“Thoughts in Things”

Modernity, History, and North American Museums

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ABSTRACT

Late nineteenth-century public museums in the United States were intentionally built to be modern, guided by administrators like George Brown Goode toward scientific goals that included preservation, research, and education. Self-consciously preoccupied with the management of museums, intent on attaining mastery over the objects that constituted their museums, and persuaded that meaning derived not just from the objects themselves but from their explanation and configuration by experts, museum masters led a “new museum” movement. A century later, the critiques of postmodern scholars attest to the museum directors’ effective establishment of a modern profile. Historians of science, who once could take these institutions for granted as a lightly marked center of authority, now may use methods of social and cultural studies to open their institutional and intellectual frames. While cautious about theory-driven arguments, such scholars benefit from the issues raised by cultural critics even as they rely on their own documentary methods to ensure that science is an integral component when examining ideas, language, and practice in context.

IN ONE OF HIS FREQUENTLY CITED APHORISMS, George Brown Goode stated that “a finished museum is a dead museum, and a dead museum is a useless museum.” As director of the National Museum of the Smithsonian Institution, Goode was well positioned to be both chronicler and international spokesman for the “new museum” movement of the 1880s. He shared with contemporary museum leaders the belief that they could develop a versatile, rational, and scientific template of “the museum” even as they categorized museums into five or six types and acknowledged small eclectic collections that

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were loosely connected with large comprehensive ones. Fundamental in the “new museum” formulation was an understanding that the large, architecturally distinctive, and publicly supported museums should pursue the tripartite goal of preservation, research, and education.

Postmodern critiques of museums have forced a reconsideration of these functions and purposes. Analyses of museums from anthropology and cultural studies emphasized the political and economic authority exercised by the “museum masters” who shaped the knowledge base and functioning of museums from the eighteenth century into the twentieth century; they paid particular attention to museums built between 1880 and 1920, when a rational “search for order” dominated American politics and public life. Additional commentary since the 1980s has come from feminist scholars who raised questions about the representations of gender and race in museum exhibits and, indeed, the participation of women and people of color in museums. These challenges revitalized interest in museum history.

Historians of science had spent little time on museums, taking for granted their commonplace functions and using them as backdrop for biographical or intellectual history studies. Not entirely ignored, they were acknowledged as residual components of private societies and, later, state and city departments and as significant to the infrastructure supporting systematic inquiry into the natural sciences. This forum provides a timely reconsideration of the intentions and on-the-ground practices of the museums formulated by Goode and his contemporaries, given the recent critiques from cultural and social studies, so that we may write histories that identify ways in which the scientific aspirations and activities in museums framed and were framed by their specific circumstances. A richer

1 Two sources that best reveal Goode’s outlook are his “Museums of the Future,” in Annual Report of the Regents of the Smithsonian Institution: Report of the U.S. National Museum, Pt. 2 (Washington, D.C.: Government Printing Office, 1901), and his Principles of Museum Administration (Washington, D.C.: Smithsonian Institution, 1895). The former is reprinted with other essays and a biographical sketch in Sally Gregory Kohlstedt, ed., The Origins of Natural Science in America: The Essays of George Brown Goode (Washington, D.C.: Smithsonian Institution Press, 1991), pp. 321–348 (quotation from p. 347); I will cite this version hereafter. His work consciously challenged any perception that fieldwork and systematics were mere data gathering, tedious, and technical and, therefore, contrasted with the new biology that was theoretical, experimental, and for that reason scientific. Goode reflected on modernity in various aspects of life, including art and its intersection with science: “The scientific tendencies of modern thought have permeated every department of human activity, even influencing the artist. Many art galleries are now called museums, and the assumption of the name usually tends toward the adoption in some degree of a scientific method of installation.” Goode, “Museums of the Future,” p. 333.

2 The phrase comes from Edward P. Alexander, Museum Masters: Their Museums and Their Influence (Nashville, Tenn.: American Association for State and Local History, 1983).

