

## **Introduction: Biocentrism as a constituent element of Modernism**

*Oliver A.I. Botar and Isabel Wünsche*

Global warming, mass extinction of animal and plant species, desertification of enormous tracts of land, the destruction of rainforests and boreal forests, and the death of the coral reefs are pressing issues of our time. Since the period of the waning of Modernism over the past forty years, we have become increasingly aware of the advent of an environmental crisis of almost unimaginable proportions. Given also the breathtaking advances in biology, particularly genetics, over the past few decades, and hotly debated political issues such as the ethics of stem-cell research, we are increasingly reminded of issues of the definition and control of life and the central role played by the life sciences. With the requirement, therefore, to rethink our relationship with what we have since the Enlightenment termed the “natural,” the editors think it imperative that we gain a better understanding of the ways in which attitudes towards “nature” and “life” shaped our culture and in which ways they helped form modernity and engender Modernism. It is widely assumed that Modernist culture had little interest in or even awareness of this looming crisis, or even of “nature” as such. Yet a closer examination of almost any genre of Modernist artistic and cultural production reveals an active interest in the categories of “life,” the “organic,” and even the destruction of the environment in modernity. While as citizens, we might take an active role in dealing with today’s environmental problems, as historians, it is not necessarily our job to address them, but it *is* our role to address the history of the developing awareness of these crises. Clearly, the closely related histories of biology and the life sciences on the one hand, and of environmentalism on the other, are central to this task. However, cultural history, including its components such as visual studies, art and architectural history and the history of urban planning, also has an important role to play in this regard, particularly within a context in which there has been such wilful ignorance of an aspect of our common cultural inheritance. A denial of an awareness of our place in “nature” among the Moderns may act as a justification for

a continued disavowal of such concerns. Or it may result in the unfair characterization of Modernist culture as having been somehow “against” nature, and therefore as having been merely a part of the problem and never of its possible solutions. What we now know is that many members of the various Modernist cultural movements were early adherents of the emergent environmental consciousness that permeated *fin de siècle* culture.

In this anthology, we look at some aspects of a largely neglected field of Modernist studies: the role played by nature-centric ideologies of the late nineteenth to mid-twentieth centuries, that is, the years after the rise of the science of biology during the nineteenth century, up to the period just before the emergence of the current environmentalist movement during the 1960s. Indeed, there is a serious lack in cultural history, which, by virtually ignoring the *fin de siècle* discourse around nature and the participation of important figures in it, has insufficiently contextualized Modernist culture. When not ignoring the interconnections between nature-centric ideology and Modernism, historians were denying it, emphasizing, instead, its anti-natural, so-called “mechanistic” aspects. In defining “nature-centrism” or “Biocentrism,” what we have done is to identify a series of discourses which, while differing from each other in certain respects, shared a set of themes, attitudes, and topoi relating to nature, biology, and epistemology. While distinguishable from each other, these discourses held in common a set of tenets that included a belief in the primacy of life and life processes, of biology as the paradigmatic science of the age, as well as an anti-anthropocentric worldview, and an implied or expressed environmentalism. Indeed, the turn of the nineteenth–twentieth centuries was characterized by a revival of aspects of Romanticism, among them an intuitive, idealistic, holistic, or even metaphysical attitude towards the idea of “nature” and the experience of the unity of all life. The German philosopher Max Scheler described the revival in 1913 as “groups of movements that, without or with ties to the great reactionary movement of Romanticism, wish to renew the *Gestalt* of the human heart.”<sup>1</sup>

It is our contention that it is impossible to fully comprehend Modernist culture without properly framing the nature-centric worldview in early twentieth-century Europe. However, such a frame or category has traditionally not been in use within the field of cultural history. In 1998, Oliver Botar proposed the use of the German term *Biozentrik* or Biocentrism for its designation.<sup>2</sup> This term was used principally during the first half of the last century by the German philosopher Ludwig Klages and by the Austro-Hungarian biologist and popular scientific writer Raoul Heinrich Francé, both of whom had a significant effect on many cultural figures in Central Europe.<sup>3</sup> The term is employed in contemporary English by deep ecologists such as Arne Naess in approximately the same sense. This, coupled with the fact that its early twentieth-century usage within the crucial German-speaking context gives it historical legitimacy, induced us to adopt it for our purposes in this anthology. Stated succinctly “Biocentrism” is Nature Romanticism updated by the Biologism of the mid- to late nineteenth century.<sup>4</sup> As the essays in

this volume demonstrate, it is, however, important to note that the relative proportions of these two components varied between individuals, between countries, and over time. For example, the artistic approaches of the members of the early Russian avant-garde in St. Petersburg were predominantly shaped by organic models that resulted from the artists' nature-centric worldviews, which were based on Nature Romanticism updated by recent discoveries in the life sciences along with a strong interest in metaphysical inquiry, while the French discourse of the same time was more dominated by Bergsonism and Biocentric Anarchist ideas. While László Moholy-Nagy, the Hungarian artist and theorist active in Germany, England, and the United States, represented an almost entirely biologicistic viewpoint—that is, one largely devoid of metaphysical or Romantic positions<sup>5</sup>—an artist such as Wassily Kandinsky, active during his career within the Russian, German, and French artistic contexts, represented a prominent case in which an artist moved from a more metaphysical worldview towards a more biologicistic position.

