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PICTURING NATURE AND CHILDHOOD AT THE AMERICAN MUSEUM OF NATURAL HISTORY AND THE BROOKLYN CHILDREN'S MUSEUM, 1899–1930

a yearly visit to a science museum is an iconic feature of the childhoods of twenty-first-century American schoolchildren; however, in the early twentieth century, such visits were novelties. The American Museum of Natural History (founded 1869) and the Brooklyn Children's Museum (founded 1899) both began serious educational efforts with children in the New York City public schools in the first decade of the twentieth century. In this article, I will show how museum personnel represented child patrons' museum experiences to their donors, supporters, and the public, investigating links between the way each museum pictured the intersections of science, pedagogy, and childhood in the museum setting, and larger understandings about the way that modern knowledge advanced according to social class. Science, perceived as a powerful force, was understood as an integral part of the Progressive Era's ideology of cultural advancement; the adults teaching science to children in museum contexts were mediating knowledge and teaching habits of mind that they viewed as profoundly important.

In the magazines, films, and publicity that each museum produced for its networks of supporters and for the public, child patrons appeared in photographs, offering proof of the museum's good works. Historians agree that the widespread interest in childhood during the Gilded Age and Progressive Era coincided with the growing popularity of everyday photography in a mutually reinforcing way, resulting in a plethora of representations of children in photographs around the turn of the twentieth century.¹ Pierre Bourdieu has written about photography as an "ontological choice of an object which is perceived as worthy of being photographed, which is captured, stored, communicated, shown, and admired."² If this is the case, then the photographic record of the

turn of the century shows that children, and in particular the education of children, was a subject that people found worthy of capture, communication, and admiration. Many expositions and conventions during the years between the Civil War and World War II featured photographs of children, often as part of exhibits designed to present the work of educational institutions and reform movements.³ In the Progressive Era, photographers such as Jacob Riis and Lewis Hine used images of children to shock and move audiences, dramatizing not only material deprivation but also the loss of educational opportunity inherent in childhoods spent laboring.⁴ The same era saw a proliferation of pictorialist images of childhood made by photographers such as Gertrude Käsebier, Clarence H. White, and Alfred Stieglitz; these photographers joined popular illustrators such as Jessie Willcox Smith and Elizabeth Shippen Green in depicting childhood as an idyllic, idealized realm apart from adult activity—a place where learning was natural and joyful. As art historian Anne Higonnet shows, magazines and advertisers used sentimental illustrations by Smith, Green, and their contemporaries to sell consumer goods; these examples show how images of protected childhood could sell a vision of a middle-class life.⁵ Art historian George Dimock has written that the gap between Lewis Hine's photographs of child laborers and the serene portraits of children made by pictorialist contemporaries constitutes a dialectical relationship in which the working-class child is seen as exploited and yet somehow repellent, "in need of rescue," while the middle-class child is idealized, abstracted, and observed with attention to nostalgic detail.⁶ Photographers depicting children in the museum operated within both of these opposed modes of representation.

In museum publicity photographs of children from the first three decades of the twentieth century, child patrons sometimes appear, like the children in Hine's photographs, to be needy, empty, and deprived, desperate to make contact with any natural object, and grateful for the chance to do so; alternatively, they are happy, cute, hard-working, and full of universal potential, like the young people depicted by pictorialist photographers and sentimental illustrators of the time. In photographs and articles published in its magazine, the *American Museum Journal* (beginning in 1919, *Natural History*; I will use the abbreviations *AMJ/NH*), the AMNH generally appears as a site where masses of sensorially impoverished city children could come into brief visual contact with a large and imposing body of knowledge. The museum's publicity held that this contact would translate into revelations and personal transformations, though not necessarily into scientific careers. Meanwhile, the Brooklyn Children's Museum, serving the then-suburban neighborhoods surrounding it, spoke of the museum as "belonging" to the children, its activities driven by their interests. At

the BCM, as represented in the chatty, informal pages of the *Children's Museum News* (CMN), children's natural scientific interest became the motivator for the creation of a tight-knit museum community, whose "alumni" achieved various metrics of middle-class success, including employment as scientists and engineers. Behind these two modes of representation lie institutional beliefs about the nature of childhood, the transformative power of science and nature, and the impact that encounters between children and the museum might have on young lives. Examining this publicity, we can see how social class might circumscribe expectations about the cultural meanings of these encounters.

PHOTOGRAPHING CHILDREN AT THE AMERICAN MUSEUM OF NATURAL HISTORY: SEEING VISUAL EDUCATION IN PRACTICE

Many historians have noted that the Gilded Age was a time of prodigious museum-building.⁷ Fewer have noted the place of children and childhood in these efforts. During the early history of the American Museum, as historian John Michael Kennedy has argued, trustees tended to favor a vision of the museum as advancing the education of the "public" at large, while scientists on staff fought to gain resources for expeditions and research. Around the turn of the century, as nature study became an official part of the New York City school curriculum, a "public" of schoolchildren emerged as a distinct focus for the AMNH—a focus that only grew throughout the 1910s and 1920s.⁸ Henry Fairfield Osborn, the wealthy paleontologist who was the president of the museum from 1908–1933, had an active interest in science education.⁹ Because Osborn exercised significant power as president,¹⁰ the museum's activities during this period reflected his interests. Although not all of the millions of schoolchildren who had contact with the AMNH during his presidency were underprivileged, Osborn, an avowed eugenicist, had an interest in efficient reformation and Americanization of immigrant and poverty-stricken populations in the city.¹¹ The photographs of museum patrons published in the *AMJ/NH* during his tenure often emphasized the museum's work with these groups, depicting a museum visit or an encounter with one of the natural objects that the AMNH lent to schools as a moment when "deprived" children would experience nature in a way that would jolt them out of their city lives and lead them to a new moral truth.

The AMNH participated in a wide range of educational efforts during Osborn's time as president. The museum's turn toward education began in 1881, when curator Albert Bickmore began to give illustrated lectures to public-school teachers, which he believed would translate into enhanced education in natural history for students.¹² The turn of the century brought a renewed level of interest in education on the part of the museum's personnel, as, in 1903, as historian

Sally Kohlstedt writes, the Board of Supervisors of the New York City schools performed an extensive reconstruction of the city's public school curriculum, intended to provide "A Correlation of the Pupil's Course of Study with the World in Which He Lives; His Spiritual and Natural Environment." A major component of this reconstruction was the mandate to teach children nature study and geography.¹³ Museums such as the AMNH offered a haven for teachers looking for resources for their new nature-study programs. In 1904, the museum began to circulate nature study collections, or gatherings of specimens, contained in a box "about the size of a large suit case" for easier transportation.¹⁴ Eventually, museums in other parts of the country copied this innovation. Chicago's Field Museum, for example, started a loan program in 1912, and St. Louis founded a museum dedicated solely to school lending.¹⁵ In 1905, curator George Sherwood, a "specialist in the life cycle of the lobster" who had supervised this school loan program, became head of the museum's educational programs.¹⁶ By 1907, classes coming to the museum could benefit from the guidance of a trained docent or attend a lecture in the auditorium. By 1917, the Department of Public Instruction lent lantern slides to schoolteachers, and by 1922, it also distributed motion pictures. In 1927, the museum opened a Trailside Museum and nature trails at Bear Mountain, outside of New York City; in 1928, a child could come to the museum on Saturday afternoon for a special program.¹⁷ These activities were supported by the Carnegie Corporation and the Cleveland H. Dodge Foundation, as well as by the City and State of New York.¹⁸

For an institution interested in crafting an image as a pillar of the city's intellectual life, child visitors offered a unique opportunity to prove that the museum's mission was charitable and worthwhile. Museum personnel, such as curator and later director George Sherwood, were quite aware that the museum's sponsorship of educational activities offered significant public relations and financial benefits; Sherwood wrote to Osborn in 1924, "As you well know, there is no branch of the Museum that has so much influence with City officials and taxpayers."¹⁹ The photographs that museum workers took of their child visitors and the accounts the museum made of children's museum visits must be understood in this context. During Osborn's tenure as director, the *AMJ/NH* published two special issues dedicated to educational activities—November 1911, and July–August 1927—as well as occasional articles about some aspect of the museum's work with children.

