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Jungles of Eden: The Design of American Zoos

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In 1978, the Woodland Park Zoo in Seattle, Washington, opened its new gorilla exhibit—the first example of what has become known as “landscape immersion” design (Fig. 1). Seeking to reconceptualize the zoo’s very identity, director David Hancocks had asked the firm of Jones & Jones to develop a master plan for Woodland Park. As part of the plan’s first phase, landscape architects Grant Jones, Jon Charles Coe, and their colleagues fashioned the now-famous gorilla forest, a stunning replica of the animals’ native habitat that aimed to provide a stimulating, “natural” environment for the great apes while placing visitors seemingly within that habitat. In numerous ways—from the extensive use of appropriate vegetation to the clever manipulation of sight lines—the landscapes of Jones & Jones seemed worlds away from the bars and cages of traditional zoos. Furthermore, this transformation was not merely physical: according to its advocates, landscape immersion also represented an unprecedented shift in zoo philosophy, from the “homocentric” perspective that had long prevailed to a “biocentric” ethic more in tune with the environmentalism of the day. Not surprisingly, the Woodland Park plan clearly showed the influence of environmentalist thought, from its opening pages describing “an ecological design approach” with “nature [as] the norm” to a bibliography citing works by Aldo Leopold, Eugene Odum, and E. O. Wilson. Acclaimed by zoo professionals and landscape architects alike, the immersion exhibits of Jones & Jones pointed toward exciting new directions in the design of American zoos.¹

Over the past two decades, landscape immersion has indeed emerged as the dominant style in zoo exhibitry, as anyone who has recently visited a zoological park can attest. Led by firms like CLRdesign, The Portico Group, and Design Consortium, zoo planners have fashioned a virtual world of uncannily realistic landscapes, from Amazonian rainforests and Louisiana swamps to

The following abbreviations are used in the notes here: AAZPA—American Association of Zoological Parks and Aquariums; CPD—Chicago Park District; NYZP—New York Zoological Park; *P&R*—*Parks & Recreation*; PZG—Philadelphia Zoological Garden; SDZ—San Diego Zoo; SIA—Smithsonian Institution Archives; SLZP—St. Louis Zoological Park; and WCS—Wildlife Conservation Society.

¹David Hancocks, foreword, and Grant R. Jones, preface to *Woodland Park Zoo: Long-Range Plan, Development Guidelines and Exhibit Scenarios*, by Grant R. Jones, Jon Charles Coe, and Dennis R. Paulson (Seattle: Jones & Jones for the City of Seattle, Department of Parks and Recreation, 1976); see also 44, 87–89, 162–63. The third named author, Dennis Paulson, was a biologist working with Jones & Jones. For helpful, if uncritical, surveys of the work of this important firm, see “Jones & Jones: Ideas Migrate . . . Places Resonate,” *Process: Architecture* 126 (May 1995) (special issue, ed. Koichi Kobayashi); Anne Elizabeth Powell, “Breaking the Mold,” *Landscape Architecture* 87 (October 1997): 120–29, 145–52.



1. *Gorilla forest, Woodland Park Zoo, Seattle* (from Michael Nichols, *Keepers of the Kingdom* [New York: Thomasson-Grant and Lickle, 1996], 90)

African savannas and Midwestern grasslands. These dramatic exhibits have helped spark a “renaissance” at American zoos, reflected not only in their increased popularity but, perhaps more significantly, in a supposedly growing concern for the earth’s environment among zoo visitors. Fed by this atmosphere of rapid transformation, discussions of contemporary zoo design positively overflow with claims of revolution. In 1989, for instance, one zoo director proclaimed, “In the past 15 years, we’ve probably changed more than we’ve changed in the past hundred.” An article in a recent issue of *Landscape Architecture* concurred, with David Hancocks even tracing this revolution to a specific profession: “It wasn’t until landscape architects came on the scene that the shift toward a wider, more encompassing view . . . began to happen.” In fact, claimed the article’s author, over the past twenty years, America as a whole has become “a society moving toward a sound biocentric view of what our zoos should be.” Beyond professional circles, the same rhetoric prevails, as tourist guides, photo essays, and coffee-table books all herald “the new American zoo.” Looking back on previous generations of zoo design—the bad old days of bars, cages, and moats—planners and promoters find little more than good intentions, necessary first steps on the path to today’s environmentalist Edens.²

² Nancy Gibbs, “The New Zoo: A Modern Ark,” *Time*, 21 August 1989: 50–53 (the quoted director is Cincinnati’s Ed Maruska); Anne Elizabeth Powell, “Gardens of Eden,” *Landscape Architecture* 87 (April 1997): 99, 92 (Hancocks’s quotation). For a small sampling of the recent popular literature, see Sharon Begley, “Wilder Places for Wild Things,” *Newsweek*, 17 July 1989, 58–59; Franz Maier and Jake Page, *Zoo: The Modern Ark* (New York: Facts on File, 1990); Cliff Tarpy, “New Zoos: Taking Down the Bars,” *National Geographic*, July 1993, 2–37; Linda Koebner, *Zoo Book: The Evolution of Wildlife Conservation Centers* (New York: Forge, 1994); Anthony D. Marshall, *Zoo: Profiles of 102 Zoos, Aquariums, and Wildlife Parks in the United States* (New York: Random House,

Yet this triumphalist narrative is deeply flawed, in both its history and its conclusion. First of all, this same tale has been told again and again over the past century or more, as each new generation's directors and designers have proclaimed themselves more enlightened than their noble but misguided predecessors. In a constant refrain, zoo planners have pointed out the inadequacy and artificiality of earlier models, arguing instead for the more "natural" principles of their plans. But if we reexamine the history of American zoos and the assumptions and meanings that have informed their changing landscapes, we find, contrary to the proclamations of the "new zoo" boosters, that many zoological parks of the past century and a half did indeed present an "environmental" experience of wildlife and wilderness. Furthermore, beyond its narrative faults, this Whiggish history has also obscured serious problems within the environmentalist rhetoric that dominates contemporary zoo design and, indeed, much of contemporary landscape architecture in general. By making unnecessarily grand claims for today's "biocentric" designs, landscape architects and their supporters risk losing a critical consciousness that is essential to their art. Zoo designs, like all works of landscape architecture, are clearly cultural constructions, yet the rhetoric of environmentalism may encourage the dangerous view that immersion exhibits actually *are* nature. With similar claims of a mimetic relationship between landscape architecture and nature appearing throughout the profession in recent years, this case study of zoo exhibits may suggest important reconsiderations of the prevailing environmentalist discourse. While the best work of today's zoo designers is impressive, exciting, and invaluable to our appreciation of wildlife, their confident environmentalism is challenged when viewed in the historical context of the planning and the perception of zoos' "natural" landscapes. Such a challenge may, in turn, prompt a more reflective and historically informed practice of landscape architecture.³

The history of zoo design in the United States unfolds over several generations, stretching back some one hundred and forty years. Public zoological gardens had first emerged during the early nineteenth century in London, Paris, Berlin, and other European capitals.

1994); Allen W. Nyhuis, *The Zoo Book: A Guide to America's Best* (Albany, Calif.: Carousel Press, 1994); Michael H. Robinson and David Challinor, *Zoo Animals: A Smithsonian Guide* (New York: Macmillan, 1995); Michael Nichols, *Keepers of the Kingdom: The New American Zoo* (New York: Thomasson-Grant and Lickle, 1996).

³ Although I often dispute their conclusions, I am indebted to those directors and designers who have previously analyzed the changing landscapes of zoological parks: David Hancocks, *Animals and Architecture* (New York: Praeger, 1971), esp. 105–48, 189–94; Jon Charles Coe, "Towards a Coevolution of Zoos, Aquariums and Natural History Museums," *AAZPA Annual Proceedings* (1986), 366–76; Kenneth J. Polakowski, *Zoo Design: The Reality of Wild Illusions* (Ann Arbor: University of Michigan School of Natural Resources, 1987), 17–24; and Jon Charles Coe, "The Evolution of Zoo Animal Exhibits," in *The Ark Evolving: Zoos and Aquariums in Transition*, ed. Christen M. Wemmer (Front Royal, Va.: Smithsonian Institution Conservation and Research Center, 1995), 95–128. See also James Fisher, *Zoos of the World* (London: Aldus Books, 1966), 158–83; Bob Mullan and Garry Marvin, *Zoo Culture* (London: Weidenfeld and Nicolson, 1987), 46–88; Melissa Green, "No Rms, Jungle Vu," *Atlantic Monthly*, December 1987, 62–78; and Lynne Iadarola, "Zoos," in *Encyclopedia of Architecture: Design, Engineering and Construction*, ed. Joseph A. Wilkes (New York: John Wiley & Sons, 1990), 5:419–39. More recent examinations of zoos include Patrick H. Wirtz, "Zoo City: Bourgeois Values and Scientific Culture in the Industrial Landscape," *Journal of Urban Design 2* (February 1997): 61–82; Randy Malamud, *Reading Zoos: Representations of Animals and Captivity* (New York: New York University Press, 1998). For a broader consideration of American zoos in their cultural context, see Jeffrey Nugent Hyson, "Urban Jungles: Zoos and American Society" (Ph.D. diss., Cornell University, 1999).