The interconnectedness between the development of biology as a science and nature-centric positions in philosophical and intellectual thought was, as George Rousseau put it in 1992, intimately associated with the rise of Modernist culture during the second half of the nineteenth century:

It is hardly accidental that ... modernism ... arises ... simultaneously with modern biology. The two viewed in tandem ... offer the most substantial proof for the unity of cultural development and pose a significant challenge to those who claim that large concurrent cultural movements usually have little impact on each other. And it is ... the vitalism inherent in early modern biology that must concern us if we hope to grasp why modernism has emerged at a particular moment under specific cultural conditions.<sup>6</sup>

It is therefore not surprising that our research has indicated a pervasive interest on the part of many early to mid-twentieth-century Modernist visual cultural practitioners in this particular set of ideas. Artists and theorists as varied and as central to the Modernist cultural project as Hans Arp, Constantin Brancuși, Raymond Duchamp-Villon, Max Ernst, Pavel Filonov, Naum Gabo, Barbara Hepworth, Paul Klee, František Kupka, Franz Marc, Joan Miró, Henry Moore, Mikhail Matiushin, Vladimir Tatlin, László Moholy-Nagy, Georgia O'Keeffe, Jackson Pollock, and Władysław Strzemiński; photographers such as Ansel Adams and Edward Weston; designers, including Roberto Burle-Marx, Charles and Ray Eames, Russel Wright, and Eva Zeisel; architects such as Antonio Gaudí, Ludwig Mies van der Rohe, and Frank Lloyd Wright; and the art critics Ernő Kállai and Herbert Read, all pursued Biocentric approaches in their work.

Many, though by no means all, of these artists and designers worked in the style of "Biomorphic Modernism," that is, in a style characterized by its evocative swells, curves and arabesques. Echoing the forms of cells, organelles and fetuses, it was in some sense seen by artists to figure the conceptions of "life," "origins," and "nature." While these are all themes and motifs that refer

to the life sciences or to concepts current within the Biocentric discourses, when it comes to Biocentrism as a worldview espoused by some artists, there is no *necessary* connection between ideological background and style. Thus, other artists such as László Moholy-Nagy, Lazar El Lissitzky, and Ludwig Mies van der Rohe followed Raoul Francé in regarding all technologies, including human ones, as part of the larger complex of “nature,” and therefore they did not feel compelled to work in a biomorphic style. They felt justified in working in more technologically or geometrically oriented styles while espousing nature-centric views.

This stylistic heterogeneity is only one indication of the fact that Biocentric cultural practitioners formed neither a coherent school nor a movement. They formed, rather, a broad-based trend that, while not usually conscious of itself, reflected a wider intellectual current within the culture of modernity. But this was the case even with regard to this wider intellectual movement. Rather than describing a self-conscious movement, we see the term “Biocentrism” as a concept, or a frame that enables us to take note of phenomena or aspects thereof that would otherwise go unnoticed. It is a historical construct, then, rather than a term describing some putative or “rediscovered” aspect of historical reality. Like many useful frames, the more one looks, the more one sees; the more one moves it about while looking, the more one sees. Looking through the frame of “Biocentrism”, then, we see work to be done in the fields of the histories of the visual, of art, architecture and landscape architecture, of design, photography, and urban planning, as well as of aesthetics, throughout Europe and the Americas, and perhaps beyond, and at all points along the traditional left–right political spectrum.