The transformative strength of the moment of encounter between child and museum object—a transmutation almost religious or magical in quality—is the subject of many of the *AMJ*'s November 1911 publicity photographs of schoolchildren in the museum. In 1931, the cover of an official history of the museum

carried embossed emblems representing its various functions; the emblem for "Education" was Aladdin's magic lamp.²⁰ Historian Victoria Cain argues that Osborn's commitment to visual education meant that he believed that viewers encountering museum reconstructions of the natural world would experience "virtual witnessing," which could "awaken 'latent faculties' in the depth of visitors' psyches, and could influence visitors' observational practices, thought processes, even their physiological reactions."²¹ The photographs of children in the museum reflected this belief, and cemented the idea that the museum could be all-powerful in replacing the contact with nature that city children lacked. Osborn wrote in 1911 that naturalists, like priests, stood between God and the child, mediating natural knowledge: "Some great law is first in the will of the Creator, then, like the light of a star so distant that it takes ages to reach the earth, it reaches the mind of some great naturalists, and finally it comes down, down, down to the vision of the very youngest." How can the naturalist make this law clear to the child? Through the museum, which can do more than illustrate—through the magic of vision, it can penetrate into the child's very being: "The best way to learn one of these laws is to see it in operation; this is far better than to read about it, for what is seen becomes part of oneself."²² This belief in visual education provided a strong ideological underpinning for the museum's educational efforts and explains, in part, how museum personnel could claim that education was taking place in what these photographs reveal was a quite crowded setting—so long as a child was able to stand on tiptoe to peer over his or her classmates at a diorama, a visual connection was made, and education was possible (fig. 1). The photographers documenting these moments of connection often stood behind a group of children so that the reader looking at the photograph could experience a point of view that would mimic the young people's line of sight. Figure one's group shot, which does not include the object of study, reinforces the museum's message: the attention-shifting power of the museum object, reflected in children's faces, is the subject of these photographs. A museum, contended Osborn, "can bring a vision of the whole world of nature, a vision which cannot be given in books, in classrooms or in laboratories."²³ The power of the museum was that it could, at will, provoke the kinds of epiphanies that the careful activity of science would take too long to bring about. The caption for figure two, for example, argues that the museum could serve as "a laboratory, 'the country,' or a distant wilderness for New York City schoolchildren." This claim positions the museum as a powerful simulation of the sites where science learning might take place, were these child patrons more privileged.²⁴ Sociologist Tony Bennett has written that the politics of knowledge in museum



Figure 1: *American Museum Journal*, November 1911, p. 248.

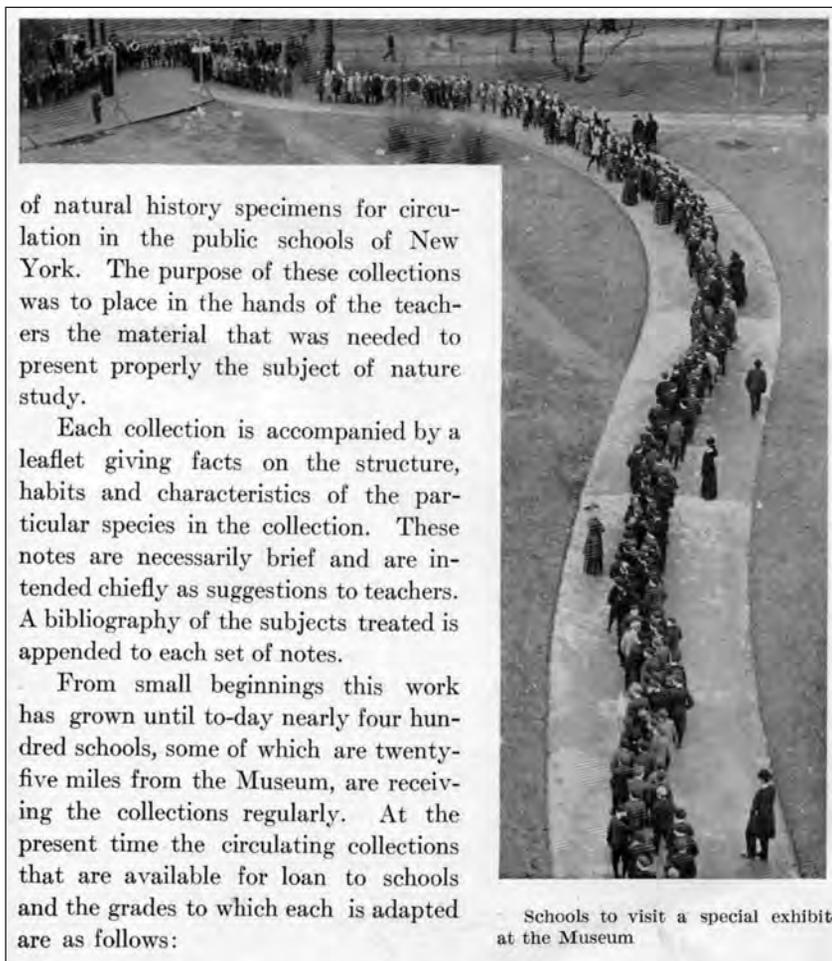


Figure 2: *Natural History*, March–April 1920, frontispiece.

practice encompasses not only the content of knowledge presented, but also the social relations of knowledge circulation;²⁵ the children photographed and presented as representatives of the AMNH's work with young people are emblematic of the AMNH's beliefs in the educational power of the encounter.

The masses of children around each museum diorama mirrored the situation in schools at this time. School administrators and personnel in the city faced many problems during the Progressive Era, including overcrowding (student-teacher ratios that were typically above fifty to one), lack of facilities, and low student retention.²⁶ The volume of children served by the museum was a statistic that museum personnel enjoyed quoting,²⁷ but they also liked to show that they managed to process these children without incident or disorder. *AMJ* photographs of children waiting in line, one of which (fig. 3) was considered so emblematic of the museum's educational program that it merited inclusion as a graphic element on the page, cemented the image of orderliness. These children, viewed from a distance so as to emphasize their strict organization despite the largeness of the group, are clearly guided by adult chaperones, and these images contradicted the reality of an overcrowded school system. Henry Fairfield Osborn viewed the lesson of order as one of the purposes of the museum. Osborn wrote in the *AMJ* in 1911, while describing the plans for expansion of the museum, that the ultimate goal of this expansion was to create more order within the collections, and thus to impart to "uninitiated" visitors, young and old, what Osborn saw as "the greatest lesson that Nature has to teach us"—namely, "the reign of law and order" (or, as he said at another time, "Nature's laws are as inexorable as the moral commands of God").²⁸

Perhaps because of the large numbers of child patrons they needed to serve, the museum's personnel spoke far more often of—and created far more photographs of—the moment of first contact between child and object, than they ever depicted or referred to the development of this moment into a more complicated understanding of the principles behind the object. While some museum educators working in the AMNH did develop more lengthy pedagogical relationships with children (for example, Agnes Roesler, an instructor in the Department of Education, who, in 1911, conducted a drawing and modeling class and founded a Children's Room to facilitate ongoing connections with children²⁹), the results of these involved efforts were less often showcased in the *AMJ/NH*, reflecting a preference for an image of the museum as an efficient engine producing millions of educative experiences. Philip Pauly, writing about the contemporary development of the advanced curriculum of high school biology at DeWitt Clinton High School in Manhattan's Hell's Kitchen, reports that the teachers preferred laboratory work to visits to the museum, because at



of natural history specimens for circulation in the public schools of New York. The purpose of these collections was to place in the hands of the teachers the material that was needed to present properly the subject of nature study.