Aspiring to a higher purpose than the simple amusement furnished by private menageries, the promoters of early Victorian zoos placed their scientific collections in formal, elegant gardens, amid picturesque walks, tasteful plantings, and charming architecture. Arranged taxonomically, captive animals were typically displayed in barred cages but frequently surrounded by lush vegetation. American observers at the time generally approved of European zoo design. Andrew Jackson Downing hoped that the proposed “New-York Park” would incorporate an animal collection modeled on London’s Regent’s Park Zoo, where the “strangest and wildest” creatures might be found “almost as much at home in their paddocks and jungles, as if in their native forests.” A Philadelphia newspaper correspondent, urging his fellow citizens to support the nation’s first zoological society, described at length the merits of the London Zoo:

The visitor is led insensibly from one charm to another, and in each varied scene of trees and flowers is introduced to the animals most suited to the character of the view. Thus not only does the visitor see each animal as nearly as possible encircled by the flora to which it is most accustomed, but the animal itself forgets its forest home, when gazing on the surroundings so nearly akin to those it has lost, and lives in comfort and happiness.⁴

Clearly, to Victorian eyes, a fine zoological garden could indeed offer a compelling and convincing representation of nature and its inhabitants.

Similar claims for zoos’ naturalism were heard during the 1860s and 1870s, as several American cities opened their own zoological gardens. These facilities ranged from small public menageries in New York and Chicago to larger, more elaborate parks in Philadelphia and Cincinnati. Again, contemporary observers frequently remarked on the striking resemblance of a zoo’s enclosures to the animals’ native environments. Guidebooks to Chicago, for example, praised the Lincoln Park bear pits, which, though “wholly artificial, . . . closely resemble the bear pits in the Rocky Mountains, built by nature.” The director of the Central Park Menagerie claimed that a new prairie-dog village “affords the student of natural history opportunities to study and observe [the animals’] habits, under most favorable conditions.” Such accolades sometimes extended to the grounds of an entire zoological garden. One opening-day review of the Philadelphia Zoo called its riverside site “particularly adapted by nature for the purpose desired,” requiring “but a few touches of art to transform it into a fascinating scene of miniature forests, hills, ravines, and mountain water courses” (Fig. 2). For all their “artificiality,” as modern landscape architects have al-

⁴ Andrew Jackson Downing, “The London Parks,” September 1850; see also idem, “The New-York Park,” August 1851, in *Rural Essays*, ed. George William Curtis (New York: Putnam, 1858; repr. New York: Da Capo Press, 1974), 553, 150–51; “C. W.” to *North American and United States Gazette* (Philadelphia), 15 March 1860. On the history of Victorian zoos, see the essays collected in *New Worlds, New Animals: From Menagerie to Zoological Park in the Nineteenth Century*, ed. R. J. Hoage and William A. Deiss (Baltimore: Johns Hopkins University Press, 1996); and Harriet Ritvo, *The Animal Estate: The English and Other Creatures in the Victorian Age* (Cambridge, Mass.: Harvard University Press, 1987), 205–42.



2. Beaver pond and bridge, Philadelphia Zoological Garden, ca. 1870 (photo: courtesy of the Zoological Society of Philadelphia)

leged, the earliest American zoos attempted to replicate at least some elements of the natural environments their inhabitants had once known.⁵

The potential conflicts between zoos and parks, design and nature, were nowhere more evident than in the work of the landscape architect Frederick Law Olmsted. Throughout his distinguished career, Olmsted showed a pronounced ambivalence toward zoos, insisting on their incompatibility with pastoral city parks while simultaneously trying to place them creatively within the urban landscape. For example, he and his partner, Calvert Vaux, included no public menagerie in their Greensward plan for Central Park because they believed that a zoo, with its obtrusive buildings and milling crowds, would spoil the quiet landscape effects they had worked so hard to achieve. After the ramshackle Central Park Zoo more or less appeared, unbidden, in the early 1860s, Olmsted waged a thirty-year campaign to remove or relocate it. As part of this effort, he and Vaux produced their own “rural and park-like” plan for a zoological garden at Manhattan Square (where the American Museum of Natural History now stands). In the plans they drafted for Chicago’s South Park in 1871, Olmsted and Vaux argued against the construction of a traditional zoological

⁵ *Glossop’s Street Guide, Strangers’ Directory and Hotel Manual of Chicago, 1880–81* (Chicago: F. Glossop, 1881), 14; Board of the Department of Public Parks, *Report of Central Park Menagerie*, by William A. Conklin, doc. no. 102 (New York, 1886); *Philadelphia Press*, 1 July 1874.

garden within the park grounds. Yet they also showed a real talent for the “inconspicuous arrangements” of naturalistic zoo design, laying out an ingenious deer paddock that would confine the animals by means of an underwater fence. Olmsted’s attitude had not changed by 1885, when he drew up his plan for Boston’s Franklin Park. Though he set aside “a Rambling Ground, with sheltered southwestern slopes . . . for a Zoological Garden,” he plainly envisioned a naturalistic site for native animals, not a traditional zoo. As he later wrote to a member of the Boston Natural History Society: “Even a child would enjoy more peeping into an old rabbit warren than . . . staring into a cage of sulky lions.”⁶

Perhaps it is telling that most of Olmsted’s zoo plans were never realized. Much to his chagrin, the animal collections in New York, Chicago, and Boston would remain bars-and-cages menageries for decades to come. Yet Olmsted’s long and vigorous engagement with the problem of the urban zoo seems to have been forgotten by recent landscape architects, who claim to be the first of their profession to tackle this odd institution. To make matters worse, those accounts that do acknowledge Olmsted’s work on zoological parks too often read him through environmentalist lenses. Historian Simon Schama, for example, sees the designer’s long-standing opposition to the Central Park Menagerie as a protest against “the cheapening of the authentically natural landscape with ersatz wildness.” Yet Olmsted, of all people, surely recognized that Central Park (like any other work of landscape architecture) was emphatically not an “authentically natural landscape”; rather, it, too, was an “ersatz wildness,” thoroughly manipulated by his own masterly hand. Accordingly, when today’s zoo designers uncritically describe their work as “authentic” and “natural,” they would do well to reexamine the complex legacy of Frederick Law Olmsted. Through his persistent yet often fruitless attempts to reconcile the divergent “natures” of parks and zoos, Olmsted illustrated the difficulties in store for landscape architects who would work in American zoological parks.⁷

By the 1880s, a new phase in the history of zoo design was slowly beginning. Impatient with the persistence of bars and cages at American zoos, critics were pushing harder for more naturalistic enclosures. In an 1883 essay in *American Naturalist*, Theodore Link advocated “the rational construction of *enclosures*—not cages—liberal in extent and in strict

⁶ Frederick Law Olmsted, *Forty Years of Landscape Architecture*, vol. 2, *Central Park as a Work of Art and as a Great Municipal Enterprise* (New York: G. P. Putnam’s Sons, 1928), 500–517; Olmsted, Vaux & Co., *Report Accompanying Plan for Laying Out the South Park* (Chicago: Evening Journal, 1871), 39, 40, 32; Cynthia Zaitzevsky, *Frederick Law Olmsted and the Boston Park System* (Cambridge, Mass.: Belknap Press, 1982), 69, 234 n. 50; Alexander von Hoffman, “‘Of Greater Lasting Consequence’: Frederick Law Olmsted and the Fate of Franklin Park, Boston,” *Journal of the Society of Architectural Historians* 47 (December 1988): 343–44, 347. For a fine, brief study of the Central Park Menagerie during this period, see Roy Rosenzweig and Elizabeth Blackmar, *The Park and the People: A History of Central Park* (Ithaca: Cornell University Press, 1992), 340–49.