While there is a comparatively large body of literature on nature-centrism and particular artists such as Hans Arp, Arthur Dove, Antonio Gaudi, and Paul Klee; on Biomorphic Modernism in art, on design and architecture; and on organic ideology in modern architecture and urban planning, no comprehensive studies on the connection between Biocentrism and modernity or Biocentrism and Modernism exist. The basic references in this regard remain Lancelot Law Whyte’s anthology *Aspects of Form*, George Rousseau’s anthology *Organic Form: The Life of an Idea*, and Frederick Burwick’s anthologies *Approaches to Organic Form* and (with Paul Douglass) *The Crisis in Modernism: Bergson and the Vitalist Controversy*.<sup>7</sup> Other important precedents in the field of cultural history include books by Eva Barlösius, Anna Bramwell, Donna Jean Harraway, Anne Harrington, Elenor Jain, Jackson Lears, Ulrich Linse, David Pepper, and Jürgen Wolschke-Bulmahn.<sup>8</sup> Some literary scholars, among them Maïke Arz, Monika Fick, and Gunter Martens, have also explored the discourses from their perspective.<sup>9</sup> In art history, there have been a few dissertations written on related subjects, including those of three contributors to this volume,<sup>10</sup> as well as a number of works that have broached the wider subject of nature, organicism, and Modernism.<sup>11</sup> Another publication in German, Annette Geiger, Stefanie Hennecke and Christin Kempf’s anthology *Spielarten des Organischen*, published while the present volume was in preparation,

is along the same lines as our own endeavor and attempts to offer a wider view of the connection between organicism and Modernist art, architecture, and design.<sup>12</sup> The time seems ripe to examine this expanding field in English.

This anthology consists of three thematic sections. The first three essays concentrate on the philosophical worldviews and cultural concepts of Biocentrism, *Bioromantik*, and Biomorphism, as well as their emergence and influence upon artistic production of the late nineteenth and early twentieth centuries. Focusing on philosophical problems of meaning and ontology, particular emphasis is placed on the various ways in which organic metaphors and models derived from the life sciences shaped the cultural and artistic discourse of the period.

Adopting the German term *Biozentrik*, Oliver A. I. Botar views Biocentrism as a worldview of the late nineteenth and early twentieth centuries that thoroughly informed Modernist art, architecture, product design, urban planning, and landscape design. Shaped by the *Lebensphilosophie* of Friedrich Nietzsche, Henri Bergson, William James, Georg Simmel, and Ludwig Klages on the one hand, and influenced by the work of scientists with philosophical pretensions, such as Ernst Haeckel, Hans Driesch, Raoul Francé, and Ernst Mach, on the other, Biocentrism also includes aspects of the Neo-Romanticist revival, among them an intuitive, idealistic, Holistic, and even metaphysical attitude towards the idea of nature and the experience of the unity of all forms of life. Botar examines a wide array of nature-centric discourses and beliefs, including Neo-Vitalism, Organicism/Holism, the Monist League, *Lebensphilosophie*, Neo-Lamarckism, the *Neue Naturphilosophie*, biologism, and the *Reformbewegung*, and emphasizes that, while the groupings did not hold identical bundles of concepts in common, they did hold in common the privileging of biology as the source for the paradigmatic metaphor of science, society, and aesthetics; a consequent, biologically based epistemology; an emphasis on the centrality of “nature,” “life,” and life-processes rather than “culture”; an anti-anthropocentric *Weltanschauung*; the self-directedness and “unity” of all life; a valorization of the quasi-mystical feeling of unity with all nature, what Simmel termed the *kosmovitalen Einsföhlung*; a stress on flux and mutability in nature rather than stasis; and a concern for “wholeness” as opposed to reduction at all levels. Thus, he defines Biocentrism as *Naturromantik* updated by nineteenth-century biologism.

Monika Wucher extends Botar’s discussion through a critical examination of *Bioromantik* (Bioromanticism), a term coined by the Hungarian art critic Ernő [Ernst] Kállai at the beginning of the 1930s. Convinced that psychological and biological factors would have a greater effect on art than supposed rationality and objectivity, Kállai believed that *Bioromantik* would “lead the intellect ... to the primary sources and basic drives of life.” Wucher demonstrates that Kállai’s specific approach of linking art and popular scientific knowledge offered an opportunity to mediate between ideologies, conflicts, and opposing standpoints. In examining Kállai’s fictitious discussion with Adolf Behne about Berlin’s new commercial boulevards, she points out that, although

Behne emphasized that sensations were evoked by certain impressions—most vividly when tension was given form—Kállai held that they were *optische Erlebnistriebe* (forces of optical receptivity) that had to be stimulated in some way because he saw the potential of art in the evolution of “rightful resistance against the mechanistic works of ... capitalistic-utilitarian civilizations.”