Each collection is accompanied by a leaflet giving facts on the structure, habits and characteristics of the particular species in the collection. These notes are necessarily brief and are intended chiefly as suggestions to teachers. A bibliography of the subjects treated is appended to each set of notes.

From small beginnings this work has grown until to-day nearly four hundred schools, some of which are twenty-five miles from the Museum, are receiving the collections regularly. At the present time the circulating collections that are available for loan to schools and the grades to which each is adapted are as follows:

Schools to visit a special exhibit at the Museum

Figure 3: *American Museum Journal*, November 1911, p. 243.

the AMNH “there was little opportunity for active observation or the study of living organisms.” Moreover, Pauly writes, “In their perfection, the museum’s framed tableaux aestheticized nature and gave students the impression that the best way to experience it was indoors, on a rainy day.”³⁰

The teachers Pauly refers to were teaching high school classes and attempting to attune their pedagogy to the more laboratory-based biology of the early twentieth century. Teachers in other schools visiting the museum were teaching lower grades and were perhaps more accustomed to the sentimental language of nature study, some of whose practitioners saw a growing *emotional* attachment between a child and nature as a primary benefit of nature study. These teachers

reported many instances of what they saw as valuable connection resulting from museum visits. In the *AMJ*'s special Education issue of November 1911, public school teachers offered testimonials as to the museum's effect on their students, writing about the effect that the arrival of loaned specimens had on their classrooms. "These little people of the second grade, brought up under the abnormal conditions of the city, love the birds of the collection. They smooth and pet them, and even kiss them when I am not watching," wrote a teacher from Public School No. 76 in Manhattan. From Public School No. 27 in Manhattan came this story: "In one of the [loaned] collections is a parrot. It was the children's favorite. One boy in particular took a special interest in Polly. This boy one day offered to stay after three and put chalk and board rubbers away. Later it was found that his motive in staying was not to help his teacher. He wanted the chance to stroke the bird and talk to it."³¹ These letters echo the touching scenario presented in figure four, in which a small boy caresses the trunk of one of the taxidermied elephants in a group, while the rest of his class appears to listen intently to the instructor.

This emphasis on the childish joy generated in contact with nature was sentimental, but it also had strong ideological implications. In the November 1911 *AMJ*, a teacher, Rose Byrne, described a transformation in one particular child, Moses Rozansky. "As we went through the Museum's halls . . . the wolfish eyes of my little Rozansky grew snappingly bright," Ms. Byrne wrote. "Then the lines around the tight little lips softened, his whole face lit up with the humble reverence which one sees in the faces of old priests, the rough fingers clutched my arm, and he half exclaimed, half whispered, 'If we only were to know everything in here, Miss Byrne!'"³² Here, Moses readopts the natural attitude of childhood through contact with the museum, abandoning unnatural knowledge (the education of the streets, which would cause a child to go "wolfish") and returning to the realization of wonder that is supposed to be the way children approach the world. As Sarah Chinn has written, concern over children of immigrants living in urban settings often took the form of worries over premature promotion into adulthood. Photographer Jacob Riis called his subjects "odd[ly] old-mannish or old-womanish,"³³ and as Chinn points out, G. Stanley Hall wrote in *Adolescence* that youth in the city were victims of the "urbanized hothouse life, that tends to ripen everything before its time." Chinn writes that what Hall and other moralizing experts wanted, in place of this "hothouse," was "progress on terms determined by established authorities."³⁴ By bringing children into a museum such as the AMNH, reform-minded curators hoped to divert the curiosity of children such as Moses Rozansky from inappropriate objects of study (gambling? alcohol?) onto a scientific path that might teach them how much they did *not* know. Or, as George Sherwood wrote in *NH* in 1920, the museum should "spread the



Figure 4: "Group of children with museum guide studying elephant group." H. Miller, April 1922. AMNH Miscellaneous, drawer 94; neg. 39544; American Museum of Natural History Archives.

knowledge and happiness of nature before the million children of Greater New York, whose thoughts are continually cramped and warped by their more or less sordid surroundings into channels not healthful or idealistic for youth."³⁵

The story of Moses Rozansky represents an example of the assumptions that the AMNH's publicity made about the misguided emptiness of its patrons' present-day lives and the rehabilitative work that encounters with objects of nature could perform. In the late 1920s, near the end of the influence of the nature study curriculum movement,³⁶ the AMNH cemented a partnership with the School Nature League. This organization, founded in 1917, sought to bring a "nature room"—or a space filled with specimens—into each public school, arguing that a room filled with "as woodsy a setting as we can contrive" would provide an "open sesame" to young visitors that could be "brought into real touch with the living world of nature, even in the heart of a great city."³⁷ The rationale for the School Nature League's work was that city children were completely deprived of any sort of contact with what the league workers and museum personnel considered to be "nature." By the time George Sherwood wrote this in an article in *NH* in 1930, he was repeating a familiar rhetorical trope: "The country dweller can

hardly realize the restricted environment of many city children . . . Their knowledge of nature is limited to the dog, the cat, and perhaps the horse. The vegetable market window and the pushcart represent their knowledge of flowers. In a class recently at the Museum a child for the first time saw grass."³⁸ A silent 1927 promotional film for the museum's School Service is strongly reminiscent of Riis's visions of squalid, depraved city life. The camera takes a tour through streets thronged with playing children, pushcart vendors, and passersby. The film takes these deprived children on the street as its subject, showing them examining advertisements for inappropriate entertainments (fig. 5) or playing dice (fig. 6). These shocking scenes are transformed when a museum worker shows up on the street with a taxidermied animal, and the children immediately redirect their attention to examine the natural (fig. 7).³⁹

The museum sometimes explicitly pointed out the difference they expected the viewer/reader to see between the city children in their photographs and the child free in nature. For example, *NH* ran a photograph of a mixed group of children and adults planting a tree in Bar Harbor, Maine, right before a story about the School Nature League's work in New York City schools, and asked in the caption that the reader imagine for himself the difference between "the mental



Figure 5: Still from Carr, William H, and Irving Dutcher, "The School Service of the American Museum of Natural History". 16 mm, 1927.



Figure 6: Still from Carr, William H, and Irving Dutcher, "The School Service of the American Museum of Natural History". 16 mm, 1927.



