies of sensory physiology and our understanding of why we see the way we do. In this case, the analysis of ambiguous figures, hidden forms, camouflage, shadows and depth, and three-dimensional representations in paintings is so skillfully rendered that reading through the slim volume is fun in a way that belies its rigor and depth. This rigor is not the rigor of mathematics or psychophysics. Rather, Metzger is an experimenter who pays scrupulous attention to the details of his observations. Indeed, one of the fascinating aspects of *Laws of Seeing* is that the studies are not quantification but, instead, depend on pure perceptual research that is shared with us through drawings, photographs and pictures. His examples let us “see” what he means when he speaks of dissolving typical ideas about scientific versus subjective points of view. This idea of blurring our sense of the observer in relation to the observed is clearly important to his thesis.

From this leading figure in Germany’s Gestalt movement of the 20th century, Metzger’s *Laws of Seeing* places the visual in the context of human experience. Using simple and testable demonstrations, the studies encourage the reader to grapple with the arguments using his or her own eyes. It is an interactive format and the playful quality used to present the research aids Metzger in conveying his thesis that we do not decide what we see, and that the law of greatest order, or good Gestalt (*prägnanz*) means that stimuli will be perceived in a manner that is most regular, orderly, symmetrical and simple. While most of the examples suggest that the organization of the visual array occurs essentially without our involvement, Chapter 11, where Metzger looks at motion, is an exception. Here he presents several examples of the influence of experience on vision. [This translation notes that the second edition included a chapter on motion perception that was absent from the first edition, which is the one the MIT Press published in this translation. That chapter, translated by Ulric Neisser, is available on-line at <http://people.brandeis.edu/~sekuler/metzgerChapter2>].

One of the hardest aspects of the book for me to get a handle on was Metzger’s position on the relationship between physics and physiology. He opens *Laws of Seeing* by telling the reader that it deals almost exclusively with external objects, their forms and colors, their substance and their behavior. Then, he notes that it is his intention to say little about the observer. Nevertheless, according to Metzger, *Laws of Seeing* is not a physics book, but a book about human nature. It is only in the last chapter that he finally asks: “Are the laws of seeing psychological or physiological laws?” Answering this question, he sums up his position:

> [W]e have proceeded exclusively and without a side glance into physics, chemistry, anatomy, and physiology, from within, from the immediate percept, and without even thinking of rejecting any aspect of our findings or even just changing its (sic) place, just because it does not fit with our contemporary knowledge of nature so far. With our perceptual theory we do not bow to physiology, but rather we present challenges to it. Whether physiology will be able to address these challenges, whether on its own, by external observation of the body and its organs, it will be able to penetrate to the laws of perception, is pointless to argue about in advance (p. 194).

Spillmann’s introduction offers some insight here:

When discussing the physiological route, Metzger shies away from attributing the laws of seeing to the physiology of the eye because of the inadequacy of physiological explanations and the problem of overcoming the discrete (points-like) nature of the receptor mosaic, nerve fibers and brain cells. Many years later, he would call this an aporia, i.e. an irresolvable problem. He also shows convincingly that eye movements cannot bring about form vision, nor can shifts of attention. At the end of the book, Metzger explains that “we do not bow to physiology, but rather we present challenges.” Although still true, this credo has changed in modern psychophysics as Gestalt concepts are being increasingly integrated into mainstream neuroscience by researchers proposing stimulus processing beyond the classical receptive field (pp. ix–x).

Indeed, Spillmann’s penetrating introduction, although brief, adds to the book immeasurably. As noted, Spillmann also helps to place Metzger in a larger sense and in terms of contemporary vision science. Also, in pointing out Metzger’s failure to reference original Gestalt thinkers (Max...
Wertheimer, Wolfgang Köhler, Kurt Koffka, etc.), although he draws on their research, Spillmann concludes that maybe political considerations were to blame. Many of the leaders of the Gestalt School were forced to flee Germany while Metzger stayed and continued his academic career during the Nazi regime. This conclusion is buttressed by the addition of these “missing” references to the expanded second (1954) and third (1975) editions, with the third edition dedicated to Max Wertheimer. Also noteworthy is Spillmann’s thought that it makes one wonder what course research into vision and perception might have taken had the Laws of Seeing been available to the English-speaking scientific community at the time of its writing. Many of the ideas presented, for example in the fields of shape-from-motion, depth-from-shading, context dependent and viewpoint invariance, were re-discovered although the facts were already known several decades before.