⁷ Simon Schama, *Landscape and Memory* (New York: Alfred A. Knopf, 1995), 570. For an important, subtle examination of Olmsted and the “design” of natural landscapes, see Anne Whiston Spirn, “Constructing Nature: The Legacy of Frederick Law Olmsted,” in *Uncommon Ground: Toward Reinventing Nature*, ed. William Cronon (New York: W. W. Norton & Company, 1995), 91–113. For other useful discussions of the urban parks movement, see David Schuyler, *The New Urban Landscape: The Redefinition of City Form in Nineteenth-Century America* (Baltimore: Johns Hopkins University Press, 1986), 59–146; Daniel Bluestone, *Constructing Chicago* (New Haven: Yale University Press, 1991), 7–61; Rosenzweig and Blackmar, *The Park and the People*.

accordance with the respective habits and instincts of the animals to be confined.” A few years later, a writer for *Popular Scientific Monthly* approvingly quoted a London zoo official regarding the “responsibility” of modern zoological gardens to move away from “the old idea of keeping animals in small, cramped cages and dens” toward “conditions reproducing those of [the creatures’] native haunts.” This call for more natural enclosures was answered by new zoological parks in Washington, D.C., and the Bronx, opened in 1891 and 1899, respectively. In a now-familiar generational claim of revolution, the founders of these parks clearly differentiated their projects from earlier menageries and zoological gardens in mission as well as design. Established by champions of the growing conservation movement, both the National and New York Zoological Parks were originally intended as breeding grounds for indigenous fauna. This emphasis on American species logically led to naturalistic designs, since native animals like bison, elk, and beaver could easily blend into the local flora. The very names of these new facilities—not gardens but *parks*—also signaled an important shift, as planners worked with much larger landscapes than were typical for urban zoos. Despite these innovations, however, the results were decidedly mixed, and both the successes and the shortcomings of these zoological parks suggest important revisions to the traditional narrative of zoo history.⁸

The National Zoological Park grew out of the considerable efforts of William Temple Hornaday, a Smithsonian taxidermist who had witnessed firsthand the indiscriminate slaughter of American bison. Hornaday envisioned a sprawling national zoo, dedicated primarily to research and captive breeding, with only a small portion of the grounds open to the public. Even after Hornaday departed in an administrative dispute and Congress gutted the zoo’s appropriation, supporters of the park continued to promote and praise its natural setting. Two generations of Olmsteds worked on a series of master plans that attempted to merge the zoo grounds into the surrounding landscape of Rock Creek Park. Architect Glenn Brown hoped that any improvements to the zoo would “conform and harmonize with nature” and that “artificial work [would] appear as natural outcroppings of nature.” The 1902 McMillan Commission for improving Washington’s landscape urged a similar policy, counseling against any construction “of a highly organized and formal character” and supporting the maintenance of the park’s natural “picturesqueness.” Whatever its administrative shortcomings, the National Zoological Park aspired to a more “natural” ideal

⁸Theodore Link, “Zoological Gardens: A Critical Essay,” *American Naturalist* 17 (December 1883): 1229; Sir William Henry Flower, quoted in R. W. Shufeldt, “Zoological Gardens: Their Uses and Management,” *Popular Science Monthly*, April 1889, 786 (Flower made his remarks in June 1887 at the annual meeting of the London Zoological Society). On the early history of these zoos, see Helen L. Horowitz, “The National Zoological Park: ‘City of Refuge’ or Zoo?” *Records of the Columbia Historical Society* 49 (1973–74): 405–29; Helen L. Horowitz, “Animal and Man in the New York Zoological Park,” *New York History* 56 (October 1975): 426–55. For general histories of each park, see William Bridges, *Gathering of Animals: An Unconventional History of the New York Zoological Society* (New York: Harper & Row, 1974); *A Zoo for All Seasons: The Smithsonian Animal World* (Washington, D.C.: Smithsonian Exposition Books, 1979). On the sometimes testy relationship between the conservation movement and the zoo community, see Lisa Mighetto, *Wild Animals and American Environmental Ethics* (Tucson: University of Arizona Press, 1991), 67–70.



3. *Plan for New York Zoological Park, ca. 1907* (from *Official Guide Book to the New York Zoological Park* [New York: New York Zoological Society, 1928], inside front cover)

in zoo landscape, and its planners hoped other parks would soon follow their lead.⁹

Near the end of the 1890s, an even larger “natural” zoo appeared in the wilds of the Bronx under the direction of William Hornaday himself. Aiming to improve on the Washington model, Hornaday again laid out a full-fledged zoological park, this time with the substantial backing of the private New York Zoological Society (Fig. 3). This true zoological park (“a purely American idea,” Hornaday boasted) would feature “the expansion of all enclosures for animals, to the widest limit practicable,” and “the consistent and skillful adaptation of nature’s own handiwork to the peculiar wants” of each creature. In fact,

⁹ James Malcolm, “The Role of Frederick Law Olmsted and His Successors in Planning and Building the National Zoo,” typescript, September 1979, box 15, folder 9, record unit 365, SIA (the reader should beware, however, of occasional factual errors in Malcolm’s account); Glenn Brown, “A Suggestion for Grouping Government Buildings, Landscape, Monuments, and Statuary,” in *Papers Relating to the Improvement of the City of Washington, District of Columbia* (Washington, D.C.: Government Printing Office, 1901), 68; Charles Moore, ed., *The Improvement of the Park System of the District of Columbia* (Washington, D.C.: Government Printing Office, 1902), 87. On Hornaday’s career, see James Andrew Dolph, “Bringing Wildlife to Millions: William T. Hornaday, the Early Years, 1854–1896” (Ph.D. diss., University of Massachusetts, 1975); and the essays reprinted in *Saving Wildlife: A Century of Conservation*, ed. Donald Goddard (New York: Harry N. Abrams, in association with the Wildlife Conservation Society, 1995), 42–83.

Hornaday suggested that, thanks to the natural beauty of the Bronx Park site, “there is really very little for the landscape gardener to do.” On the rolling grounds of the New York Zoological Park, a new era in zoo design seemed to be dawning.¹⁰

For all the grand claims of Hornaday and his fellows, however, the ideal of the zoological park—showing native animals in natural settings—would spread only slightly beyond Washington, D.C., and the Bronx, as attempts to imitate these models met with little success. In Boston, for example, a 1905 campaign to establish a large suburban zoological park, stocked only with hardy native species, failed to attract sufficient popular interest. As landscape architect Arthur A. Shurtleff noted in 1912, after drafting plans for a smaller, more traditional zoo in Franklin Park: “The experience of many cities . . . has shown that the public are not satisfied with a collection of native animals, but require as a supplement the well-known animals of the tropics.” Critics also complained about the new zoological parks’ “excess of space,” insisting that planners and managers needed to remember the zoo’s “spectacular aspect”—in other words, the visitor’s desire to see animals up close. In time, similar objections would reach even the celebrated parks in Washington, D.C., and New York. Both zoos would see their original missions fade during the early twentieth century, largely in response to popular demand for more exotic, entertaining, and accessible animals.¹¹

As with the first generation of American zoos, the story of turn-of-the-century zoological parks provides instructive comparisons for designers of today’s “conservation centers.” In the 1890s, as in the 1990s, zoo planners developed landscapes of striking naturalism, lush settings that would inspire both captive breeding and captive audiences. Both generations of designers described their work as revolutionary and unprecedented, and both eras saw a growing popular concern for the natural environment. Yet the turn-of-the-century parks ran into the persistent problem of public expectations, as visitors stubbornly maintained their own ideas of zoological entertainment. As a result, the conservationist claims of the 1890s zoos proved rather feeble in practice. Contemporary environmentalist designers would do well to bear these precedents in mind, remembering that landscape architects and the general public often hold markedly different ideas of what “natural” is.

¹⁰ William Temple Hornaday, “The New York Zoological Park,” prospectus ca. March 1897, pp. 5, 6, 8, box 2, folder 19, record group 5, NYZP Director’s Office (correspondence and subject files), WCS Archives. For published discussions of the zoo’s plans, see Hornaday, “The New York Zoological Park,” *Harper’s Weekly*, 20 March 1897, 286; Hornaday, “The New York Zoological Park,” *Century Magazine*, November 1900, 85–102; Hornaday, “The New York Plan for Zoological Parks,” *Scribner’s Magazine*, November 1909, 590–606. The landscape plan for the Bronx Zoo was essentially Hornaday’s own, although landscape architects Warren H. Manning and H. A. Caparn served as consultants. The park’s official architects were C. Grant LaFarge and George Lewis Heins. See Bridges, *Gathering of Animals*, 40–43, 46–47.

¹¹ “Zoological Park Plan for Boston,” *Fresno Republican*, 15 February 1905, p. 36, press clippings (general), CPD Special Collections; Arthur A. Shurtleff, “Boston Zoological Park,” *Landscape Architecture* 3 (October 1912): 1–2; F. G. Afalo, “Travel Memories at the Zoo,” *Living Age*, 15 October 1910, 142. For another criticism of large enclosures, see Arthur E. Brown to the Executive Committee of the Directors of the New York Zoological Society, 10 December 1895, reprinted in Report of Sub-Committee upon Plan, 2 January 1896, in box 2, folder 9, record group 5, NYZP Director’s Office (correspondence and subject files), WCS Archives. On the changing missions of the National and Bronx Zoos, see Hyson, “Urban Jungles,” chaps. 2 and 4.