3 See W. Brekhuis, “The Sociology of the Unmarked: Redirecting Our Focus,” Sociological Theory, 1998, 16:34–51. The term “unmarked,” derived loosely from linguistics, is used in cultural studies to indicate elements taken for granted as ordinary or everyday. Edward Lurie demonstrates that Louis Agassiz wanted the Museum of Comparative Zoology to train naturalists and to stand as his legacy, but the facility and its collections also burdened the senior zoologist and, eventually, his son Alexander; see Edward Lurie, Louis Agassiz: A Life in Science (Chicago: Univ. Chicago Press, 1960). Nathan Reingold’s pioneering Science in Nineteenth-Century America: A Documentary History (New York: Hill & Wang, 1964) scarcely notes where the geological and natural history specimens collected by key figures in the volume were to be housed and investigated. In Robert Bruce’s otherwise comprehensive account The Launching of Modern American Science, 1846–1876 (New York: Knopf, 1987), museums are not indexed, although their collections and curators are mentioned in relationship to leading natural history societies.

and more nuanced historical account of museums in operation can contribute to discussions of scientific practice at other sites even as it underscores deliberate intellectual and scientific aspirations and outcomes within museums themselves.

MAKING THE MODERN MUSEUM

Classic accounts of museum history that began in antiquity were synthesized by Goode in the late 1880s to underscore the cultural significance of museums and, as he viewed the matter, their progress over time. Trained in the natural sciences and an expert on fishes, Goode had risen through the ranks at the Smithsonian thanks to his adept organization of exhibitions in Europe and the United States (see Figure 1). He coordinated the Smithsonian’s exhibit at the 1876 Centennial Exposition in Philadelphia and oversaw the return of that material, plus numerous contributions from international exhibitors, to Washington, D.C., where it became the United States National Museum, housed in a dramatic new building (see Figure 2). His experience abroad, his administrative acumen, and his leadership of the most prestigious museum in the nation meant that his opinions were sought and followed. Well aware of the changing status of natural history and, indeed, tensions between naturalists and an emerging group of biologists, he turned his attention toward the public, educational function of museums in a democratic society. As patronage shifted from private societies to public agencies, he anticipated a leading role for urban museums. Quoting Henry Cole on the vital role museums could play for the future, Goode argued that “a thorough education and a knowledge of science and art are vital to the nation and to the place it holds at present in the civilized world.” They could further national science by addressing the “needs of the mechanic, the factory operator, the day laborer, the salesman and the clerk, as much as those of the professional man and the man of leisure.” While his museum was didactic, even paternalistic, Goode also believed that “the museum . . . cultivates the power of observation, and the casual visitor even makes discoveries for himself.”

Hence, physical objects were fundamental. What specimens and artifacts meant, of course, was largely to be defined by the experts responsible for a museum’s collections. Expert knowledge would document scientific meaning through labels and the organization of displays. Arguing that a “people’s museum” had to be more than a “house full of specimens in glass cases,” Goode went on to state that “an efficient educational museum may be described as a collection of instructive labels, each illustrated by a well-selected specimen.” The instability of interpretation, then, was counterbalanced by the material stability of objects that held layered meanings and could be configured under various interpretive schemes. Because ethnographers like Otis Mason were wrestling with theoretical questions of cultural evolution, parallel development, and culture transfer in the 1880s, Smithsonian curators organized their materials in mobile cases so that they could

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2 Goode, “Museums of the Future” (cit. n. 1), pp. 328, 331. Henry Cole, director of London’s South Kensington Museum (later the Victoria and Albert Museum) when it opened in 1857, was in some ways an inspiration to Goode, having also argued that museums played an important role in defining rational public culture. On the broader context see Juan Ilerbaig, “Pride in Place: Fieldwork, Geography, and American Field Zoology, 1859–1920” (Ph.D. diss., Univ. Minnesota, 2002).
George Brown Goode, Assistant Secretary of the Smithsonian Institution, was in charge of the United States National Museum from 1887 to 1896. This photo from the 1880s shows him as a serious, highly focused administrator who by that decade had become a leading figure in American museum theory and practice. Smithsonian Institution Archives, RU 95, Box 32, folder 10, #72-1115.

Figure 1.

be presented by geographical region or, alternatively, by type (i.e., spears, headdresses, cooking utensils, and so forth). Mason, trying to find a way to capture the complexity, suggested that cabinets (i.e., collections) were essentially “thoughts in things.”Whatever

Figure 2. A new National Museum, built as part of the Smithsonian Institution, allowed for more systematic public displays plus workrooms and storage facilities for the curators, taxidermists, and other staff. This illustration of the dramatic facade facing the Mall is from a broadside used to advertise the inaugural ball of James A. Garfield, the first event held in the new museum, on 4 March 1881. Smithsonian Institution Archives, RU 95, Box 9, folder 28B, #MAH 10667.

the configuration, of course, the presentation formulated a position about human development and imposed an order on the artifacts that was not implicit in them.