I have always found that people are drawn to study vision on the basis of their own excitement about visual experience. Metzger’s own background seems, at least in part, to affirm this. Metzger had served on the front lines during World War I. He was hit by a grenade and the left part of his face was severely wounded. Although a French military surgeon tried to save his injured eye while he was a prisoner, the operation was unsuccessful. The eye was removed, and this trauma haunted him for the rest of his life. After the war, he returned to the university, where he had been a German Literature student. After enrolling in an introductory seminar presented by Wolfgang Köhler and Max Wertheimer, he revised his career path. The studies of perceptual problems, particularly perceptual constancy and contrast, fascinated the young student, who then decided to study under these two men.

A central feature in Metzger’s career was his intense interest in monocular factors of depth perception. It seems the loss of his eye led him to wonder why his depth perception did not seem to be affected, since shortly before his entry into the military he had learned that depth perception is a function of the disparity between the images of the two retinas. This comes up early in the volume, when he mentions Hering’s hypothesis that the depth of binocularly seen objects is not mentally reconstructed on the basis of the two retinal images.

Finally, as a perceptual rather than a quantitative study, Metzger’s approach, perhaps not surprisingly, brings to mind the intuitive searching for visual “tricks” that artists use as they move their work along. Several chapters in the book are related to traditional art. His discussions of brightness and spatial form extend to include how we see art and the devices artists use (e.g. shading) to render naturalistic images. The depth of perspective, brightness constancy and shape cues are also reviewed in terms of pragnanz. What I found particularly intriguing is that the type of perceptual process Metzger highlights is often associated with the Space and Light artists (James Turrell, Robert Irwin, Bruce Nauman, Eric Orr, Larry Bell, etc.), whose work with perceptual modalities took form late in the 20th century. Ironically, before writing the Laws of Seeing Metzger discovered the perception of the homogeneous visual field (Ganzfeld). This work was so widely read that ganzfeld is now a generally accepted term, and many of James Turrell’s installations are ganzfeld pieces in which he floods interior spaces with colored light. Within these environments, viewers feel absorbed into dense, haze-like atmospheres of color.

Artists interested in perception are frequently drawn to the psychophysical arena to learn more about how their own intuitive perceptual sense works and perceive how/where their probing intersects with the actual workings of the eye. It would be fascinating to see whether Metzger would react similarly to the new techniques for studying vision if he were alive today. Regardless of where he would position himself now, this classic study on visual perception remains an astonishingly current work, although many of the ideas are dated. Spillmann points out that the underlying concepts remain cornerstones of vision research. Despite substantial advances in our understanding of the structural, functional and computational properties of the brain, the study of perceptual phenomena remains the most solid basis for sensory physiology and for the understanding of how we see. Finally, Metzger’s sensitivity to our visual experience recommends the work. Given its accessibility and historical importance, this book will appeal to all in fields that intersect with vision and perception (psychologists, biologists, neurophysiologists, and researchers in computational vision, artists, designers, and philosophers).
as key monuments in the history of architecture—much of Ban’s work is temporary, even ephemeral, not unlike the original plan for the Crystal Palace. The preeminent goal of his work is its function. Its lifespan is less important than is its affordability, rapidity of construction, and the ease of removing the structure when it has outlived its usefulness, at which time the parts are recycled. Although he addresses immediate needs, Ban sees architectural forms as abstractions, somewhat as Frank Lloyd Wright did, because of his childhood experience with the geometric wooden blocks of Friedrich Froebel, the originator of kindergarten. In 2000, *Time* magazine chose him as one of the new century’s leading innovators. Very likely they were right, and it would surely be wise to find out more about this resourceful architect.

(Reprinted by permission from *Ballast Quarterly Review*, Volume 21 Number 1, Autumn 2007.)

**FOREVER**


Reviewed by Roy R. Behrens, Department of Art, University of Northern Iowa.