Jennifer Mundy discusses the origin and early use of the term “biomorphic” and examines the reasons why the term has not gained wide acceptance within art history. Originally used as an etymologically logical term for designs in late nineteenth-century anthropology, the term “biomorphism” was coined in 1935 by Geoffrey Grigson to characterize a new, vital type of abstraction that combined geometrical designs with the exercise of the memory and the emotions. Grigson used the term to promote “a resynthesising of intellect with emotion, of form with matter, of geometric with organic.” Alfred H. Barr, first director of the Museum of Modern Art in New York, used it to contrast the two main trends in non-figurative art: “the shape of the square” with “the silhouette of the amoeba.” In presenting contemporary art in terms of the rectilinear and rational versus the organic and emotive, Barr was attempting to match the diverse developments of modern art with the conceptual schemas of Wölfflinian formalism in art history. Maintaining that there were two types of art: representational works and abstract compositions, he viewed biomorphism as a form of near-abstraction. Although the term biomorphism was revived in the 1960s by Lawrence Alloway and William Rubin, it never was used to identify a particular artistic movement, but only to describe the fluid, organic shapes in the work of artists as diverse as Hans Arp, Constantin Brancusi, Jean Hélion, Wassily Kandinsky, Joan Miró, Henry Moore, Yves Tanguy, and others.

The second set of essays explores the application of nature-centric worldviews and organic models to art and architectural historiography, urban planning and design, as well as Modernist art theory. Exploring interpretative models developed through the implementation of biological concepts in art and design theory, the authors demonstrate that such strategies not only serve to reinterpret human history and to redefine the relationship between humanity and nature, but they can acquire particular social, cultural, and/or political meanings.

Tracing the intersections between the natural science investigations of the latent energy of inorganic matter and the historiographies of art and architecture in early twentieth-century German art history, Spyros Papapetros looks at the animation of the inorganic in the artistic and architectural discourses of the time in a discussion of Alois Riegl’s crystalline rotundas, Ernst Haeckel’s living crystals, Wilhelm Worringer’s strapwork ornaments, and Aby Warburg’s Monist psychology of art. While Darwin’s diagrams of “stimulus movement” influenced Riegl’s distinction between the kinetic qualities of the basilica and the non-kinetic features of the rotunda, Haeckel’s radiolaria and Lehmann’s liquid crystals provided the Monist proof that the distinction between the organic and the inorganic did not exist and that all matter was animate.

In his 1907 doctoral dissertation *Abstraktion und Einfühlung*, Worringer coined the phrase “the animation of the inorganic.” In contrast to Haeckel’s Monism, Worringer’s scheme is not a dialectical synthesis between the animate and the inanimate, the organic and the inorganic; for him, the animation of the inorganic is a permanent reaction, an irresolvable contradiction between two opposite states: abstraction and empathy, fear and attraction, resistance and extension. Inspired by the publications of Haeckel, Roberto Benzoni, and Johannes Schlaf, Warburg created what he called “dynamic psychomonism,” an attempt to compensate between two polarities, such as subject and object, empathy and distance, and the identification of magic and the division of logic.

Exploring analogies between natural and artistic design, David Haney and Elke Sohn discuss the concept of the city as an organism in twentieth-century gardening and urban planning in Germany. With the emergence of the Reform Movements, garden and city were no longer seen in isolation, but in interaction with the larger environment: soil, landscape, and cosmos. The discourse on the *Siedlung* as an organism focused on autonomy, vitality, self-determination, natural growth, cultural improvement, and economic and intellectual rootedness in the region. “Natural methods” derived from the natural sciences and nature-oriented philosophies, including Neo-Lamarckism, Monism, biologism, and organicism, were used as models for organic garden- and city-planning structures. Nutrition, hygiene, and fresh air and light were some of the themes that were particularly emphasized by the reformers. Building upon the opposition of city versus country, the reform movements developed a variety of approaches reaching from explicit anti-urbanism to determined efforts to redesign the city as an holistic entity embedded in the surrounding environment. Urban concepts such as the *Gartenstadt*, the *Stadt-Land-Kultur*, the *Stadtlandschaft*, and the *Stadt-Land-Stadt* reflected the widespread desire to wed settlements and green spaces. The authors demonstrate the strong belief in the interrelatedness of urban settlement and agriculture that was incorporated into the full spectrum of political and social reform movements, ranging from conservative and racist, to communist and anarchist.

Isabel Wünsche examines the holistic worldviews and organic approaches to art that were particularly prominent among the members of the prerevolutionary avant-garde in St. Petersburg. Rather than viewing artistic activity as a passive imitation of nature, these artists saw it as an active expression of the relationship between the artist and the natural environment, calling for a new, absolute art based on the universal laws and organic principles of nature rather than being mere copies of it. Their understanding of the active role of the artist and the crucial position of the work of art in the overall process of human evolution was shaped by evolutionary theory, particularly the Lamarckian tradition of a teleological development toward increasing perfection. The artists’ preoccupation with the basic elements, fundamental principles, and creative processes that constitute the work of art found its reflection in the discussion of *faktura*, a term describing the “texture” of the work of art—that is, the physical properties and energetic

potential of the materials and the organic principles and natural laws inherent in the creative process—thus embodying the fundamental difference between the Russian focus on the artistic process and the Western European focus on the stylistic results of pictorial invention. Investigating the role that the life sciences played in providing organic metaphors and biological models for art and design in early twentieth-century Russian culture, Wünsche demonstrates that, contrary to the commonly held view that the Russian avant-garde was a modernist movement in the Cubist-Constructivist tradition, the works of artists such as Pavel Filonov, Nikolai Kulbin, Mikhail Matiushin, Vladimir Tatlin, and even Kazimir Malevich were shaped by nature-centric worldviews and organic principles.