A somewhat more successful movement toward naturalistic environments at American zoos came during the interwar period, with the introduction of moated, barless enclosures. Developed around the turn of the century by Carl Hagenbeck, a German animal dealer and circus impresario, barless exhibits were built around relatively simple principles. Animals were displayed in a series of large outdoor panoramas, amid rocks and trees (both real and artificial), that were vaguely reminiscent of the creatures' original habitat. Concealed moats separated animals from visitors and from each other, thus allowing zoogoers to see a number of species—often including predators and prey—within a single vista. Ideally, Hagenbeck claimed, barless displays would encourage visitors and animals alike to imagine themselves in the wild.¹²

Although a few influential directors and architects resisted the “Hagenbeckization” of American zoos, several parks adopted the new technique during the interwar years. In Denver, landscape architect S. R. De Boer called for the development of a “Habitat Zoo,” generally designed on Hagenbeck’s principles but adding a degree of verisimilitude by casting the naturalistic settings from actual landscapes in the Rocky Mountains. In St. Louis, construction on barless enclosures began in the late 1910s, with the first dens debuting in 1921. Similar moated displays followed in San Diego, where a pleasant year-round climate allowed even greater experimentation with outdoor exhibitions. In most of these cases, barless exhibits remained special attractions, exceptions to the prevailing rule of bars and cages. Yet several American zoos—particularly the new facilities in Detroit (1928) and Brookfield, Illinois (1934)—formulated comprehensive plans in the Hagenbeck style, visions of a future park that would offer zoogoers expansive views of realistic panoramas. By 1939, barless enclosures had become the industry standard, and Denver director Clyde Hill could praise these “sensational” exhibits as evidence that, “in the past twenty years, we have progressed more with the development of zoological parks than our predecessors did in twenty centuries.”¹³

To advocates of moated displays, a barless zoo was a more natural zoo, a place where wilderness and city might come into closer contact. Bear dens in St. Louis embodied this

¹² Hagenbeck’s philosophy is best articulated in his own memoir, as well as that of his son Lorenz; for English translations, see Carl Hagenbeck, *Beasts and Men* (London: Longmans, Green and Company, 1909), and Lorenz Hagenbeck, *Animals Are My Life* (Letchworth, England: Garden City Press, 1956). My discussion of the Hagenbeck plan also relies on Herman Reichenbach, “Carl Hagenbeck’s Tierpark and Modern Zoological Gardens,” *Journal of the Society for the Bibliography of Natural History* 9 (April 1980): 573–85; Herman Reichenbach, “A Tale of Two Zoos: The Hamburg Zoological Garden and Carl Hagenbeck’s Tierpark,” in *New Worlds, New Animals*, ed. Hoage and Deiss, 51–62; David Ehrlinger, “The Hagenbeck Legacy,” *International Zoo Yearbook* 29 (1990): 6–10; and Nigel Rothfels, “Bring ‘Em Back Alive: Carl Hagenbeck and Exotic Animal and People Trades in Germany, 1848–1914” (Ph.D. diss., Harvard University, 1994), esp. 257–96. For other brief but intriguing assessments of the Hagenbeck design, see Helen L. Horowitz, “Seeing Ourselves through the Bars: A Historical Tour of American Zoos,” *Landscape* 25, no. 2 (1981): 17, 19; and Coe, “The Evolution of Zoo Animal Exhibits,” 105–7.

¹³ De Boer quoted in Carolyn & Don Etter, *The Denver Zoo: A Centennial History* (Boulder, Colo.: Roberts Rinehart Publishers, in association with Denver Zoological Foundation, 1995), 46–62; W. F. R. Mills, “Moving a Mountain to the City for Denver’s New Habitat Zoo,” *American City* 19 (December 1918): 474–76; Minutes of the Zoological Board of Control, 17 September 1919, series 1, folder 26, SLZP Records, Western Historical Manuscript Collection, University of Missouri–St. Louis; “Natural Rock Settings,” *P&R* 5 (Novem-

welcome trend toward “more commodious quarters . . . representing bits of mountains, woodlands, plains, and marshes.” Describing plans for the Brookfield Zoo, one official envisioned “a magnificent panorama . . . [with] all the wonderful wild creatures of the globe assembled, each in the habitat peculiar to itself, and yet all forming an harmonious whole.” Visitors to the improved Philadelphia Zoo would enjoy “the wilderness at your doorstep” and leave “with the knowledge that for once you have seen the animals as they really are.” Furthermore, supporters claimed that these more “natural” exhibits were vastly more humane than traditional zoo displays. San Diego’s Richard Addison urged the abandonment of “the old style, iron-barred cage [that] belongs to the circus and traveling menagerie,” not to “permanent zoological gardens.” According to officials in St. Louis, the general public shared these humanitarian sentiments, “demanding that the animal have the carefree and happy existence [*sic*] which nature had granted it.” John T. McCutcheon, president of the Chicago Zoological Society, even claimed that the planned Brookfield Zoo would be “a place that will make an animal glad he lives there.”¹⁴

Yet once again, popular opinion would reshape the landscape of American zoos. Always catering to the public’s desire to see, zoo planners often modified the more naturalistic enclosures, molding them to allow visitors a clearer view of the creatures within (Fig. 4). Brookfield’s McCutcheon admitted as much: “Sometimes it will not be possible to reproduce the exact surroundings [of natural habitats], because there are numbers of animals that would hide themselves if they could. We must have them where they can be seen.” Searching for ways to spread barless displays to smaller zoos, Clyde Hill suggested that “the feature of unobstructed vision [be] isolated from the usual pretentious background.” In other words, however much they may have wanted to create naturalistic settings, designers had to recognize “the privilege of the public to see [the animals] at all times”—the continual demand for an entertaining show. Here again, we find a lesson in the construction

ber 1921): 179; Harry Wegforth, “San Diego’s New Zoo to Be One of Finest Found in Whole World,” *San Diego Tribune*, 24 December 1921, scrapbook 1916–24, SDZ Library; “San Diego’s Cageless Zoo,” *Pictorial California*, March 1928, scrapbook 1925–31, SDZ Library; Andrea Friederici Ross, *Let the Lions Roar! The Evolution of Brookfield Zoo* (Brookfield, Ill.: Chicago Zoological Society, 1997), 19–23; “Fifth and Last Annual Message of Late President Peter Reinberg,” in *The Forest Preserves of Cook County* ([Chicago]: Forest Preserve District of Cook County in the State of Illinois, 1921), 185; “Chicago Zoological Park,” *Architectural Record* 76 (December 1934): 419–28; William A. Austin, *The First Fifty Years: An Informal History of the Detroit Zoological Park and the Detroit Zoological Society* (Detroit: Detroit Zoological Society, 1974), 9, 14; Clyde E. Hill, “The Zoo Parade,” *P&R* 23 (September 1939): 38. For more on American adaptations of the Hagenbeck design, see Elizabeth Anne Hanson, “Nature Civilized: A Cultural History of American Zoos, 1870–1940” (Ph.D. diss., University of Pennsylvania, 1996), 260–82.

¹⁴ Annual Report of the St. Louis Zoological Park (1919–20), p. 3, in series 1, folder 3, SLZP Records; Annual Message of President Daniel Ryan, 2 January 1922, Proceedings of the Commissioners of the Forest Preserve District, Cook County, Illinois, [Chicago], 1922, 23; “The Jungle Comes to Philadelphia,” brochure, June 1936, box 5-A, PZG Archives; Richard A. Addison, “Showmanship and the Zoo Business,” *P&R* 8 (November–December 1924): 131; Minutes of the Zoological Board of Control, 27 August 1928, series 1, folder 34, SLZP Records; John T. McCutcheon, address to the Union League Club, ca. January 1923, box 1, folder 11, John T. McCutcheon Papers, Archives and Manuscripts, Chicago Historical Society.