E-mail: <ballast@netius.net>.


This is a thoughtful, informative film about one of the most interesting places on Earth: a centuries-old, 118-acre cemetery, the largest burial area in the City of Paris. Established by Napoleon in 1804, it is officially known as the Père Lachaise Cemetery, in homage to the Catholic priest who was confessor to King Louis XIV and who had earlier lived on the land. When the cemetery first opened, it was promoted as a site in which the famous (along with the unknown) would be eager to be buried, and that is precisely what happened. It now houses more than 300,000 graves, including those of Friedrich Nietzsche, Edith Piaf, Georges Melies, Eugene Delacroix, Frederic Chopin, Gertrude Stein and Alice B. Toklas, Isadora Duncan, Marcel Proust, Maria Callas, Georges Bizet, Georges Seurat and scores of other celebrities. Among its most popular “interns” is American rock musician Jim Morrison, whose tomb is so heavily visited by starstruck admirers from all over the world that it has to be constantly guarded. Along the paths and alleys in Père Lachaise, on benches and other fortuitous spots, are graffitied arrows that direct (or impossibly mislead) doe-eyed devotees of “Jim” to his final resting place. If this film were only a factual account of the cemetery and its history, it wouldn’t be half as compelling. Instead, without narration, it provides us a sense of “being there,” an impression of what it is probably like to wander about at Père Lachaise, observing and chatting with those who show up, including women who faithfully come to take care of the graves of their loved ones. The film’s most vivid moments are fragments of conversation with people whom the film crew encountered at this or that setting: a taxi driver in exile from Iran (but a singer at night), who regularly visits the monument of a major poet from his own country, and who, after coaxing, sings one of the poems by the poet; a young Japanese pianist, who comes to the grave of composer Frederic Chopin, whose music she plays, and whose grave is a stirring reminder of her father, who died prematurely; the hauntingly beautiful daughter (now middle-aged) of an Armenian craftsman, who for years has devotedly cared for (and talked to) her father’s resting place. But there are others who are equally interesting. This film, endless in its fascination, is comprised of astonishing insights about how people behave toward the buried remains of those they might consider kin—even if they were never related.

(Reprinted by permission from *Ballast Quarterly Review*, Volume 21 Number 1, Autumn 2007.)
Nanotechnology, Nanoscale Science and Art

Leonardo Special Section

Guest Editors: Tom Rockwell and Tami I. Spector

Over the last decade, “nano” has become the buzzword signifying everything from imagined atomic-scale robotic utopias to small electronics. For scientists the shift toward nano has also become ubiquitous; what used to be referred to as “molecular” has been reframed as “nano.” 27 journals devoted to nanotech/nanoscience are now published, and the National Science Foundation and other granting agencies have devoted a significant amount of funding toward nanotech/nanoscience. Among engineers, scientists and science-studies scholars, discussions of the potential of nanotech/nanoscience abound, including conferences that debate the pros and cons of a nano-hegemony and attempt to debunk some of the hype. Artists, however, have only begun to explore this emergent scientific field, leaving it wide open for creative interpretation. With this special section of Leonardo we hope to ignite artists’ interest in the exploration of nanotech/nanoscience and encourage scientists, scholars and educators to contemplate the implications of an art-nanotech/nanoscience connection.

Leonardo, in collaboration with the Exploratorium under the auspices of the Nanotech Informal Science Education Network, will publish a series of special sections periodically over the next 5 years exploring the intersections of nanotech/nanoscience and art. We are especially seeking submissions of artworks (visual, performance, sound, etc.) with artists’ statements explaining the relationship of the work to nanotech/nanoscience; essays from scientists, engineers and scholars exploring the connection between nanotech/nanoscience and art; and essays and visuals aiming at nanotech/nanoscience education that uses the arts as a pedagogical tool.

Interested artists and authors are invited to send proposals, queries and/or manuscripts to the Leonardo editorial office: Leonardo, 211 Sutter St., Ste. 501, San Francisco, CA 94108, U.S.A. E-mail: <isast@leonardo.info>. Editorial Guidelines for Authors can be found at <www.leonardo.info>.

This project is supported by the National Science Foundation under Grant No. ESI-0532536.