Approaching Biocentrism in art from a political perspective—that is, at the intersection between art and politics—Allan Antliff explores Herbert Read's concept of Modernism with which he defended abstract art and Surrealism in the name of an organicist politics of anarchism. An admirer of the Russian anarchist Peter Kropotkin, whose writings he published in 1942, Read brought not only abstract art but also Surrealism under the umbrella of Biocentrism and defended both against British Communist Party assertions that realism was the only revolutionary art form. He maintained that Capitalism fragmented the social organism and repressed artistic activity in the process, but that Soviet Communism and Fascism were equally damaging because they both subordinated all aspects of society, including the arts, to the central control of the state. In *Art and Industry* (1935), Read defended abstract art for keeping “the formal essence of all art” alive; in *Art and Society* (1937), he wrote that Surrealism's goal was to unify our psyche with our social life in recognition that, at present, there was a profound lack of “organic connection” between the two. However, in *Poetry and Anarchism* (1938), Read predicted that artists would continue creating art attuned to the unconscious, inspired as they would be by the “natural freedom” permeating an anarchist society. Thus, Surrealism, like abstraction, would transcend its condition under capitalism and be integrated into the social organism.

The last four essays present specific case studies on the work of individual artists, among them Raymond Duchamp-Villon, Paul Klee, Wassily Kandinsky, and Jackson Pollock. The concern here is to explore the ways in which these artists have employed Biocentric ideas as inspiration for and/or as explanations of their artistic practice and to consider their significance for metaphysical meaning and historical significance.

Acknowledging that in recent years the structuralist methodology has dominated the study of Cubist collage, Mark Antliff sets out to consider the role of organicist metaphors in the art and art criticism of the so-called Puteaux Cubists, particularly focusing on the work of Raymond Duchamp-Villon. He argues that the Puteaux Cubists simultaneously embraced Bergsonian paradigms and failed to fully grasp the “postmodernist” implications of a philosophy that ultimately transcended the “closure” usually imputed to organicist conceptions. Duchamp-Villon, whose organicism differed greatly from that of

his Cubist colleagues (who rejected the decorative altogether), asserted that his sculptural reliefs could exist both as autonomous, organic wholes and as rhythmic voices in a larger decorative chorus. To his mind, the rhythm of a decorative ensemble does not become overly “simple” or extensive by virtue of the surface covered, but retains its organic, living quality; each sculpture in an ensemble is an organism subsumed within the larger collective rhythm of a new organism. Antliff demonstrates that Duchamp-Villon thus could claim that his sculpture was both closed and open—that is, in a condition of physical being and of durational becoming in the artistic imagination. The synchronic arrangement of sculptures in a decorative ensemble allowed for both their organic integrity and their ability to meld into the greater organic form that constitutes the decorative program.

Sara Lynn Henry looks at the impact of modern geology and meteorology on the structure and iconography of Paul Klee’s pictorial language. Examining a body of his work, she traces Klee’s scientific curiosity, particularly by looking at his explorations of geological life, the movement of water, and the weather. Identifying phenomena such as the diagrammatic use of signs, geological layering, botanical proliferation, and rhythmic wave patterns, she stresses the artist’s ability to abstractly symbolize and structure nature according to its principles and according to his own imagination. For Klee, science was not a limitation in order to achieve accurate representation, but rather an opening to freedom and mobility; the realization of the continuous genesis of new forms gave him a certain freedom to invent new forms—“images of nature’s potentialities.” The result was an undermining of the Romantic nineteenth-century sense of scale and place of the human within the everyday landscape. As a twentieth-century artist in the Neo-Romanticist tradition, Klee thus found himself between the poles of “natural law” and the irrational self.