Goode was thwarted in his own efforts to find a simple, rational, orderly way to present the natural and humanly constructed objects (see Figure 3)—and I think he was not surprised. His own writings are not fully consistent in part because he could not avoid the tensions that entangled naturalistic interest and an aesthetic sensibility, fascination with the exceptional and the aim of establishing order, and the dual goals of utility and scientific inquiry. Objects were at the heart of such discussions. Steven Conn suggests that Goode’s generation believed objects to be “not precisely transparent but neither . . . hopelessly opaque.”8 Selecting the items that should go on display, identifying and describing the individual objects in more or less detail, and arranging them for public display or for easy retrieval from storage all posed technical challenges as well as raising inevitable questions about meaning.

While aware of the ambiguities that needed to be addressed, Goode provided a visionary narrative that acknowledged predecessors but simultaneously distanced the new museum movement from an older eclecticism. He applauded Charles Willson Peale’s pioneering museum in Philadelphia, formulated in the 1790s, for its attention to geography (with Western materials from the Lewis and Clark expedition in a single room), arrangement by species (with groupings of minerals, dried plants, shells, and other objects under glass), and attractive entertainment (colorful birds mounted in a naturalistic scene), but the mon-

Figure 3. This picture of George Brown Goode’s office, taken shortly after his untimely death in 1896, suggests the diversity of the holdings that he and his peers sought to put into order as they anticipated a modern, systematic museum. Note the taxidermy specimens, the exotic basket under the desk, reference books, busts, and other materials waiting to be incorporated into the museum. Smithsonian Institution Archives, RU 95, Box 32, folder 18A, #MAH 9443.

In the last half of the nineteenth century, museums were built with dramatic exteriors, and uniformly designed galleries focused on containing a steady flow of incoming objects. At the same time, curatorial staff and oversight boards became more deliberate in assigning

meaning to objects in ways that took into account political, social, and intellectual sensibilities that were both global and local. Initially driven by multiple projects for classification and nomenclature, museum curators found that there was an ever-expanding set of publics, including patrons, government clients, regular school attendees, volunteers, and occasional but vocal visitors who might report on their impressions in newspapers, to political leaders, and to the museum administration. In the optimistic “golden age” of American museum building, from about 1875 to 1920, administrators became self-conscious about their mission, more publicly accountable, and attuned to the ideal of progress in which scientific method played a key role.

Current work, discussed below, reveals that, whether viewed individually or collectively, these museums were far from the “dead” ones Goode so feared; thus they cannot be understood as static, consistent, or indeed singularly rational. Curators continuously debated among themselves and recorded in museums’ annual reports their thinking on such fundamental topics as acquisition (the concentration and breadth of collections), preservation (which required space, time, and—often—expensive materials), and presentation (the arrangement of objects to represent ideas). Wishing to be modern and becoming modern were not the same thing; but the capacity to further science seemed close at hand. To that end, staff presumed that their physical collections would continue to be reference points in the effort to define nature in scientific terms and, as Sophie Forgan has demonstrated, chose distinctive locations and styles of architecture. Nonetheless, even the most powerfully situated museums moved slowly toward their goal—like the American Museum of Natural History, which took fifty years to realize anything like its original architectural design and emerged as a very different institution than that envisioned in the 1870s (see Figure 4).

Ironically, insofar as twentieth-century historians of science considered museums in their accounts of the natural sciences, they focused largely on collecting activity and taxonomic results, without much attention to the institutions that sponsored and facilitated such work. Historians of biology have tended to ignore or be dismissive of the work of naturalists done either in the field or in museums, instead documenting the establishment of laboratory activities. For a broader look at the ambitions of museum architects, whose designs influenced North American museum builders during this period, see Carla Yanni, Nature’s Museums: Victorian Science and the Architecture of Display (Baltimore: Johns Hopkins Univ. Press, 1999).