Figure 7: Still from Carr, William H, and Irving Dutcher, "The School Service of the American Museum of Natural History". 16 mm, 1927.

outlook of these children, with their free out-of-door life” and that of the children in the article to follow (fig. 8). The children’s white clothes and the presence of ex-president Charles William Eliot of Harvard at the tree-planting are signals encouraging adult readers to recognize privilege—privilege naturally accompanied by the “freedom” to be “out-of-doors,” along with a superior “mental outlook.” (This equation of the “free out-of-door life” and privilege, which frequently played upon adult readers’ nostalgia for their own childhoods, was reinforced by articles in other issues of *AMJ/NH* during this period, such as Frank H. Wood’s elegiac “The Schoolboy and His Forest” and Theodore Roosevelt’s boyhood reminiscences in “My Life as a Naturalist.”⁴⁰) In opposition to these out-of-doors children, the city schoolkids reached by the School Nature League offer a marked contrast. The photographs in the following article were captioned



Figure 8: *Natural History*, May–June 1920, p. 264.

with the imagined thoughts of the city children encountering “nature” in the form of stuffed birds and forced pussywillows in small rooms at city schools (fig. 9). “Oh, how I wish I could see these things growing!” one of these “serious-minded” children exclaims, while another muses, “The seashore must be a wonderful place.”⁴¹ Mrs. John L. (Alice) Northrop, the president of the School Nature League, described the children who visited the nature study rooms that the league established at local schools as “suggest[ing] hungry little animals



Courtesy of Underwood and Underwood
OH, HOW I WISH I COULD SEE THESE THINGS GROWING!
Members of a class of crippled children in their nature corner at Public School No. 75

Figure 9: *Natural History*, May–June 1920, p. 267.

putting out tentacles in every direction, seizing with avidity on the knowledge they want, and finding learning not a task but a joy."⁴² In these depictions, the "avidity" of city children, equated with the squirming of ravenous sea creatures, becomes almost repellent, an object of wonder and pity for the adult onlooker.⁴³

Although the majority of the photographs and descriptions of child patrons in the *AMJ/NH* emphasized the child public's ignorance, lack, and deprivation, the American Museum sometimes depicted children's learning in the sentimental mode, especially during the 1920s. The 1927 special Education issue featured several rapturous articles about the potential inherent in children's minds ("The Child Discovers His World," Ruth Scherman; "Education as Natural Development," Marietta Johnson). The Johnson article was accompanied by several whimsical pictures of children outdoors with animals (fig. 10), including



Figure 10: *Natural History*, July–August 1927, p. 360.

one of a child confronting a porcupine (caption: "Can he shoot his quills?") and another of a child holding a tortoise ("Ooh! Isn't he warm?").⁴⁴ These articles and photographs, which make no mention of the social conditions of these children's lives, show nature study as a natural accompaniment to a "normal" childhood. In Brooklyn, at the Children's Museum, this mode of representation was dominant.

**SHOWING LEARNING AT THE BROOKLYN CHILDREN'S
MUSEUM: ALERTNESS, CUTENESS, AND THE LABOR OF PLAY**

I heard a happy humming
As though a swarm of bees
Over a new-found garden
Were voicing ecstasies.

It came from eager children
Who thronged upstairs and down
Discovering fresh wonders
Alert from toes to crown.

They listened to a legend,
And joined in nature games,
Calling the bugs and beetles
By learned Latin names.

They buzzed about strange countries,
They burrowed deep in books,
And graced the maps and pictures
With rapt and reverent looks.

America extended
Her arms to every child,
And little foreign faces
Looked up at her and smiled.

The air was warm with welcome,
They felt as free to roam
Through each enchanted chamber
As if they were at home.

And many a drop of nectar
Their young souls stored away
To make a golden honey
To sweeten life someday.

(Anne Lloyd, "In the Children's Museum"⁴⁵)

The Brooklyn Children's Museum Seal (fig. 11), created in 1924 by Isabel Whitney, was meant to represent Ariel, "the sprite or spirit of childhood,"



Figure 11: *Children's Museum News*, December 1924, cover.

“clothed with light, the irradiant power of the universe,” “encased in a star.”⁴⁶ Whitney and Anne Lloyd, the author of the poem above, participated in the Children’s Museum’s self-articulation as a safe, cozy, familial place, a place where children, who were possessed of what sociologist Chris Jenks would recognize as an “Apollonian” capacity for growth and learning,⁴⁷ would enter a natural paradise of education.

Children’s museums housed in buildings separate from adult facilities were a “particularly American museological phenomenon,” as Thomas Schlereth points out. Brooklyn led the way in supporting a children’s museum; Boston followed (1913), then Detroit (1917) and Indianapolis (1925). Schlereth points out that the children’s museum was also a particularly postwar phenomenon—he writes that in 1941, only eight children’s museums in the United States had their own facilities, whereas by 1985, more than fifty institutions could claim

that status.⁴⁸ Thus, the Brooklyn Children's Museum was indeed a pioneer in its field, and its vigorous institutional self-definition participated in the Deweyan language of progressive education and a Romantic view of the nature of childhood.

The architecture of the BCM spoke volumes about its child-centered intentions. The BCM was initially housed in a Victorian mansion—the Adams House, in Bedford Park (see fig. 17 for an image of the Adams House).⁴⁹ Curator Anna Billings Gallup wrote that the house's "picturesqueness of situation" rendered it uniquely suited for the children's museum.⁵⁰ The Adams House became an integral part of the BCM's image. Caroline Worth, writing for the journal *Childhood* in 1922, dramatized the founding of the museum as a natural regeneration of the old house, which had once housed children as a family dwelling but had become "grim and neglected, as would any home in which the sweetness of childhood failed to enter." The museum established itself almost of its own accord: "Hundreds of birds seemed to fly into the parlors of the old mansion, and to arrange themselves in glass cases. The dining room disappeared, likewise the kitchen and bedrooms. Butterflies of every hue joined with moths, beetles, and dragon-flies in forming an Insect Room . . . The great family of children took possession of the building."⁵¹ Likewise, in a 1912 newspaper article about the museum, journalist Sydney Reid nicknamed the place "The Children's Wonder-House," drawing attention to the childish ownership of the physical plant.⁵² At the time of its opening, the BCM was intended to appeal to young people ages six through twenty.⁵³ In the house on Bedford Park, this theory translated into "departments" of botany, zoology, geology, meteorology, geography, and history. There was also a library stocking textbooks, popular science volumes, and magazines, including *National Geographic*, *Nature*, *Bird-Lore*, and some more ambitious fare, including the *American Journal of Science* and the *Journal of Applied Microscopy*.⁵⁴

The museum had strong associations with school-based progressive education movements. Anna Billings Gallup, who joined the Brooklyn Children's Museum's staff in 1903 and spent thirty-five years as its head, was a teacher who had spent four years at the Hampton School, giving classes in biology, and she had also received a degree in biology from MIT (Sc.B.).⁵⁵ Gallup was a founding member of the major professional group of nature-study educators, the Nature-Study Society, and often wrote about the Children's Museum's activities in the society's journal.⁵⁶ The language of progressive education, with its emphasis on shaping instruction according to the child's interest, pervaded the rhetoric of the museum's curators and administration. Gallup believed in child-centered education and spoke often of the value of allowing children to follow their

interests within the museum's walls.⁵⁷ Historian John R. Gillis describes what he calls (following German sociologists Helmut and Helga Zeiher) the "islanding of childhood," or the twentieth-century phenomenon of the creation of separate and idealized realms of childish existence. Gillis argues that this "islanding" is part of the "mythical geography of childhood," a constructed sense of place that serves the adult by providing imaginary "children to live by," while separating actual childhood experiences from adult life.⁵⁸ In this case, adults believed that the "island" of the museum was inhabited and possessed by children's intellects. "All development has been indicated by interest, so that the children have actually made the museum; the management and city authorities simply doing what was needed," Gallup wrote in a pamphlet rejecting a proposal to absorb the museum into the Brooklyn Institute of Arts and Sciences. "The child must feel that the whole plant is for him, that the best is offered to him because of faith in his power to use it."⁵⁹

This idea, when translated to the physical space of the museum, had great visual appeal for the adult onlooker. Many articles in the BCM's official newsletter, the *Children's Museum News (CMN)*, noted the appropriateness of the museum's physical plant for what an adult visitor from out of town called "short-legged humanity."⁶⁰ In 1919, the *CMN* noted that the children greatly appreciated the museum's acquisition of a set of small folding chairs and a low table: "No longer will children have to stand up or lean against the polished glass or lie on the floors on their stomachs when they laboriously print the names of the birds and butterflies they have drawn. It is such a comfort not to have to stretch up to the big tables made for big folks!"⁶¹ When a class of librarians-in-training visited the museum in 1926, a librarian recounted a humorous story that she said was typical of the children's proprietary attitude toward the museum: "One small boy, looking at the young women . . . scowled, and in no uncertain tone declared, 'This is a Children's Museum.'"⁶²

While the children who came to the BCM were city children, and admission to the museum was free (at least in 1912),⁶³ they were not necessarily economically disadvantaged. The neighborhoods bordering the museum—today known as Bedford-Stuyvesant and Crown Heights, and primarily African American and working class in makeup—were, during the early twentieth century, bedroom suburbs for middle- and upper-middle-class families.⁶⁴ Contextual clues indicate that the BCM's patrons came from comfortable backgrounds. Gallup wrote in 1908 that many of the museum patrons were introduced to the museum when they came "with their parents, or the family nurse." Nor were these children pictured as living in such a stripped-down, impoverished physical environment as some of the AMNH's child patrons.