To highlight the ways in which the artistic *œuvres* of individual artists changed over time, the editors choose to include Vivian Endicott Barnett’s 1985 classic essay on Wassily Kandinsky’s work of his Parisian period. Although it is well known that Kandinsky’s early work was strongly shaped by metaphysics and the Occult, it is less known that by the 1930s his thinking was more biologicistic which, combined with his deeply rooted Nature Romanticism, resulted in what was essentially a Biocentric position. Thus, Barnett focuses on the introduction of biological images into the artist’s *œuvre*. She demonstrates that Kandinsky’s newly awoken preference for abstraction, which had its origin in the natural forms of organic life, can be linked to both the influence of artists such as Hans Arp, Max Ernst, and Joan Miró, all of whom he met in Paris, and Kandinsky’s interests in the natural sciences. Tracing his biological motifs back to the illustrations of single-celled organisms, embryos, plants and animals in publications such as Ernst Haeckel’s *Kunstformen der Natur*, Karl Blossfeldt’s *Urformen der Kunst*, the encyclopedia *Die Kultur der Gegenwart*, and scientific journals such as *Die Koralle*, Barnett outlines the degree to which Kandinsky’s paintings of his early Parisian period were influenced by biomorphic forms and motifs derived from microbiology.

Examining Jackson Pollock's 1949 collaboration with Peter Blake to create a model for an Ideal Museum, Elizabeth Langhorne sees in Abstract Expressionism an attempt to leave tradition behind in favor of what can be called a Biocentric approach. While the "oneness" with nature has been dismissed in modern and postmodern discourse, she demonstrates that, in leaving panel painting behind, Pollock was struggling to make "life" or "nature" rather than the human subject the center of his art. Blake's Ideal Museum allowed Pollock to leave behind the optical Renaissance tradition within which Clement Greenberg, Michael Fried, and Pepe Karmel have placed Pollock's art. Langhorne emphasizes that, to the degree that Pollock's mimesis of nature invites the viewer's bodily participation, his art goes beyond the old anthropocentrism—centered on the viewer as the seeing, knowing subject—to a new Biocentrism. Thus, the dream of an opening to nature embodied in the Ideal Museum offers an alternative to the scientific approach, with its detachment from and sense of control over nature that underlies the Renaissance paradigm of painting.

While the contributions to this anthology include a wide range of media and topics, the publication does not cover all areas of Modernist cultural practice. Nature-centrism and architecture is an exceedingly rich field of inquiry, and there exists already a fairly plentiful literature on this subject, so we have consciously emphasized other aspects of cultural history over it.<sup>13</sup> Designers such as Charles and Ray Eames, László Moholy-Nagy, Vladimir Tatlin, Russel Wright, Alvar Aalto, Tapio Wirkkala, and Eva Zeisel self-consciously invoked natural analogies and larger environmental frameworks in their works—a thorough study of their design practices could, regrettably, not be included in this book. Photographers have, ever since the invention of the medium, focused their viewfinders on aspects of nature, and some of them, such as Ansel Adams and Edward Weston, became pioneer environmental activists.<sup>14</sup> Indeed, the first organized environmentalist movement, the Sierra Club, established a photographic collection as early as 1925, in which Adams played an important role.<sup>15</sup> Meanwhile, photography was put to use imaging scientific phenomena, aspects of nature invisible to the unaided human eye, and Modernists such as Moholy-Nagy were eager to harness such discoveries to their practice.<sup>16</sup> We look forward to future publications for a treatment of this important theme. Thus, we see this anthology as the beginning of a more widespread process of the re-examination of our Modernist cultural heritage in all its medial, ideological, and geographic heterogeneity, and throughout its historical run.

## Notes

- 1 Max Scheler, *Wesen und Formen der Sympathie* (1913), 2nd ed. 1922 (Berne: Francke, 1973), 104.