10 For a broader look at the ambitions of museum architects, whose designs influenced North American museum builders during this period, see Carla Yanni, Nature’s Museums: Victorian Science and the Architecture of Display (Baltimore: Johns Hopkins Univ. Press, 1999).


12 The aspirations, trials, and day-to-day realities of museums founded by naturalists are evident in studies like Winsor, Reading the Shape of Nature (cit. n. 4). The responsibility could seem overwhelming, and the New York Academy of Science’s members recalled that having a fire that destroyed their collections was, in fact, a blessing in disguise. See Kohlstedt and Brinkman, “Framing Nature” (cit. n. 9), p. 13.

Figure 4. The optimism of the New York sponsors of the American Museum of Natural History was evident in the single wing (note the darkened portion, central left) planned and built between 1874 and 1877 on a rather barren stretch of land on the Upper West Side of Central Park that was still beyond the subway line. The organization of the floors—mammals, birds, and so forth—reflects the traditional outlook of major patrons rather than the more modern outlook introduced by Goode and reform-minded associates within a decade. Special Collections, American Museum of Natural History, New York.

science. Historians who were key in formulating the history of science in North America, though often attentive to other institutional development—including that of universities and corporate laboratories—virtually ignored museums. Even those who, more recently, have looked at the ongoing history of the natural sciences that are pursued in and around museums have paid only passing attention to the practices and ongoing productive output of museums, even when key figures in their work depended on these facilities. The neglect or dismissal by these scholars meant that histories of museums were written by librarians or local historians, who typically paid little attention to the scientific work done there.

14 This orientation is understandable, as scholars sought to understand the rise of laboratory sciences and thought that fieldwork produced new knowledge only in the emerging field of ecology; see the then-pathbreaking work of Garland Allen, Life Sciences in the Twentieth Century (New York: Wiley, 1975); this outlook is also evident in much of the literature well into the 1990s.

15 Reingold, Science in Nineteenth-Century America (cit. n. 3), took the collections for granted when looking at the work of naturalists; A. Hunter Dupree, Science in the Federal Government: A History of Policies and Activities to 1940 (Cambridge, Mass.: Harvard Univ. Press, 1957), emphasized those who resisted having a museum as part of the Smithsonian; and Bruce, Launching of Modern American Science (cit. n. 3), although it treated a somewhat earlier period, also included little about collections at the Smithsonian or in natural history societies.

A century after Goode, historians have returned to the history of museums invigorated by, yet cautious about, accounts that attest to their powerful influence and to their social implications. What kinds of histories are appropriate in an intellectual environment variously categorized as pluralistic, antessentialist, social constructionist, and relational? Michel Foucault did not comment on museums, but his analyses of asylums, hospitals, and schools that elevated experts, codified practices, and disciplined knowledge has seemed remarkably applicable. Museums, too, appeared to be cultural sites where stratified ideas about gender, race, ethnicity, and class were built into their very purposes and local self-expressions, even as museum managers laid claim to universal themes and comprehensive, even global, representation. Borrowing from Foucault, Eilean Hooper-Greenhill conceived of museums as operating at the interstices of science, public culture, and politics, as sites where materiality provides an artificial sense of stability and where classification, ordering, and framing take place. An influential account by the Australian scholar Tony Bennett is somewhat more cautious, but his “politically focused genealogy for the modern public museum” finds this institution “fully capable of bearing the didactic burden placed upon it.” These critiques concentrate on the constraining authority of museums, foregrounding influences they exert on individuals and culture.

Early and evocative observations also came from a few historians of science. Among the most widely cited is Donna Haraway, whose history of primatology led her to look closely at the representation of African gorillas in the American Museum of Natural History. Attentive to issues of gender, race, and class, Haraway insisted on discussing the scientific work as well, arguing that “science grows from and enables concrete ways of life.” Her point of view, never narrow or singular, concentrated on particular and local situations in primate research where she might uncover “the core of science’s instrumentalism and the limit to its universalism.” Her work revealed the dynamic interchange that occurred as social and cultural influences operated on scientists even as their science was formulated to influence a variety of audiences from peers in their disciplines to wider publics. Especially in dioramas, curators “configured maleness in ways that reinscribed the prescriptions for human behavior.” Similarly Ronald Rainger’s account of the American Museum of Natural History (AMNH) balances the context of immigrant New York City against the ambitions of Henry F. Osborn’s agenda for antiquity. Elements of class, power, and authority are juxtaposed to the individual goals of the paleontologist and the expectations he had of his staff and colleagues. The AMNH, with its dramatic dioramas and Hall of Africa, has been a focus of commentary, in part because its director was so explicit about his goal of using the museum to teach morals and values to new immigrants to New York City.