Gallup also referred to children “returning from country outings” in September and visiting the museum full of stories about the way that they’d applied nature study to their experiences.⁶⁵ Moreover, the children who visited the BCM did not arrive empty-handed, like the children referred to in the AMNH’s publicity. The Brooklyn Institute conceived of the Children’s Museum as a place where children could bring things they might find in their daily lives: “Boys and girls often find odd and curious animals, or plants, or minerals, about which they would love to know something.” The scientific staff attached to the Children’s Museum would be happy to identify this flotsam and jetsam for the museum’s patrons, the piece went on to say, offering information about “its place, history, uses, name, and structure.”⁶⁶ This offer assumed at least a degree of variety within the patrons’ environment; the AMNH did not imagine “its” children as ever having seen any animal except rats and horses.⁶⁷ A final clue to the middle-class status of the museum boys and girls during the first quarter of the century lies in the stories the staff told about the success of their “graduates,” many of whom returned from college to share their experiences with the curators.

The BCM’s image as an “islanded” paradise of learning, where children’s interests could shape scientific inquiry, relied on the middle-class status of its patrons. The “family” of children inhabiting the old Adams House was not pathetic, vaguely menacing, or in need of discipline, and because of this, the BCM could indulge in flights of fancy about an institution ruled by youth’s desire to know. Unlike many of the children pictured in the AMNH’s publicity materials, who often seemed wistful or desperate, easily fulfilled by encounters with small tokens of nature, the children of the BCM manifested an easy familiarity with science that adult onlookers found nothing less than cute. The writers of the *CMN* often deployed anecdotes about children’s knowledge for the purposes of humor. Describing the summer field activities of the Children’s Museum League in November 1915, the *CMN* reported that “before the summer was over, children of less than ten years of age were talking quite freely about ‘Pholus pandorus,’ ‘Hemaris thysbe,’ and a hundred other species of moths, butterflies, beetles, bugs, and grasshoppers.”⁶⁸ The *CMN* reprinted a letter from an eleven-year-old girl in 1926, asking “in scientific vein” whether there are people living on Mars. “I asked a college boy,” said Marie Sharpe, “and he said scientists say or imagine that there are long, thin, straggly people there. But it seems impossible for people to live on or in a star . . . I should think if there were, it would be such a weight on the star that it would fall to earth.”⁶⁹ When contrasted to the depicted ignorance of the AMNH patrons, the report of this childish inquiry, clearly published to serve as a humorous anecdote,

points to the type of knowledge gap that indulged adult ideas about the fanciful imaginations of children and their scientific inclinations, rather than confirming perceptions of the deprivation of city childhoods.

The images that accompanied the *CMN*'s articles reinforced the idea that children's participation in science should be an occasion for gentle adult amusement. While several photographs of children the BCM took "waiting on line" as their subject, just as the AMNH's promotional pictures did, these images were intimate and amusing, as opposed to distant and impersonal. In figure twelve, "On the Line," small signs of the patrons' personalities, such as a look off into the distance, a face made, or a hat fiddled with, render the obedient waiting all the more notable—a child suppressing naughty impulses in order to gain access to knowledge is both adorable and admirable. In another "on the line" image from the March-April 1926 *CMN*, "Coming Early," museum patrons look like pilgrims, waiting for access to "their" house; the loose informality of the line, as well as the fact that this is Saturday morning, suggests that these kids are here on their own initiative.

In publishing photographs of museum children engaged in activities, the *CMN* often achieved cuteness through punny captions. These often emphasized to the adult onlooker the similarity between the natural objects that the children were examining and the children themselves. The museum kept a hive of bees



Figure 12: "On the Line." *Children's Museum News*, December 1913, cover.

indoors; in figure thirteen, "Busy Bees," a hive of children gathers the "honey" of knowledge while observing the insects' activity. Figure fourteen, "Opening Buds," depicts children who may be observing botanical signs of spring, but the adult looking at the photograph is instead invited to think of the children as the buds prepared to flower. Considering the fear adults manifested in other contexts throughout the 1920s about adolescent boys and girls mixing freely in social settings, this photograph is all the more notable for its assumptions of innocence.⁷⁰ Finally, in figure fifteen, "What Beauties Heaven and Nature Can

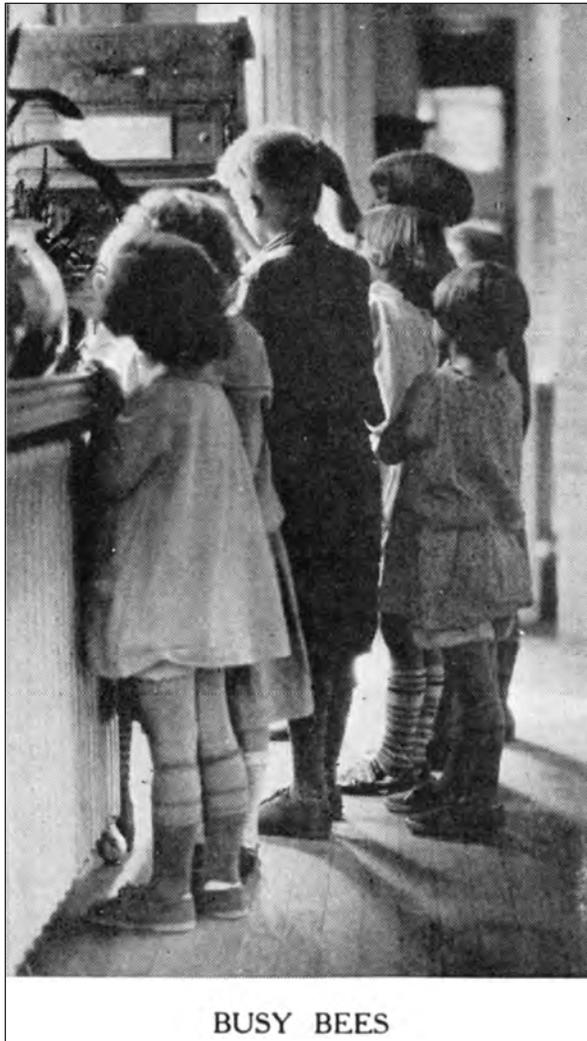


Figure 13: *Children's Museum News*, November–December 1925, p. 214.



Figure 14: *Children's Museum News*, May 1925, cover.

Create," children look under a log for interesting insects and fungi, while adults looking at this picture are invited to see children anew as "beauties."