- 2 Oliver A.I. Botar, "Prolegomena to the Study of Biomorphic Modernism: Biocentrism, László Moholy-Nagy's 'New Vision' and Ernő Kállai's *Bioromantik*," Ph.D. dissertation, University of Toronto, 1998.
- 3 *Ibid.*, Chapter 2.
- 4 *Ibid.*, 7.
- 5 On Moholy-Nagy and Biocentrism, see Oliver A.I. Botar, "The Roots of László Moholy-Nagy's Biocentric Constructivism," in Eduardo Kac, ed., *Signs of Life: Bio Art and Beyond* (Cambridge, MA: The MIT Press, 2007), 315–44.
- 6 George Rousseau, "The Perpetual Crises of Modernism and the Traditions of Enlightenment Vitalism: With a Note on Mikhail Bakhtin," in Frederick Burwick and Paul Douglass, eds., *The Crisis in Modernism: Bergson and the Vitalist Controversy* (Cambridge: Cambridge University Press, 1992), 20.
- 7 Lancelot Law Whyte, ed., *Aspects of Form: A Symposium on Form and Nature in Art* (1951). Preface by Herbert Read (Bloomington, IN and London: Indiana University Press, 1961); George S. Rousseau, ed., *Organic Form: The Life of an Idea* (London and Boston: Routledge and Kegan Paul, 1972); Frederick Burwick, ed., *Approaches to Organic Form: Permutations in Science and Culture* (Dordrecht: D. Reidel, 1987); Frederick Burwick and Paul Douglas, eds., *The Crisis in Modernism: Bergson and the Vitalist Controversy* (Cambridge: Cambridge University Press, 1992).
- 8 Eva Barlösius, *Naturgemäße Lebensführung: Zur Geschichte der Lebensreform um die Jahrhundertwende* (Frankfurt am Main and New York: Campus, 1997); Anna Bramwell, *Ecology in the 20th Century: A History* (New Haven, CT: Yale University Press, 1989); Götz Großklaus and Ernst Oldemeyer, eds., *Natur als Gegenbegriff: Beiträge zur Kulturgeschichte der Natur* (Karlsruhe: Leopard, 1983); Donna Jeanne Haraway, *Crystals, Fabrics, and Fields: Metaphors of Organicism in Twentieth-Century Developmental Biology* (New Haven, CT: Yale University Press, 1976); Anne Harrington, *Reenchanting Science: Holism in German Culture from Wilhelm II to Hitler* (Princeton, NJ: Princeton University Press, 1996); Elenor Jain, *Das Prinzip Leben: Lebensphilosophie und ästhetische Erziehung* (Frankfurt am Main: Peter Lang, 1993); T.J. Jackson Lears, *No Place of Grace: Antimodernism and the Transformation of American Culture 1880–1920* (New York: Pantheon, 1981); Ulrich Linse, *Ökopax und Anarchie. Eine Geschichte des ökologischen Bewegungen in Deutschland* (Munich: DTV, 1986); David Pepper, *The Roots of Modern Environmentalism* (London: Croom Helm, 1984); Jürgen Wolschke-Bulmahn, *Auf der Suche nach Arkadien: Zur Landschaftsidealen und Formen der Naturaneignung in der Jugendbewegung und ihrer Bedeutung für die Landespflege* (Munich: Minerva, 1990).
- 9 Maike Arz, *Literatur und Lebenskraft: Vitalistische Naturforschung und bürgerliche Literatur um 1800* (Stuttgart: M. & P. Verlag für Wissenschaft und Forschung, 1996); Monika Fick, *Sinnenwelt und Weltseele: Der psychophysische Monismus in der Literatur der Jahrhundertwende* (Tübingen: Max Niemeyer, 1993); Gunter Martens, *Vitalismus und Expressionismus: Ein Beitrag zur Genese und Deutung expressionistischer Stilstrukturen und Motive* (Stuttgart: W. Kohlhammer, 1971).
- 10 Botar, "Prolegomena"; Jennifer Virginia Mundy, "Biomorphism," Ph.D. dissertation, University of London, 1987); Isabel Wünsche, "Das Kunstkonzept der Organischen Kultur in der Kunst der russischen Avantgarde," Ph.D. dissertation, Heidelberg University, 1997 (Ketsch: Mikroform Dissertation, 1997).
- 11 Mark Antliff, *Inventing Bergson: Cultural Politics and the Parisian Avant-Garde* (Princeton, NJ: Princeton University Press, 1993); Hartmut Böhme, "Verdrängung