19 Sally Gregory Kohlstedt, “Masculinity and Animal Display in Nineteenth-Century America,” in Figuring It
Postcolonial studies identify museums as mechanisms of authority and exploitation, where colonial ideology infused museum practices as well as displays. This issue had seemed unremarkable and thus was not clearly marked by historians, who shared with their historical sources the view that the flow of specimens from colonial and provincial outposts represented a common quest for knowledge. Postcolonial scholarship opened up this process to reveal power relationships, where the status of staff in Western centers was inevitably higher than that of those on the colonial periphery. Recent historical work has insisted on the agency of colonials as well, not denying the possibilities of exploitation but noting that the motives of participants on both sides of the exchanges of specimens, books, journals, intellectual credit, and, sometimes, money were multiple. 20 Evocative as well as provocative, the postcolonial, feminist, and postmodern studies push hard against histories that fail to go beyond an administrative accounting of museum achievements or to interrogate the motives and practices of everyone whose lives intersected with them. Historians of science, now equipped to study practice in laboratory and field, can turn to museums with new questions as well as more familiar resources from intellectual history to reinterpret museum life.

THE COMPLEAT MUSEUM

Historians of science took for granted the scientific ambitions and centrality of collections in emerging modern museums, where departments and sometimes the entire museum were directed by scientists, and they tended to ignore the preservation and educational functions that Goode identified as fundamental. Collections, not always confined to a building, define the museum. The building of collections, their use by different staff members and audiences, and their presentation must be recognized as part of a continuous, iterative process, and the scientific, aesthetic, educational, and practical qualities ascribed to individual items cannot be wrested from the museum context in which they reside. Sam Alberti’s essay in this Focus section demonstrates how important it is to follow the objects once they arrive at the museum, are positioned within it, and stimulate analysis, aesthetic appreciation, and imagination.

Despite the heroic tales of explorers and the pride of local collectors, the accessioning of objects and changing standards for description and analysis have been little analyzed. Perhaps the reason is the uncomfortable serendipity that left curators to deal with the miscellany of materials that came their way from army and navy officers, missionaries, traders and sea captains, uneducated but well-meaning donors, or colleagues with unusual interests. Perhaps it is because wealthy museums could purchase ready-made collections, complete with labels, that required little explanation apart from a line crediting the promi-

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20 Susan Sheets-Pyenson, alerted to issues of colonial relationships through her research on the Peter Redpath Museum in Montreal, produced the single most comprehensive account of colonial museums: Cathedrals of Science: The Development of Colonial Natural History Museums during the Late Nineteenth Century (Kingston/Montreal: McGill-Queens Univ. Press, 1988). Her account emphasizes the dedication of determined colonial administrators but does not ignore the fact that they also served as conduits for the “spoils of empire that swelled collections” in Britain and Europe (p. 5).
nent donor who funded the purchase. In such cases museums reflected the cultural ambitions of urban elites; but even in these circumstances the particular selection of objects and topics in each city varied according to the preferences of the merchant classes, political leaders, prominent university faculty and administrators, newspaper editors, and a range of other constituents, including educators and popularizers. Collections also came by exchange and purchase from those with expertise in a system where informal networks could mask competition but where collaboration was often important as well.21 Hints in the literature reveal the dynamic processes involved but leave as yet unclear what might be learned about indigenous informants of explorers, uneducated but astute local guides, women, and other correspondents obscured from history. It is this dynamic process that is at the largely unmarked center of often complex intellectual authority; however, in an age of digitization its parameters can be discovered in registrars’ logs and the routine correspondence of curators and mapped in unprecedented ways.22