While young visitors to the AMNH experienced nature study as a momentary encounter fraught with wonder and magic, the BCM's children experienced science as a process of continual assessment and achievement, and museum workers and parents commented favorably on their entrepreneurial attitudes. The strong connections between the museum and the Woodcraft and Boy Scouts organizations were partially based on the museum's stated mission to help Scouts and Woodcrafters study for badge tests.⁷¹ Children competed for prizes in subject areas, striving to win such items as a "hand lens" (a prize for excellence in "insect study"); a book on trees ("tree study"); and a "balanced aquarium" ("the study of aquatic life").⁷²

Adults also enlisted these entrepreneurial attitudes in attempts to grow the museum's community, enforcing the idea that children would be expected to contribute to their own education, and that the relationship between the child



Figure 15: *Children's Museum News*, May 1930, p. 130.

and the BCM would be a long-term one. In 1917, the *CMN* reported on several gifts children had given to the library, adding that "the interest felt by the children in the Library has been expressed from time to time by gifts of books and useful material." (In this case, "useful material" included one Morton Wadsworth's gift, "an unusual Chinese nut, resembling the bronzed head of a deer, which has aroused the curiosity of children in visiting classes."⁷³) Thus, one child's interest could multiply. Indeed, in order to receive a museum certificate in bird study, a child needed to "show" in what ways she had succeeded in interesting others in birds.⁷⁴ Children also assisted in museum promotion, as the museum started a Children's Museum League in 1915, whose members

were to wear a special badge and promote museum membership among their friends.⁷⁵ By 1920, the members of the league were enjoined to “make short addresses about the Museum in classrooms or school assemblies,” or “invite friends to bring box lunches and spend a whole day at the Museum under your guidance.” (“One member brought his friends on a bicycle one at a time from a distance of two miles.”) For their efforts, league members successful at recruitment (having brought fifteen members into the museum fold) were given a bird book with “colored pictures.”⁷⁶

Unlike the AMNH personnel, who discussed children’s achievements in vague or sentimental terms, the BCM was quite clear about exactly what was learned at the museum, and by which children. Museum tests were carried out to ascertain the amount of knowledge gained by individual students, and the *CMN* described them as a pleasure, not a trial. Whether that was actually the case is, of course, less clear.⁷⁷ Tests were seen as being in line with children’s own desires: in April 1916, for example, the *CMN*’s Library Notes reported that a “small boy” had picked out several mineral samples for the beginning of his studies in mineralogy and added that this was “another step toward his expressed ambition ‘to know all about everything in the Museum.’”⁷⁸ The bird clubs, for example, resulted in a visible increase in knowledge; in December 1913, the *CMN* reported that four boys who had become interested in birds the year before, Edward Crane, Carl Funaro, George Schoonhoven, and Wilfred Kihn, now had familiarity with a hundred living birds, a dramatic increase over their past knowledge: “Carl says he knew but three a year ago, and Edward thinks his own list could not have exceeded half a dozen.”⁷⁹ Describing summer insect collecting activities, the *CMN* wrote in 1915 that “no one was satisfied” until they learned the names of the species obtained. The same group of children transferred knowledge of the bird specimens in the museum into everyday life and schoolwork: “The effect of studying birds at home is registered in the children’s daily conversations about living birds that they are beginning to observe in the parks and highways; in the discriminating questions that the children ask in the Museum, and the ease with which they can answer the questions asked in the bird lessons at school.”⁸⁰

The field trip was a major aspect of the BCM’s activities in the first quarter of the twentieth century, as well as a way for adults to teach children the habits of an ambitious and directed mind. Field trips, museum personnel believed, helped teach children how to collect out of interest, rather than greed. In 1917, the *CMN* wrote about the progress of the summer insect-collection program, noting that the children had initially started out “with no purpose beyond that of catching and holding in their hands some brightly-colored bit of insect life,”

but that as they realized that the “cabbage butterflies, swallowtails with broken wings, and monarchs with wings rubbed colorless by too-eager fingers” did not present well when mounted, they moved on to more specifically directed collecting. In this scenario, participating in scientific modes of classification and presentation made the children abandon their desire to “catch everything that flies” in favor of a “businesslike purpose” that, while effective in curbing acquisitiveness, could also lead to conservationist thinking.⁸¹ In another description of summer trips, the *CMN* wrote that children prepared their own collecting apparatus, saying that “many moments of happy anticipation” went into the exercise of scrubbing and varnishing cigar boxes, refurbishing butterfly nets, and retying cyanide bottles.⁸²

The *CMN* often ran photographs of single children working diligently on collections they compiled on these trips. If the dominant mode of the AMNH child, as represented in publicity, was simple wonder and sentimental attachment, the BCM child channeled his wonder into profitable work. In October 1916, the *CMN* ran a photograph of Grinnell Booth, a participant in one of the museum’s summer entomology programs, in a quiet corner of the Adams House, processing the fruits of his insect collecting. The accompanying text noted that Grinnell was one of the most enthusiastic students in the program, “hesitating at times about going home for lunch for fear he would ‘miss something.’” (Grinnell was also mentioned in the following month’s *CMN* as the youngest competitor in an insect-collection contest, with an entry that “compared quite favorably” with the older boys’.⁸³) These pictures of children working on collections, a common visual theme in the *CMN*, were clearly set up for adult appreciation, as in this 1917 image of George Ris and his mineral collection (fig. 16), in which the “trays of home manufacture” in which he houses his specimens are turned outward for the camera to capture, creating the impression of a little shopkeeper displaying his goods.⁸⁴ In her own photo op, Bernice G. Schubert “of 1483 Union Street” was also shown with her collection (hers displayed in a Chiclet box) and described as “one of the happiest little girls in the Bedford Section all last summer,” a description belied by her somewhat doleful expression.⁸⁵ Next year, the *CMN* noted, she planned to raise butterflies from the caterpillar stage. These collecting images present a picture of children learning to direct inquiry into tangible profit; the museum itself acts as a stage for their quiet, well-behaved labors.

One group of BCM patrons had no analog in the attendees at the AMNH: the “wireless boys.” These older boy museum visitors were the big brothers of the museum family, and their scientific activities were seen as advanced and glamorous (see, for example, their rooftop antics in fig. 17). “They argue almost



Figure 16: *Children's Museum News*, November 1917, p. 13.



Figure 17: *Popular Science Monthly* 72 (April 1908), p. 375.

to the point of the bayonet," Anna Billings Gallup told a reporter in 1912, describing the discussions which she saw take place between older, "earnest" boy visitors engaged in operating the museum's wireless station. The reporter, Sydney Reid, went on: "These heated arguments are not about baseball, football, tops, marbles, or kites. They are about moot questions of science. The big boys have exhausted text books, know all that the masters can tell about particular subjects, and are pushing their theories and inquiries into the unknown." Reid wrote that a group of older boys at the museum was so enamored of the wireless station that they "labor afternoons, Saturdays, and holidays, from love of their occupations, and because they 'want to know.'" The place of these "boys" in the museum family was a treasured one; their knowledge of electricity meant that they contributed materially to the museum's facilities. Reid reported that, in return for the space that Gallup afforded them to work on the wireless station, "if a fuse blows out or anything goes wrong with museum apparatus, the ingenious and industrious boys immediately fix it . . . Led by James Parker, they installed a complete telephone service for the museum, and this has worked well during three years."⁸⁶

The romance of these museum "big boys" was part of a larger cultural affection for the young inventor-hero, who, during the years between 1906 and the US entry into WWI in 1917, was often an adept at wireless communication. Historian of communication Susan J. Douglas writes that the subculture of boys and young men who constructed and operated amateur wireless stations was accompanied by—or perhaps cocreated with?—strong media interest in the phenomenon.⁸⁷ Meanwhile, the nature-study movement, Sally Kohlstedt writes, produced few textbooks and curricula that covered the physical sciences. A combination of factors, including the greater involvement of women (and, thus, of future teachers) in biological sciences and the cultural belief that young children had an affinity for animals and plants, led to this state of affairs.⁸⁸ The Children's Museum library seemed to follow this belief, as it considered books about physics and astronomy to be appropriate for older museum patrons, while describing nature study books as intended for their younger "museum children."⁸⁹