4. Moated polar bear exhibit, 1934, Chicago Zoological Park, Brookfield, Illinois (photo: courtesy of the Chicago Zoological Society)

and negotiation of zoo landscapes, the paradoxical relationship between design and nature, that today's environmentalist planners too often ignore or forget.¹⁵

As American zoos moved into the postwar period, however, both popular and professional enthusiasm for barless, rocky enclosures began to wane. During the fifties and sixties, many new exhibits adopted a style I call "sanitary modernism," combining abstract design modes and ultrahygienic conditions. A particularly compelling argument for sanitary modernism came from Heini Hediger, a Swiss zoo director and ethologist (specialist in animal behavior). In his volume *Wild Animals in Captivity* (1950), Hediger urged his readers, both scientists and laypeople, to abandon their "anthropomorphic conceptions" of a captive animal's supposed suffering. Instead, he proposed a more careful study of the "quality of the environment" at zoological parks, with particular attention to questions of natural behavior, rather than natural surroundings. As he put it—in a phrase that would anticipate recent discussions yet point toward much different designs—"we must act as zoocentrically as possible." While Hediger acknowledged the interwar trend toward more naturalistic enclosures, he found little to praise in that development:

It is true that in the last few decades the idea has gained ground that the animal's space should, as far as possible, be arranged "naturally"; but mistaken opinions

¹⁵ McCutcheon quoted in "Great Modern Zoo Is Now Assured City," *Chicago Commerce*, 17 December 1921, p. 7; Clyde E. Hill, "What Price—Zoo Success?" *P&R* 11 (May–June 1928): 386; Frank Schwarz, "A Barless Zoo," *P&R* 8 (November–December 1924): 137. See also F. A. Gutheim, "Buildings for Beasts: Our Zoos in Transition," *American Magazine of Art* 29 (July 1936): 459–60.

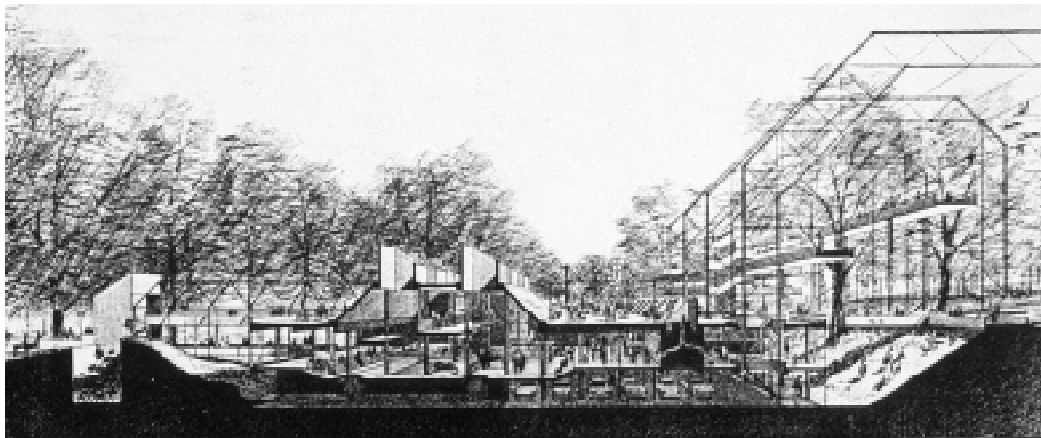
about this naturalness have been common. Intended naturalness more often than not appears as pseudo-naturalness. . . . Naturalness, in the sense of biologically correct type of space, is not the result of an attempt at imitation, but of an adequate transposition of natural conditions.¹⁶

With such intellectual support behind them, designers and directors at many American zoos felt free to construct exhibits that largely removed any semblance of an animal's natural habitat, so long as the creature's behavioral and medical needs were met. Some displays aspired to a modernist aesthetic, with sharp lines and geometric shapes providing artistic "frames" for the "pictures" of wildlife within. While the famous penguin pool at Regent's Park stands as the most noted expression of "zoo modernism," similar examples could be found at American zoos during the postwar years. In Detroit, for instance, a sculptor created "modern furniture for anthropoids," a new environment for the zoo's apes "where trees look like models of molecules, platforms like kidneys and chairs like mushrooms." At the same time, several cities and zoological societies commissioned master plans for new or renovated parks, and these comprehensive designs also owed much to architectural modernism. Boston's long-neglected Franklin Park Zoo was subjected to no less than three separate master plans during the fifties and sixties, with proposals ranging from the modernist monkey island and streamlined reptile house of Shurcliff and Shurcliff to the shopping-center-style "linear menagerie" of Perry Dean Hepburn & Stewart (Fig. 5) and the twelve-story mass of "exhibit galleries" from Peter Chermayeff.¹⁷

Alongside modernism, an increasing concern for more sanitary exhibits developed. Postwar improvements in animal care at zoos, from the introduction of tranquilizer guns to the appointment of resident veterinarians and zoologists, ironically reinforced the movement toward a clinical style of display. The result was what some critics have called the "bathroom" style of zoo design—bright, tiled cubicles, starkly lit, sparsely furnished,

¹⁶ H. Hediger, *Wild Animals in Captivity*, trans. G. Sircom (London: Butterworths Scientific Publications, 1950), 71–72; see also 95, 141. *Wild Animals in Captivity* was not an obscure academic tome. No less of a popular forum than *Time* magazine reviewed Hediger's book, quoting approvingly from his arguments against the sentimentalists who denounced zoos for depriving their inhabitants of nature's "freedom." "If properly housed, fed and entertained," *Time* noted, zoo animals "often lead happier, fuller lives than the humans who come to watch them" ("The Happy Prisoners," *Time*, 18 September 1950, 72). On the postwar construction boom at American zoos, see Raymond Thompson, "Zoo Construction in the United States," *P&R* 35 (June 1952): 24–25; "Municipal Zoos Are Booming," *American City* 72 (February 1957): 227; "Construction Boom Catches Up with the Nation's Zoos," *Architectural Forum* 115 (October 1961): 8, 10. Important documents for zoo planners in the 1950s included Arthur T. Wilcox, ed., *A Zoological Park: Why, Where, How*, Park Management Series, Bulletin 3 (East Lansing: Michigan State University, 1955); and "Zoos and Aquariums," Information Report no. 88, Planning Advisory Service (Chicago: American Society of Planning Officials, 1956).

¹⁷ "Modern Furniture for Anthropoids," *Life*, 20 June 1955, 59; City of Boston Park Department, *Franklin Park Zoo: A Plan for the Future*, prepared by Arthur A. Shurcliff and Sidney N. Shurcliff (Boston, 1954); "Boston Plans Improved Zoo," *American City* 69 (September 1954): 131; Sidney N. Shurcliff, "A Plan to Revitalize Franklin Park Zoo in Boston," *Landscape Architecture* 45 (January 1955): 63–67; "Preview: Linear Menagerie," *Architectural Forum* 128 (May 1968): 102–3; "High-Rise Zoo," *Design* 241 (January 1969): 60. For other modernist zoo plans, see "Zoological Gardens by Alfred Caldwell," *Arts & Architecture* 77 (February 1960): 20–23; "Oakland's Dramatic New Zoo," *P&R* 43 (March 1960): 168–69; "New Zoo Is Good News," *Progressive Architecture* 46 (November 1965): 195–97. For one director's critique of zoo modernism, see Clyde E. Hill, "Animal Rights versus Human Rights," *P&R* 32 (August 1949): 478.



5. Proposed plan for Franklin Park Zoo, Boston, 1968 (sketch: Perry Dean Hepburn & Stewart)

and often sealed in unbreakable glass. Few zoos adopted these techniques more thoroughly than the one in Philadelphia. Although the zoo's Carnivora House (opened in 1951) included outdoor grottoes for lions and tigers, many visitors were just as impressed by the building's interior. A writer for the *Philadelphia Bulletin* described the "luxuries" now available to the zoo's big cats: "Green-tiled walls, stainless steel berths, running water, brilliant lighting, maternity suites and 'hospital' facilities. All this and air conditioning, too." Seven years later, similar features graced the new Monkey House, with its "attractive, tile-lined quarters" and "ideal, well-lighted conditions" for viewing. By 1965, when the Rare Mammal House opened, sanitation had become an attraction in its own right: "Visitors are intrigued . . . by the flushing system that washed the floors of the cages at regular intervals."¹⁸

Taken together, these instances of "sanitary modernist" design would certainly seem to confirm the familiar Whiggish story of ever more natural exhibits. Just a generation ago, the argument goes, zoos were still displaying wild animals in bare, tiled cells, with nary a leaf or a bush in sight: look how far we have come in only a couple of decades. Here again, though, we must step outside of the triumphalist narrative to consider the evolution of zoo design more broadly and contextually. Precisely because the clean, modernist exhibits of the fifties and sixties took zoos so far away from the naturalism (however romantic and abstracted it might have been) of the earlier moated displays, the subsequent development of landscape-immersion techniques during the seventies and eighties appeared far more

¹⁸ On Carnivora Building, see *Philadelphia Bulletin*, 8 April 1951, scrapbook 1950–52, PZG Archives; "Ultra-Modern Carnivora Building at Philadelphia Zoo," *P&R* 32 (September 1949): 536–37; *America's First Zoo* 3 (June 1951): 1–3; Commissioners of Fairmount Park, Eighty-fourth Annual Report (1951), 53. On Monkey House, see Commissioners of Fairmount Park, Ninety-first Annual Report (1958), 41. On Rare Mammal House, see Commissioners of Fairmount Park, Ninety-eighth Annual Report (1965), 24. Of course, Philadelphia was hardly the only zoo to employ the "bathroom" style. See, for example, "Baltimore Mammal House Is Building within a Building," *P&R* 37 (September 1954): 29–30.

innovative that it truly was. Today's most astute landscape architects acknowledge their debt to Hagenbeck and his followers, but they can also conveniently position themselves against the sanitary modernists, their most immediate predecessors and a group dominated by architects, their professional rivals. When immersion exhibits first appeared at zoos previously dominated by cold, clinical cages, the contrast could not have been more stunning. One wonders: what might the reaction have been had immersion design arrived on the heels of the boom in moated grottoes? Such potential continuities in the history of landscape architecture deserve our attention just as much as any self-proclaimed revolutions.