Like minor donors, the ordinary museum staff who managed and preserved museum objects remain invisible in historical accounts.23 Often staff and affiliates were impeded by their social class and limited education or by gender; minority status seems to have been an almost absolute barrier until late in the twentieth century. It is not clear whether Annie Alexander, who underwrote the expenses of the Museum of Vertebrate Zoology at the University of California at Berkeley for more than a decade, Delia Griffin, who directed the Fairbanks Museum in St. Johnsbury, Vermont, and Alice Northrup, who coordinated an educational program for the American Museum of Natural History, were exceptions or represent possibilities that have not yet been explored elsewhere.24 The work itself was arranged hierarchically, with the “closet” (the older term naturalists used to describe those who studied materials collected by others) outranking the “field.” That distinction proved an ill-defined and readily transgressed boundary: preparation work in the museum might be handed off to curators and staff scientists while geologists and botanists spent their summers at distant research sites in order to experience the excitement of discovery and


22 The amount of data in registrar books and annual reports is enormous, but computers now make it possible to compile and correlate information that reveals patterns about timing, geography, and object types, as well as changing foci, in the biological, geological, and anthropological sciences. A digitization project involving more than 270,000 items at the Pitt Rivers Museum at Oxford provides striking evidence of how imperial connections drove museum collections; see http://www.prm.ox.ac.uk/dcf.html to see how their acquisitions came in by decade, by continent, and by source.


outdoor life. A group of taxidermists for a time proved an exception to the rule of underrecognition, perhaps because their dramatic mounted specimens fit so well into a late nineteenth-century culture of “conspicuous consumption.” But Susan Leigh Star’s research demonstrated that what had at one point been the “right tools” proved insufficient for ongoing mobility as she traced American taxidermy from Ward’s Scientific Establishment to the highly dramatic habitat groups of the early twentieth century. Within a generation, the sophisticated preparations of William Hornaday and Carl Akeley had become standard even as the expectations of museum display changed, leaving only a legacy of a time when heroic taxidermy enabled a few outstanding preparators to enjoy leadership careers in museums.

Museum staff needed to be versatile. Understanding their skilled labor as it applied to preparations, documentation, and education reveals the multiple and interconnected dimensions of scientific practice. Museum directors had to be attentive to their prospective audience, arguing to politicians, wealthy sponsors, and even the voting public that objects and knowledge about them provided the reason for a museum visit. Most soon recognized that static exhibits and specimens that were not aesthetically appealing might fail to draw visitors, and so they turned to models of wax or glass, sculptures, paintings, musical or other entertainment, receptions, and other devices to enhance otherwise relatively inert holdings. The most dramatic innovation was the habitat diorama, which Donna Haraway, Karen Wonders, and others have described in detail. These minidramas have been the particular focus of critique because they so clearly expressed race in the case of ethnology exhibits and gender in zoological ones. An understanding of the reasons for their apparent popularity and of what was learned from them, however, remains elusive, apart from very occasional comments in newspapers (often planted by the museum staff), diaries and letters of individuals, and the record books of visitors.

While much has been made of Osborn’s involvement with eugenics and immigration laws and his readiness to work with the inner-city schools of New York, the target of most museums was the middle class who “worked at play” in the nineteenth century. They could influence museum policies and activities even as they deferred to curators and other experts on matters of science. Under their influence, museums sponsored more school visits as

25 Kohler, Landscapes and Labscapes (cit. n. 16); and Henrika Kuklick and Robert E. Kohler, eds., Science in the Field, Osiris, 1996, 11. Ilerbaig, “Pride in Place” (cit. n. 6), underscores the tensions surrounding the reputations of naturalists, but he does not concentrate on museums.

26 Thorstein Veblen’s The Theory of the Leisure Class: An Economic Study in the Evolution of Institutions (New York: Macmillan, 1899) was, in part, a critique of the wealthy urban elite whose money was used to buy for themselves or their special causes—often museums—objects that were demonstrations of wealth. Natural history museums were favored by big game hunters who, increasingly restricted by hunting laws, could argue for special exemptions in order to donate trophies.


28 Goode made this connection explicit in “Museums of the Future” (cit. n. 1) because he hoped to encourage communities to invest in museums, another instance of what Lynn Nyhart and Thomas H. Broman discuss in their introduction to Science and Civil Society (see note 21, above).