The emergence of the wireless station at the museum seems to have resulted from children's desires. Gallup said that the museum put together a lecture series in physics in 1906 "in response to an expressed demand from the boys." This course led to the initiation of the wireless station project, which Gallup said was exclusively run by the "boys" themselves. Gallup's language indicated that this innovation on the Children's Museum's part was not received entirely positively in the greater community of museum workers—she said that "some have

maintained that physics and electricity are not germane to museum work," which should remain focused instead on collecting and cataloging objects of scientific interest—but argued that "a children's museum calls for such modifications and adaptations of methods as will enable children to use it," and that "the keynote of childhood and youth is action."⁹⁰ An assistant curator, Mary Day Lee, who began working at the museum in 1907, became a de facto specialist in these "older boys," offering lectures on minerals and physics and helping the boys with their wireless station.⁹¹

Museum staff reported that the wireless station produced successes, as did many of the museum's activities, by directing children's interest into a productive context. In 1915, the *CMN* published an account of a mother who came to the BCM with a younger child, and when the child introduced her to a staff member, launched into an account of how the BCM had saved one of her older boys from "incurability." This mother's account offers a window into the way that the group of boys working in the wireless station took science as the foundation for their community. Before she moved to the BCM's neighborhood, she said, she had despaired for her son's future: "The neighbors advised me to thrash him." However, after visiting the BCM, "he awoke to an interesting world." The museum removed the obstacles to interest which the school system had artificially placed between her son and the world, and the child began to be devoted to wireless telegraphy. In the wireless station of the BCM, "he handled apparatus, asked questions, and performed experiments." His peers helped him see the value of scientific discourse: "He heard the discussions and arguments of the older boys who frequently disagreed on scientific questions . . . As a listener, and sometimes as a participant in these heated arguments, he learned to do his own thinking." As time went on, "the Museum became his play room, his study, and his work shop all in one," while he developed new ambitions and ended up enrolling in a technical high school and pursuing a degree in electrical engineering. The museum, the happy mother said, "applied the stimulus and continued the encouragement until the boy was old enough to make his decision and plan his own future."⁹² This story shows how much the BCM's vision of long-term personal transformation through scientific interest contrasted with the AMNH's ideas about sentimental attachment through the visual experience of museum-going; in contrast with another museum story, the tale of the "wolfish" Moses Rozansky's softening experience at the AMNH, this story locates a child in context, identifying him as somebody with parents and neighbors who would tolerate his youthful misguidedness while waiting for him to grow into his potential.

The wireless boys offered one of the museum's best opportunities to prove that "its" children were long-term successes. In 1916, for example, the *CMN*

recorded that the world, and the staff of the BCM, had recently been excited by announcements of wireless communications between Arlington, Virginia; Honolulu; and Paris: "Such an achievement as this stirs the imagination of all people, but to the staff of the Children's Museum there was added a deep personal interest." Two young men, Austen Curtis and Lloyd Espenschied, who had been instrumental in the initial opening of the wireless station at the BCM, were involved with these tests. The article notes that while Espenschied had graduated from a technical school and worked for AT&T, Curtis had learned in the "school of experience," traveling to "many lands" as a wireless engineer, living in Brazil and finally returning to work for the Western Electric Company.⁹³ An article in the Brooklyn *Daily Times*, preserved in the museum's archives, pointed out that Curtis, a "particularly efficient" young man, was "the chief wireless engineer for the Brazilian government before he was old enough to vote."⁹⁴ When he came back from Brazil, Curtis brought the Children's Museum a collection of tropical insects and, later, a live spider monkey named Plato, who was to become a favorite museum pet.⁹⁵ During the first World War, the *CMN* reported that Curtis, a first lieutenant in the Reserve Signal Corps, was "engaged in very important specialized wireless work."⁹⁶ In 1918, Curtis wrote to the *CMN* to tell them he'd been promoted to captain in the Radio Corps, and in 1919, he came back, along with a number of other museum "alums," to visit the curators and staff.⁹⁷

The wireless boys were the best example of follow-through that the museum got from its "graduates," but other examples of successful "alumni" abounded. Unlike the AMNH, the Children's Museum could, and often did, point to specific examples of children whose experience with the museum led to a career in science. At the National Education Association in 1926, Anna Billings Gallup gave a speech that highlighted the usefulness of these former patrons to society. The museum's displays, she said, "fired one boy with a zeal for insect lore that wrought his way through the University and eventually saved from a threatening insect plague, the wheat crop of Indiana." The mineral room "[inspired] one boy to become a curator of minerals and two to qualify as mining engineers."⁹⁸ For the BCM, the narrative of the child patron was one of movement through initial dazzled contact, into commitment, work, and excellence, and eventually on to productivity in the modern world.

CONCLUSION

In the early histories of the Brooklyn Children's Museum and the American Museum of Natural History, progressive interest in modern science and technology came together with the era's emphasis on childhood, development, and education. The two museums used images of child visitors as publicity

tools, representing visions of how museum learning worked for their members, donors, and colleagues at other museums. These images and the written descriptions of museum learning included in the AMNH's magazine *The American Museum Journal/Natural History* and the Brooklyn Children's Museum's *Children's Museum News* show how ideas about the nature of science learning reflected progressive concepts of childhood. When the AMNH operated from the assumption that its patrons were empty vessels, susceptible to being emotionally moved by the briefest of contact with natural objects, it participated in a vision of impoverished city childhoods that was colored by the ideology of progressive child-saving efforts and beliefs in the need for efficiency. The children in its photographs incite pity, which can be tempered by the adult onlooker's satisfaction in the thought that the great museum has ameliorated their thirst for knowledge—and, because of its permanency, can do so for masses of children at once. The children of the BCM, on the other hand, were depicted as inherently scientifically engaged, capable of careful and exacting scientific work if properly coached; as represented in photographs, they were cute, funny, and, in the case of the wireless boys, daring and admirable. Both modes of representation were meant to show the museum's efficacy and secure material support; on the one hand, evidence of moral growth in poorer child patrons could assure the reform-minded of the efficiency of the museum in providing city children with a lost connection with nature, while on the other hand, photographic proof of the affinity of the middle-class child for museum projects could provoke feelings of pride in modern teaching methods and hope for a scientific future.

NOTES

1. Nancy Martha West, *Kodak and the Lens of Nostalgia* (Charlottesville: University Press of Virginia, 2000).
2. Pierre Bourdieu, *Photography: A Middle-Brow Art* (Stanford, CA: Stanford University Press, 1990), 6.
3. Thomas J. Schlereth, *Cultural History and Material Culture: Everyday Life, Landscapes, Museums*, 1st ed. (Charlottesville: University Press of Virginia, 1992), 94–95.
4. See, for example, Lewis Hine, "Making Human Junk," *Child Labor Bulletin* 3 (1914–1915).
5. Anne Higonnet, *Pictures of Innocence: The History and Crisis of Ideal Childhood* (New York: Thames and Hudson, 1998).
6. George Dimock, "Priceless Children: Child Labor and the Pictorialist Ideal," in *Priceless Children: American Photographs 1890–1925* (Greensboro, NC: Weatherspoon Art Museum, 2001), 7–22.
7. Steven Conn, *Museums and American Intellectual Life, 1876–1926* (Chicago: University of Chicago Press, 1998); Michael G. Kammen, *Mystic Chords of Memory: The Transformation of Tradition in American Culture*, 1st ed. (New York: Knopf, 1991); Neil Harris, *Cultural*