und Erinnerung vor-moderner Natur-Konzepte. Zum Problem historischer Anschlüsse der Naturästhetik in der Moderne," *Kunst Nachrichten* (Zurich) 24, no. 1 (February 1988): 35–47; Yves-Alain Bois and Rosalind E. Krauss, *Formless: A User's Guide* (New York: Zone Books, 1997); Thomas Brandt, "Von der Reduktion zum Wachstum. Vom Wandel geometrischer Formen in den 30er Jahren," in 1937. "... und nicht die leiseste Spur einer Vorschrift" — *Positionen unabhängiger Kunst in Europa um 1937* (exh. cat.) (Düsseldorf: Kunstsammlung Nordrhein-Westfalen, 1987); Charlotte Douglas, "Evolution and the Biological Metaphor in Modern Russian Art," *Art Journal* 44, no. 2 (Summer 1984): 153–61; Hartmut Eggert, Erhard Schütz, and Peter Sprengel, eds., *Faszination des Organischen. Konjunkturen einer Kategorie der Moderne* (Munich: Iudicium, 1995); Hubertus Gaßner, ed., *Élan Vital oder das Auge des Eros. Kandinsky, Klee, Arp, Miró, Calder* (exh. cat.) (Munich: Haus der Kunst, 1994); Günter Feuerstein, *Biomorphic Architecture: Human and Animal Forms in Architecture* (Stuttgart, London: Edition Axel Meyers, 2002); Jürgen Fitschen, ed., *Die organische Form: Bildhauerkunst, 1930–1960* (exh. cat.) (Bremen: Gerhard-Marcks-Haus, 2003); David Kinmont, "Vitalism and Creativity: Bergson, Driesch, Maritain and the Visual Arts, 1900–1914," in Martin Pollock, ed., *Common Denominators in Art and Science* (Aberdeen: Aberdeen University Press, 1983), 69–77; Christoph Kockerbeck, *Ernst Haeckels "Kunstformen der Natur" und ihr Einfluß auf die deutsche bildende Kunst der Jahrhundertwende* (Frankfurt am Main: Peter Lang, 1986); Michael Kröger, "'... gleichsam biologische Urzeichen ...' Die Erfindung biomorpher Natur in Malerei und Fotografie der dreissiger Jahre," *Kritische Berichte* 18, no. 4 (April 1990): 3–87; Christa Lichtenstern, *Die Wirkungsgeschichte der Metamorphosenlehre Goethes. Von Philipp Otto Runge bis Josef Beuys* (Weinheim: VCH, 1990) and *Metamorphose vom Mythos zum Prozessdenken. Ovid-Rezeption, Surrealistische Ästhetik, Verwandlungsthematik der Nachkriegskunst* (Weinheim: VCH/Acta Humanora, 1992); Beate Manske, ed., *Die organische Form: Produktgestaltung, 1930–1960* (exh. cat.) (Bremen: Wilhelm-Wagenfeld-Stiftung 2003); Gert Mattenklott, *Karl Blossfeldt 1865–1932. Das photographische Werk* (Munich: Prestel, 1981); Jennifer Mundy, "Form and Creation: The Impact of the Biological Sciences on Modern Art," in *Creation: Modern Art and Nature* (exh. cat.) (Edinburgh: Scottish National Gallery, 1984), 16–23; Karin Orchard and Jörg Zimmermann, eds., *Die Erfindung der Natur: Max Ernst, Paul Klee, Wols und das surreale Universum* (exh. cat.) (Freiburg im Breisgau: Rombach, 1994); Lisa Phillips, ed., *Vital Signs. Organic Abstraction from the Permanent Collection* (exh. cat.) (New York: Whitney Museum of American Art, 1988); Phillip C. Ritterbush, *The Art of Organic Forms* (exh. cat.) (Washington, DC: Smithsonian Institution Press, 1968); Caroline van Eck, *Organicism in Nineteenth-Century Architecture: An Inquiry into its Theoretical and Philosophical Background* (Amsterdam: Architectura and Natura Press, 1994); Annika Waenerberg, "Das Organische in Kunst und Gestaltung: Eine kurze Geschichte des Begriffs," in Annette Geiger, Stefanie Hennecke and Christin Kempf, eds., *Spielarten des Organischen in Architektur, Design und Kunst* (Berlin: Dietrich Reimer, 2005), 20–35; Siegfried Wichmann, *Jugendstil Art Nouveau: Floral and Functional Forms* (Boston, MA: Little Brown, 1984); Isabel Wünsche, "Naturerfahrung als künstlerische Methode: Organische Visionen in der Kunst der klassischen Moderne," in Elke Bippus and Andrea Sick, eds., *Industrialisierung und Technologisierung von Kunst und Wissenschaft* (Bielefeld: transcript, 2005), 86–108, and "Lebendige Formen und bewegte Linien: Organische Abstraktionen in der Kunst der klassischen Moderne," in *Floating Forms: Abstract Art Now* (exh. cat.) (Bielefeld: Kerber, 2006), 10–22.

- 12 Annette Geiger, Stefanie Hennecke, and Christin Kempf, eds., *Spielarten des Organischen in Architektur, Design und Kunst* (Berlin: Dietrich Reimer, 2005).

- 13 The literature on Frank Lloyd Wright should serve as an example in this regard; but in a more unexpected vein, see also, for example, Detlef Mertins, "Living in the Jungle: Mies, Organic Architecture, and the Art of City Building," in Phyllis Lambert, ed., *Mies in America* (New York: Henry N. Abrams 2001), 590–641. See also van Eck, *Organicism in Nineteenth-Century Architecture*.
- 14 Adams was an active member of the Sierra Club as early as 1919.
- 15 <http://sierraclub.org/history/timeline.asp>. See also Ansel Adams and John Muir, *Yosemite and the Sierra Nevada*, ed. Charlotte E. Mauk (Boston, MA: Houghton Mifflin Company, 1948).
- 16 See Oliver A.I. Botar, "László Moholy-Nagy's 'New Vision' and the Aestheticization of Scientific Imagery in Weimar Germany," in: Linda D. Henderson, ed., "Modern Art and Science," special issue, *Science in Context* 17, no. 4 (2004): 525–56.