29 Soraya de Chadarevian and Nick Hopwood, eds., Models: The Third Dimension of Science (Stanford, Calif.: Stanford Univ. Press, 2004); Haraway, Primate Visions (cit. n. 18); and Karen Wonders, Habitat Dioramas: Illusions of Wilderness in Museums of Natural History (Uppsala: Almqvist & Wiksell, 1993). Ann Shteir has noted that women, including the Mintorn family, were involved in creating backdrops for habitat groups; this was discussed in her colloquium presentation “‘Fac-Similes of Nature’: Modeling Wax Flowers for Art, Science, and Profit,” Univ. Minnesota, 9 Apr. 2005.
well as special classes for children in the summers as an alternative to recreational camps enjoyed by the affluent classes. Considerable attention to the content and organization of today’s semiformal educational activities has not led to much historical investigation of the activities of educational staff employed to work on exhibits, labels, pamphlets, guidebooks, school tours, and other interpretive efforts for children and adults.30

As modern museums assumed the didactic goals of progressive reformers, they distanced their enterprises from other public displays; museum directors were particularly dismissive of the circus, theatricals, and side shows that featured the exotic and bizarre.31 Indeed, the elasticity of the term “museum,” at least in North America, had left room for multiple phenomena—from magazines to curiosity shops and patent medicine storefronts.32 P. T. Barnum appropriated the title for his American Museum in New York City (which burned in the 1860s), making his second floor a glass-fronted exhibit hall in an attempt to lend greater respectability to his permanent establishment. Proprietors of anatomy and wax museums used the title for a number of reasons, among them to associate their displays with science and medicine and thus to enhance their credibility with the public. Perhaps in response, the modern public museums increasingly distinguished themselves by their exposition of scientific concepts and by more abstract and complicated presentations.33 For them, the goal was to demonstrate how the ordinary takes on meaning even as it is presented against what might be viewed as exotic or aberrant. Historians of science should note, however, that while the commercial shows made efforts to emulate the public museums, natural history and, later, science museums were likewise conscious of the less respectable institutions, often designing their information as a counterpoint to such enterprises but occasionally borrowing some audience-pleasing techniques from them.

In North America, in ways distinct from yet parallel to Europe, imperial connections and often serendipitous acquisitions shaped each museum’s particular staff expertise, its scientific results, and the tastes of its local audiences.34 Insights from studies of scientific colonialism play out in accounts of regionalism, border areas, and the relative status of scientific disciplines. This was especially evident as museum staff turned their attention to the issue of species distribution, compiling data that came in from army expeditions, railroad surveys, and privately funded expeditions into newly acquired territories or, in


31 Horace Newton Winchell, “Museums and Their Purpose,” Science, 24 July 1891, 18:43. This Minnesota geologist-turned-anthropologist was adamantly opposed to popular and ephemeral alternatives to the rational, systematic presentation of specimens at the University of Minnesota and newly founded Minnesota Academy of Sciences.

32 Suzanne Fischer, “‘Diseases of Men’ and Medical Authority in Early Twentieth-Century Milwaukee,” paper presented to the Midwest Junto, Mar. 2005, provides one example of a network of anatomy museums that operated in the Midwest from the 1890s into the 1920s. Public exhibitions contributed to scientists’ distrust of entertainment even as they heightened public interest. See Orosz, Curators and Culture (cit. n. 4); Andrea Stulman Dennett, Weird and Wonderful: The Dime Museum in America (New York: New York Univ. Press, 1997); and David Brett Mizelle, “‘To the Curious’! The Cultural Work of Exhibitions of Exotic and Performing Animals in the Early American Republic” (Ph.D. diss., Univ. Minnesota, 2000).


34 A particularly important overview is Nature and Empire: Science and the Colonial Empire, ed. Roy MacLeod, Osiris, 2000, 15.
some cases, previously settled lands that had been largely abandoned by disillusioned settlers. Moreover, in the era of Manifest Destiny, racial and imperial attitudes were most dramatically exhibited at major world fairs and were thus embedded in the minds of museum visitors and, sometimes, in the museums themselves.35

Rethinking the history of modern (and now postmodern) museums requires that we understand that they do not exist in isolation and apart from the influence of other material collections with which they share distinct but sometimes overlapping audiences. It is at these borderlands and interstices, watching for negotiations among constituencies of specialized staff, public and private patrons, and multiple audiences, that historians of science will uncover more about the nature of science practice.