Although the "bathroom" period of zoo design would last well into the 1970s, the pendulum had already begun to swing slowly back toward more naturalistic exhibits as early as the late 1950s. Entirely new parks, such as the Arizona-Sonora Desert Museum and the Milwaukee County Zoo, attracted considerable acclaim for their extensive natural habitat displays. During the late sixties, the Bronx Zoo opened two impressive buildings, the World of Darkness and the World of Birds, that re-created realistic habitats indoors—a development that foreshadowed the massive zoo rainforests of recent years. Competition from various commercial entertainments, including wildlife television programs and drive-through safari parks, also challenged zoo planners to present animals in more expansive and authentic surroundings. Although many of these "habitat" exhibits appear dated and unnatural today, they were praised at the time as "revolutionary" and "imaginative," welcome improvements over "the fusty, unsanitary relics" of decades past.¹⁹

The rise of the contemporary environmentalist movement accelerated this revival of naturalistic zoo design. Not surprisingly, many environmentalists condemned zoos as prisons of heartless artificiality, where captive animals lived a desperate existence in wholly unnatural surroundings. Famed zoologist Desmond Morris decried what he called "the shame of the naked cage"; animal-rights activists advanced their cause under headlines like "U.S. Zoos Often Chambers of Horror." In one of the most influential essays in the literature on "zoo culture," psychologist Robert Sommer charged that the "homocentric environmental ethic" of traditional animal exhibits had turned zoological parks into places of tragic miseducation, where visitors learned to consider themselves superior to their fellow creatures. For their part, landscape designers offered much of the same environmentalist critique. Participants in a 1967 roundtable for *Landscape Architecture* pronounced the traditional zoo "antiquated" and "obsolete," part of "a bygone era" that exploited "the wild animal for human amusement." In Ian McHarg's *Design with Nature*, the zoo even became a virtual symbol for all synthetic landscapes, a convenient analogy for our alienation from the natural world.²⁰

¹⁹ See Eugene J. Walter Jr., "Zoo People Give a Damn," *Venture* 8 (July–August 1971): 32–35, 60–71; Fairfield Osborn, "A Zoo of Zoos," *New York Times Magazine*, 4 November 1962, p. 72; "News in Zoos," *Time*, 22 May 1964, 54; and Angus Wilson, "Confessions of a Zoo-Lover," *Holiday* 35 (June 1964): 18. Lawrence Curtis, "The Rain Forest at Ft. Worth Zoo," *P&R* 41 (September 1958): 394–95; Mervin Larson, "Living Dioramas," *AAZPA Annual Proceedings* (1965), 33–34; John S. Margolies, "Multimedia Zoo," *Architectural Forum* 130 (June 1969): 86–91. On the growth of safari parks, see "The Animal Parks Are Roaring Ahead," *Business Week*, 8 July 1972, 23–24; "We've Got Gnus for You," *Newsweek*, 31 July 1972, 48–49.

²⁰ Desmond Morris, "The Shame of the Naked Cage," *Life*, 8 November 1968, 70–80; Desmond Morris,

Yet as much as environmentalists attacked zoos as exploitative and unnatural, the movement also paradoxically looked to zoological parks (if properly designed) as potential sites of inspiration and education, “links between the modern world and the receding domain of nature.” Landscape architect Jean Allen Mather foresaw a “new concept of animal park approximating a natural ecological balance”; such a park, suggested planner Julia Allen Field, might serve “as a channel for information about our environmental crises . . . and as a powerful way to promote a land ethic.” McHarg himself took up this challenge with Pardisan, a planned 741-acre facility near Tehran, where “universal,” “aquatic,” and “terrestrial” parks would combine to present “‘all of nature’ in one great center.” In North America, the seventies witnessed a boom in so-called utopian zoos, sprawling complexes of several hundred acres often linked by trams or monorails (Fig. 6). From San Diego to Toronto, Minneapolis to Miami, these elaborate facilities provided animals with vast territories to roam and offered visitors yet another version of zoo naturalism. Tellingly, the creators of these designs frequently invoked the rhetoric of environmentalism, asserting their value for education, conservation, and captive breeding. Some of these claims of environmental correctness boasted more style than substance, as buzzwords like “ecology,” “ecosystem,” and “interdependence” sprang up like weeds in mission statements and master plans. Yet the general public clearly appreciated these developments; a 1975 survey by sociologist Neil Cheek found that many visitors actually “felt closer to nature at the zoo,” that “the zoo helped them feel how beautiful life is.” By the mid-1970s, it seemed, environmentalism and zoos were beginning to find some common ground.²¹

Since then, of course, landscape immersion has supposedly revolutionized the design of American zoos. Yet the historical record clearly reveals that key elements of immersion’s techniques and philosophy have existed for decades, coming and going on the tides of professional interest and popular opinion. This fact should not discount the value of recent developments, but it should challenge the arguments of today’s designers, particularly their habit of divorcing visions from visitors, claims from contexts. In proclaim-

“Must We Have Zoos?” *Reader’s Digest*, March 1969, 195–200; Jack Anderson, “U.S. Zoos Often Chambers of Horror,” *Washington Post*, 26 July 1971, p. B11; Joan Bannon, “Today’s Zoos: ‘Animal Ghettos,’” *Washington Post*, 31 August 1971, p. B6; Peter Batten, *Living Trophies* (New York: Thomas Y. Crowell Company, 1976); Robert Sommer, “What Do We Learn at the Zoo?” *Natural History* 81 (August–September 1972): 26; “The Obsolete Zoo vs Future Animal Parks,” *Landscape Architecture* 57 (January 1967): 119 (the quoted speaker is Julia Allen Field; the other participants were Jean Allen Mather and Robert Mather); Ian McHarg, *Design with Nature* (New York: Natural History Press, 1969), 103.

²¹ R. Michael Schneider, “The Zoo’s Changing Role,” *P&R*, n.s., 4 (September 1969): 43; Mather and Field, quoted in “The Obsolete Zoo vs Future Animal Parks,” 111, 119; “‘All Is Here’ at Microcosmic Zoo-Park for Tehran,” *Landscape Architecture* 64 (January 1974): 58. Cheek, quoted in Emily Hahn, “Why Zoos?” *New York Times Magazine*, 23 February 1975; his study appeared as Neil H. Cheek Jr., “Sociological Perspectives on the Zoological Park,” in *Leisure and Recreation Places*, ed. Cheek, D. R. Field, and R. J. Burdge (Ann Arbor: Ann Arbor Science Publications, 1976). For useful surveys of early-1970s designs, see “Things Are Changing at the Zoo, Too,” *Changing Times* 24 (February 1970): 24–25; “The New Zoos,” *Newsweek*, 1 June 1970, 58; “Zoo Story,” *Time*, 18 October 1971, 54; Walter, “Zoo People Give a Damn”; and Barbara Ford, “Creature Comforts at the Zoo,” *Saturday Review*, 5 August 1972, 40–48. For a prime example of eco-speak, see *Minnesota Zoological Garden: Mirror to the Environment* (St. Paul: Minnesota Zoological Board, 1970).



6. Monorail at Asian plains exhibit, San Diego Wild Animal Park (photo: Ron Garrison, courtesy of Zoological Society of San Diego)

ing a new age of environmentalist design, landscape architects must still remember that the simulated “nature” they create is a lived experience, not an abstract ideal. After all, the most realistic presentations of natural habitats are utterly meaningless if zoo planners fail to consider the reception of their work. If an epoxy tree falls in a landscape immersion forest and no visitor is there to hear it, does it make a sound?