CONCLUSION

The historian Randolph Starn wryly observes that complaints about the absence of critical agendas have typically been made by precisely the people who were proclaiming them. While acknowledging insights and issues raised by social historians since the 1960s and by cultural analysts whose assessment of power relationships came somewhat later, he argues for historical analysis that investigates rather than theorizes the social, economic, and intellectual dynamics of museums. In particular, he suggests that future studies not conflate the history of museums with a simple narrative of modernity.36 There is no denying that Goode and his contemporaries sought to build “the modern museum” and articulated an image coincident with that goal. But the projected image is just that: an ideal within a very complicated institution that for too long has served as a kind of unmarked center for a rich variety of activities that are only now undergoing more careful scrutiny.

Museums, like written history, guide reflections about the past. Historians of science are positioned by training and their ongoing interest in the history of ideas to write a new history of museums that can take advantage of cultural and social historical insights while avoiding the tendency to discuss “the museum” or even a tidy, linear “museum history.”37 Museums, including those of natural history and science, layer the meanings generated by the culture of which they are a part; their success depends on their congruence with the rules, structures, and premises of a particular place in time.38 Historians, too, write in social and intellectual contexts, and ours is an age resistant to simplistic universalizing, a fact that makes our work particularly challenging, disconcerting, occasionally dismaying, and often exhilarating.

Museum administrators surely presented the world as they understood it, creating co-


37 A parallel point is made in Daniel Wickberg, “Heterosexual White Male: Some Recent Inversions in American Cultural History,” *Journal of American History*, 2005, 92:136–157. He suggests that “cultural historians need to be more like intellectual historians; they need to take ideas and language a lot more seriously than they have been willing to do” (p. 156).

herences that resonated with their experts and audiences from materials drawn from often distinctive collections. Historians need not presume more than that, or less, even as we use tactile, visual, and archival records to understand how Western imperial expansion, patterns of immigration, changing political and economic rights of women and minorities, and technological innovation played out in the museums alongside the self-conscious efforts to add to scientific knowledge.39

Whether new or reframed, the issues of knowledge production, civic culture, local and global dynamics, and social and political influences position museums as important focus for inquiries in the history of science and technology. Because museums are repositories of more than ideas—printed, film, and audio records, anomalous and ordinary objects, extinct species, and human artifacts—both scientists and historians of science use individual objects as well as collective holdings to address current questions. Historians will concentrate on the fact that predecessors asked rather different ones but will nonetheless be influenced by a recognition that natural history collections today relate to our understanding of ecology and biodiversity and historicize the ways in which individuals, species, and larger populations survive and interconnect.40

Each museum, as a collection of objects, written records, and public displays, is malleable and responsive to its changing circumstances. It provides data on conservation, genetic persistence, and species transitions by taking advantage of material objects that have historic authenticity but also extrinsic significance. Simultaneously, some intrinsic identities of an object, captured in time and place, can, in historical narrative, be documented and, thus, understood to have been presented, described, and responded to in a quite distinctive, perhaps even disturbing, way at other points in time. For example, Donna Haraway’s discussion of an African gorilla at the AMNH may tell us much about attitudes toward race, class, and gender in the first decades of the twentieth century; but the gorilla itself remains, as well, a specific creature collected by Carl Akeley at a particular time and place (see Figure 5). Moreover, its historical, anatomical, and genetic information are codified, utilized, and represented in ways that rely on records generated by particular experts over time.

George Brown Goode’s Anglo-Saxon narrative history of museums and his vision of the “modern museum idea” are both historical artifacts. His premise that museums would be powerful educational tools and his ambition to stabilize some core concept of the modern museum proved elusive. Nonetheless, his ardent advocacy for a modern museum identified closely with science, as defined by method, was largely successful and led postmodern scholars to presume that these institutions enjoyed unqualified authority and posited objective rationality. But historians of science, digging in the documents, have discovered the nitty-gritty realities of managing complex institutions and negotiating what materials are preserved, how they are interpreted, and when to present them to various users and audiences. This is science in practice, and there is much more to learn about those who collected—quite literally—in the field, the knowledge brokers in the museums,


their patrons, and their ever-elusive audiences as they continuously reformulated their museums. These living museums, to turn Goode’s aphorism around, require that our histories tease out the ways that science becomes expressed in particular times and places and encourage multiple narratives that, if not objective or complete, carry the capacity to be read as simultaneously understandable.