To put it another way: How truly “environmentalist” are today’s zoo designs—and how “environmentalist” should they be? Environmentalism, of course, suggests not just the celebration of nature but advocacy and instruction, the promotion of an increased consciousness about the natural world around us. Proponents of the progressive narrative have argued vigorously that immersion exhibits are indeed profoundly environmentalist, since they not only replicate natural habitats to an unprecedented degree but also educate zoogoers—allegedly for the first time ever—about conservation and biological diversity. In the recent words of *Landscape Architecture* magazine: “We may applaud ourselves for the profound shift in thinking we have effected—a shift that has established our zoos as more than windows on prevailing attitudes. They are now, without question, agents of social change.”²²

But this claim simply does not hold up. Although visitor studies are often inconsistent, both scientific and anecdotal observations suggest that zoogoers do not learn nearly as much as designers claim they do. To be sure, as Cheek’s survey indicated, many visitors feel “closer to nature” at a zoo, yet this closeness seldom leads to enlightenment or education

²² Powell, “Gardens of Eden,” 99.

about the environment. In his exhaustive studies of American attitudes toward animals, Stephen Kellert has discovered “considerable affection and concern for wildlife among zoo visitors, but less knowledge and ecological understanding than one might expect or hope for, and certainly far less than found among other key wildlife interest groups.” Another recent survey found that zoogoers generally appreciated a park’s informal, social atmosphere more than its educational or environmental features. The few studies evaluating the educational effectiveness of immersion exhibits are, at best, inconclusive. While such designs may encourage visitors to stand quietly, even reverentially, within the replicated environment, zoogoers still tend to respond most immediately to an animal’s appearance and behavior rather than its setting. The ecological exactitude that planners so admire in contemporary exhibits seems to be utterly lost on most visitors—a situation that seriously compromises any claims for the educational power of environmentalist landscape architecture.²³

To complicate matters further, more than a few zoogoers actively dislike immersion exhibits because such designs too often conceal the very animals they came to see. This is, of course, a venerable complaint, stretching back to the days of Hornaday and Hagenbeck. Yet many designers who concentrate on environmental accuracy only grudgingly acknowledge the public’s long-standing demand for access and visibility. Responding to David Hancock’s call for more rigorously naturalistic environments, three London zookeepers reminded him that “people primarily come to a zoo to see living animals, and not fibre-glass reconstructions of the Earth’s habitats.” A 1991 study of visitors’ attitudes confirmed that zoogoers consistently prefer “close and easy viewing of active animals,” a situation that is generally “difficult to achieve in naturalistic exhibits.” Some designers have tried to enhance the appeal of immersion exhibits by building them around narratives of ecological awareness or habitat conservation. Yet such framing devices still work against what has always been a zoo’s most basic appeal—the inherent, amazing, and often inexplicable allure of individual wild animals.²⁴

In addition, the educational emphasis that has accompanied this environmentalist turn may be leading zoos away from their most enduring and successful mission—popular entertainment. In their eagerness to train visitors in the ways of environmentalism, directors and designers sometimes drift toward arrogance or condescension, conveying an implicit sense that they know what’s best for the average zoogoer. For example, the National Zoo’s

²³ Stephen R. Kellert, “Zoological Parks in American Society,” *AAZPA Annual Proceedings* (1979), 93; Stephen R. Kellert, *The Value of Life: Biological Diversity and Human Society* (Washington, D.C.: Island Press, 1996), 83–89; Robin Whittall, “Roles and Perceptions of Zoos and Aquariums” (master’s thesis, University of Toronto, 1990); Jon Charles Coe, “Landscape Immersion—Origins and Concepts in Landscape Immersion Exhibits: How Are They Proving As Educational Settings,” *AAZPA Annual Proceedings* (1994), 208–13; Joyce Shettel-Neuber, “Second- and Third-Generation Zoo Exhibits: A Comparison of Visitor, Staff, and Animal Responses,” *Environment and Behavior* 20 (July 1988): 452–73. For other useful visitor studies, see Beverly Serrell, “Looking at Zoo and Aquarium Visitors,” *Museum News* 59 (November–December 1980): 36–41; Steven Bitgood et al., “How Do People Perceive Museums, Parks, and Zoos?” *Visitor Behavior* 2 (1987): 9–10; Denise E. Lessow, “Visitor Perceptions of Natural Habitat Zoo Exhibits” (Ph.D. diss., Indiana University, 1990).

²⁴ David Hancock, “So Long, Old Zoo,” *BBC Wildlife* 9 (June 1991): 442; “View from the Zoo” (letter from Paul Pearce-Kelly, Mike Clark, and Sarah Christie), *BBC Wildlife* 9 (August 1991): 582; David Churchman and George Marcoulides, “Affective Response to Zoo Exhibits,” *AAZPA Annual Proceedings* (1991), 522;

recent ventures into text-heavy, museum-style exhibits—part of its self-proclaimed transition into a “BioPark”—have frequently met with public disapproval. Said one visitor: “There’s too much information. If people wanted that they’d go to the library. People come to see the animals.” Jon Coe’s perceptive critique of the utopian zoos of the 1970s applies just as easily to the BioParks of the 1990s: “Planners had ignored what Hagenbeck understood—people came to the zoo as an attraction. Education and conservation are secondary concerns to the family planning their weekend outing.” By paying more attention to history, designers might realize that zoos have always appealed to families seeking pleasant, outdoor recreation and that any attempts to alter those expectations are made at a planner’s peril.²⁵

Beyond these questions of perception and reception, the environmentalist turn in zoo design has also led landscape architects toward a disturbing decline in critical self-consciousness. As Anne Whiston Spirn has argued: “[T]he works of the profession of landscape architecture are often not ‘seen’ [by the general public], not understood as having been designed and deliberately constructed.” Ironically, environmentalism may have extended this blindness to landscape architects themselves. Zoo landscapes are among the most obviously constructed works in the discipline, since they are always, at their core, representations—in other words, *re*-presentations—of wild habitats. Yet while some designers readily admit that their creations are simply “high stagecraft,” other planners imply a genuine equivalence between their designs and nature. David Hancocks has posited, “If you are going to present animals why try to improve on nature? Isn’t nature itself the ‘Best Show on Earth?’” Asked if landscape immersion might soon yield to another generation’s ideas, Grant Jones replied, “It’s not passé. Nature never ought to be a fad.”²⁶

In both professional and popular literature, this equivalence of design and nature is frequently reinforced through a clever rhetorical gambit, by which observers attest to a landscape’s “authenticity” by mistaking it for the wild. In a typical example, a reporter for *National Geographic* offers a detailed description of a tropical rain forest, only to reveal that “we are not in Brazil, Borneo, or West Africa, but close by the Missouri River,” at the Lied Jungle in Omaha’s Henry Doorly Zoo. Photographic images have proved especially susceptible to this kind of rhetorical manipulation. Zoo planners were delighted to learn that when Dian Fossey showed photos of the Woodland Park gorillas to her colleagues in Rwanda, the field scientists

Stephen St C. Bostock, *Zoos and Animal Rights* (London: Routledge, 1993), 116–17. For additional critiques of the claims for immersion exhibits, see Vicki Croke, *The Modern Ark: The Story of Zoos, Past, Present and Future* (New York: Scribner, 1997), 97–98; Mullan and Marvin, *Zoo Culture*, 60.

²⁵ Michael H. Robinson, “Towards the BioPark: The Zoo That Is Not,” *AAZPA Annual Proceedings* (1987), 678–82; Christine M. Broda-Bahm, “Think Tank: Evolution and Revolution,” *Museum News* 76 (July–August 1997): 49; Jon Charles Coe, “Future Fusion: The Twenty-First Century Zoo,” in Nichols, *Keepers of the Kingdom*, 106, 109; Michael D. Kreger and Joy A. Mench, “Visitor-Animal Interactions at the Zoo,” *Anthrozoös* 8 (1995): 143; Syd Butler, “Message from the Executive Director,” *AZA Communiqué* (May 1998): 2. Needless to say, a strong focus on entertainment carries its own problems. For an astute critique of zoological amusements, see Susan G. Davis, *Spectacular Nature: Corporate Culture and the Sea World Experience* (Berkeley: University of California Press, 1997).

²⁶ Spirn, “Constructing Nature,” 91; Jon Coe, quoted in Powell, “Gardens of Eden,” 93–94; David Hancocks, “A Matter of Presentation,” *AAZPA Annual Proceedings* (1982), 174; Jones, quoted in Elise Vider, “Environmental Theater,” *Metropolis* 9 (June 1990): 89.



7. *Opening day crowds at Lied Jungle, Henry Doorly Zoo, Omaha (from Nichols, Keepers of the Kingdom, 11)*

thought the pictures had been taken in the wild. When individuals in a widely cited study of visitor perceptions were shown a series of slides of animals in wild, naturalistic zoo, and caged zoo environments, they gave more favorable ratings to those animals shown without visible barriers, those seen within a “perceptual context . . . totally free of contradictory clues.” In such an ideal design, suggests Jon Coe, “the entire setting looks, smells, and feels as if one left the zoo and entered the African savanna.”²⁷

Yet for actual zoo-goers, such extraordinary suspensions of disbelief seem nearly impossible, even in the most authentic replica of a natural environment (Fig. 7). As journalist Vicki Croke smartly put it: “Has anyone really been ‘immersed’ in a zoo exhibit and forgotten even momentarily that they are in a zoo in the middle of the city?” When visitors stand before an exhibit, their gaze takes in much more than animals posing amid luxuriant foliage; extraneous elements, from identification labels to exit signs, inevitably intrude. Furthermore, the whole zoo-going experience is not limited to the sight of wild creatures. It also embraces the sound of screaming children, the smell of popcorn and hot dogs, the feel of aching feet. The landscape of zoos does not just exist as a pristine re-creation of nature: it is a “happening,” an ongoing public event subject to negotiation and contradiction. By more explicitly recognizing this experiential dimension of their

²⁷ Tarpy, “New Zoos,” 9; Greene, “No Rms, Jungle Vu,” 62; Ted Finlay, Lawrence R. James, and Terry L. Maple, “People’s Perceptions of Animals: The Influence of Zoo Environment,” *Environment and Behavior* 20 (July 1988): 526; Jon C. Coe, “Design and Perception: Making the Zoo Experience Real,” *Zoo Biology* 4 (1985): 206. See also David Hancocks, “Seeking to Create Illusions of Wild Places: Master Planning Guidelines for the Melbourne Zoo,” *Landscape Australia* 11 (August 1989): 258–67.

projects, landscape architects would necessarily sacrifice the environmentalist equation of nature and design. Yet in so doing, they might also encourage a more critical appreciation of the “work” of designed landscapes by visitors and planners alike.²⁸

Finally, the assumptions behind environmentalist rhetoric too often lead to a Panglossian view of immersion exhibits, a sense that we are now building the best of all possible zoos. This idealized vision of a revolutionary present has recurred throughout the history of American zoo design, and the arguments of the 1990s are no different. Yet environmentalism seems to foster a particularly extreme celebration of contemporary design, most notably through the trope of the modern zoo as a sort of paradise, an all-too-common image in recent literature. Searching for the “future animal park,” Robert and Jean Allen Mather envision nothing less than a “peaceable kingdom.” Jon Coe and Terry Maple describe immersion exhibits for apes as “approaching Eden.” A new rain forest in Woodland Park is labeled an “Eden-in-progress.” And without a trace of irony, the editors of *Landscape Architecture* title an article on recent zoo designs “Gardens of Eden.” Yet this vision of zoo-as-paradise, with contented creatures enjoying lives of apparent freedom, effectively obscures the very identity of this strange institution. In the words of journalist and landscape designer Alexander Wilson: “Do the new designs somehow disguise the confinement that is the primary fact of a zoo? . . . Can we really see ourselves looking?” In a 1991 essay for *Harper’s*, Charles Siebert took this provocative point even further:

Somehow, by the end of a day of peering into deep, landscaped “natural habitats” — looking for the animals we’ve brought from so far away only to place too far away to really see—I’d decided that it was far less depressing to proceed, as one did in an old zoo, from the assumption of the animals’ sadness in captivity than to have to constantly infer the happiness we’ve supposedly afforded them in our new pretend versions of their rightful homes. The former premise, at least, seems less of a lie about what a zoo is.²⁹

What Siebert objects to here is the lack of critical consciousness. By trying too hard to tell the proper environmentalist stories, we risk forgetting what a zoo is. And by claiming that environmentalist designs truly are an Edenic nature, we risk forgetting how landscape architecture really works.

If, then, the history of environmentalism and zoo design is so much more complicated than previously thought, why has the triumphalist narrative gained an almost unquestioned acceptance? In part, the story that contemporary designers tell is simply the classic autobiography of a profession, one in which each generation’s experts claim to surpass their predecessors, and these claims eventually become self-fulfilling prophecies. Promotional needs have also reinforced the Whiggish narrative. To stay competitive in today’s leisure marketplace, zoos must create and publicize new exhibits at a furious pace; in the process, public relations frequently outpace actual achievements.

²⁸ Croke, *The Modern Ark*, 80. Thanks to Michel Conan for the idea of zoos as “happenings.”

²⁹ Mathers quoted in “The Obsolete Zoo vs Future Animal Parks,” 111–12; Jon Charles Coe and Terry Maple, “Approaching Eden: A Behavioral Basis for Great Ape Exhibits,” *AAZPA Annual Proceedings* (1984), 117–28; Jon Charles Coe and Terry Maple, “In Search of Eden: A Brief History of Great Ape Exhibits,” *AAZPA Annual Proceedings* (1987), 628–38; Paul Roberts, “The ‘Stealth’ Rainforest: Eden in Progress?” *Landscape Architecture* 84 (January 1994): 88–91; Powell, “Gardens of Eden”; Alexander Wilson, *The Culture of Nature: North American Landscape from Disney to the Exxon Valdez* (Cambridge, Mass.: Blackwell, 1992), 254; Charles Siebert,

Perhaps most of all, we *all* contribute to the triumphalist narrative through our collective memories of the “bad old days” at the zoos of our childhoods. Every zoogoing generation has these same memories—images of the zoo’s landscape before a Hornaday or a Hagenbeck or a Hancocks arrived on the scene. We reluctantly admit that we enjoyed our trips to “the old zoo,” but we also recall the odors in the monkey house, the pacing of the polar bears, the echoing roars in the carnivora building. Armed with these memories, we easily accept the argument that today’s exhibits are more natural, more realistic, more environmentalist than ever before. Yet we rarely stop to wonder what we really mean by “natural,” “realistic,” or “environmentalist,” or how previous generations of visitors and designers may have defined those same terms. Only when we step outside our own generational experience can we begin to understand the full, complex story behind the changing landscape of American zoos.³⁰

The history of American zoo design does not lead us inexorably to “Gardens of Eden,” as some might have it. Looking back over the past one hundred and forty years, we cannot plot a straightforward path from artificial menagerie to natural zoological park to environmentalist conservation center. Instead, we must follow a more tortuous route, making wrong turns, reaching dead ends, following our old steps over and over again. By locating environmentalist landscape architecture within this historical context, we can better understand where our ideas of design and nature have come from—and where they might be going. Likewise, after surveying over a century’s worth of zoogoing, we do not see the visiting public evolving from simple gawkers to intrepid explorers to sophisticated conservationists. Instead, we find visitors repeatedly reshaping the zoo-going experience, as designers revise or even abandon one paradigm after another in their efforts to meet the public’s preferences and expectations. By examining these ongoing issues of reception, we can better predict what environmentalist landscape architecture can and cannot accomplish. In short, the landscape of conflicts and contradictions that we encounter in zoos bears no resemblance to a well-manicured paradise. Rather, we find ourselves in metaphorical jungles, rich in historical resources but often difficult to navigate and interpret. By mapping our way through those jungles, we will come to appreciate their evolution—and their future—more completely, intelligently, and productively. And, in time, this historical appreciation may even foster a contemporary understanding of the natural world that environmentalism so vigorously demands.³¹

“Where Have All the Animals Gone?” *Harper’s*, May 1991, 54. For a suggestive discussion of the zoo as Eden, see Boria Sax, “Are There Predators in Paradise?” *Terra Nova* 2 (winter 1997): 59–68. For other examinations of nature as Eden, see Candace Slater, “Amazonia as Edenic Narrative,” and Carolyn Merchant, “Reinventing Eden: Western Culture as a Recovery Narrative,” both in *Uncommon Ground*, ed. Cronon, 114–31 and 132–59, respectively.

³⁰ On the occasional excesses of zoo public relations, see Croke, *The Modern Ark*, 15–16, 75. On the place of zoos in our collective memory, see Tarpay, “New Zoos,” 11.

³¹ For an oft-reprinted chart (by an esteemed zoo director) that illustrates the “ever-upward” approach to zoo history, see George B. Rabb, “The Changing Roles of Zoological Parks in Conserving Biological Diversity,” *American Zoologist* 34 (1994): 162; see also Koebner, *Zoo Book*, 63; and Ross, *Let the Lions Roar!* 217.