- Excursions: Marketing Appetites and Cultural Tastes in Modern America* (Chicago: University of Chicago Press, 1990).
8. John Michael Kennedy, *Philanthropy and Science in New York City: The American Museum of Natural History, 1868–1968* ([s.l.: s.n.], 1968), 149. Kennedy finds that scientists' objections to the museum's educational mandate continued during the Osborn era, when the education department received more institutional support due to Osborn's commitments (p. 210).
 9. See, for example, Henry Fairfield Osborn, *Creative Education in School, College, University, and Museum; Personal Observation and Experience of the Half-Century 1877–1927* (New York: C. Scribner, 1927).
 10. Victoria E. M. Cain, "The Direct Medium of the Vision': Visual Education, Virtual Witnessing and the Prehistoric Past at the American Museum of Natural History, 1890–1923," *Journal of Visual Culture* 9, no. 3 (December 1, 2010): 294; Ronald Rainger, *An Agenda for Antiquity: Henry Fairfield Osborn and Vertebrate Paleontology at the American Museum of Natural History, 1890–1935* (Tuscaloosa, AL: University of Alabama Press, 2004).
 11. Donna Haraway writes that the AMNH's project during its first fifty years was to undertake "the task of regeneration of a miscellaneous, incoherent urban public threatened with genetic and social decadence." Donna Haraway, "Teddy Bear Patriarchy: Taxidermy in the Garden of Eden, New York City, 1908–1936," *Social Text* 11 (Winter 1984/1985): 20–64. Besides providing other institutional support for the eugenics movement, including hosting various eugenics conferences at the AMNH, Osborn cofounded the American Eugenics Society in 1922 and wrote the forward for his friend Madison Grant's *The Passing of the Great Race: Or, the Racial Basis of European History* (New York: Charles Scribner's Sons, 1922).
 12. George Sherwood, "What the American Museum is Doing for the School Children of New York," *Natural History* 22, no. 2 (April 1922): 101. In his 1969 history of the museum, Jean Le Corbeiller calls the Bickmore theory of knowledge transfer a "transmission-belt scheme" (Jean Le Corbeiller, "Early Chapters for Jean Le Corbeiller's Text for the Pictorial History of the American Museum of Natural History," [Jean le Corbeiller Collection, MSS L67; New York: American Museum of Natural History Archives, 1969], n.p.).
 13. Sally Gregory Kohlstedt, *Teaching Children Science: Hands-On Nature Study in North America, 1890–1930* (Chicago: University of Chicago Press, 2010), 62–63.
 14. George Sherwood, "The Museum in Education," *Natural History* 30, no. 5 (October 1930): 504.
 15. "The Field Museum Information," n.d., http://www.fieldmuseum.org/museum_info/default.htm; Kohlstedt, *Teaching Children Science*, 65.
 16. Jean Le Corbeiller, "Early Chapters."
 17. "Report to the Committee on Education of the American Museum of Natural History," March 14, 1940, Central Archives, 1237, American Museum of Natural History Archives.
 18. Sherwood, "The Museum in Education," 503.
 19. George Sherwood to Henry Fairfield Osborn, March 4, 1924, Central Archives, 120, American Museum of Natural History Archives.
 20. Anonymous, *The American Museum of Natural History: An Interpretation* (New York: American Museum of Natural History, 1931).

21. Cain, "The Direct Medium of the Vision," 290. Cain borrows the phrase "virtual witnessing" from Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton, NJ: Princeton University Press, 1986).
22. Henry Fairfield Osborn, "The Museum of the Future," *The American Museum Journal* 11, no. 7 (November 1911): 223–25.
23. Osborn, "The Museum of the Future," 224.
24. The lived reality of museum visits for schoolchildren may not have been reflected in these photographs of children intently straining to see an exhibit. In 1909, one visitor wrote to the *New York Times* arguing that the museum needed to hire docents for children, based on the behavior she witnessed on a recent visit: "A party [of schoolchildren], three times as large as it should be, parades gravely, briskly, and silently along a course between the show cases. No one stops to look at anything. Nothing is pointed out. Nothing is explained. The children carry home but two impressions—one of innumerable show cases, and one of intense fatigue." An Auntie, "Children in Museum," *New York Times*, May 23, 1909.
25. Tony Bennett, "Pedagogic Objects, Clean Eyes, and Popular Instruction: On Sensory Regimes and Museum Didactics," *Configurations* 6, no. 3 (1998): 369.
26. Kohlstedt, *Teaching Children Science*, 59.
27. Sherwood, "The Museum in Education," tallies the number of "contacts" made by the education department and points to growth over the decade of the 1920s, adding up visitors at the Bear Mountain facility, attendance at library loan exhibits, attendance at lectures, and pupils viewing motion pictures, using nature study collections, and viewing lantern slides. The total for 1924 was 4,662,301; the total for 1929 was 12,595,336.
28. Henry Fairfield Osborn, "Address of Welcome," *American Museum Journal* 10, no. 3 (March 1910): 63.
29. "Developing Artistic Instinct in Children," *New York Times*, May 8, 1911; Agnes Roesler, "The Children's Room of the Museum," *The American Museum Journal* 11, no. 7 (November 1911): 260–61.
30. Philip J. Pauly, "The Development of High School Biology: New York City, 1900–1925," *Isis* 82, no. 4 (December 1991): 679–80.
31. "A Symposium of Expressions from Primary and Grammar Schools," *The American Museum Journal* 11, no. 7 (November 1911): 255–60. The only letter published in the entire issue that comes from a child hewed a very practical line: "Last month I was down to the Natural Museum History [*sic*] for the tenth time. I was very glad I went, because when my teacher ask to describe a insect, bird or anything I could stand up and answer all her questions correctly. When the class was tested I received a hundred per cent paper. I can assure you if anybody who is interested or wants to learn nature to go down to the Natural Museum History [*sic*]."
32. Mary B. C. Byrne, "Tuesday at the Museum," *The American Museum Journal* 11, no. 7 (November 1911): 264.
33. Jacob A. Riis, *The Children of the Poor* (New York: Charles Scribner's Sons, 1892), 21.
34. Sarah E. Chinn, *Inventing Modern Adolescence: The Children of Immigrants in Turn-of-the-Century America* (New Brunswick, NJ: Rutgers University Press, 2009), 17.

35. "New Plans in Nature Extension Work," *Natural History* 20, no. 2 (April 1920): 174.
36. Kohlstedt, *Teaching Children Science*, 202.
37. "The School Nature League," n.d., Central Archives, 1237, American Museum of Natural History Archives. Beginning in the late 1920s, the museum hosted the league's flower show, provided space for a model "nature room" designed to illustrate the league's activities in public schools, and furnished a venue for the Children's Fair, an early science fair cosponsored by the league and the American Institute of the City of New York. See "The School Nature League Invites . . .," May 3, 1927, Central Archives, 1268, American Museum of Natural History Archives.
38. Sherwood, "The Museum in Education," 505. For more on deprivation of children's senses in the city, see also Ruth E. Crosby, "Nature in New York's Lower East Side," *Natural History* 20, no. 2 (March-April 1920): 205.
39. William H. Carr and Irving Dutcher, *The School Service of the American Museum of Natural History*, 16 mm, 1927.
40. Frank Wood, "The Schoolboy and His Forest," *Natural History* 20, no. 2 (April 1920): 120–23; Theodore Roosevelt, "My Life as a Naturalist," *American Museum Journal* 18, no. 5 (May 1918): 321–30.
41. Mrs. John L. Northrop, "Nature and the City Child," *Natural History* 20, no. 3 (June 1920): 265–76.
42. Mrs. John L. Northrop, "Making Naturalists in Norfolk Street," *Natural History* 22, no. 2 (April 1922): 140.
43. To the curators of the museum, the league rooms sometimes looked as pathetic as the children using them, though this fact did not seem to deter them from pursuing a partnership with the organization. In a 1919 letter to Henry Fairfield Osborn, written after he visited a School Nature League room (and before the museum began to work closely with the league), George Sherwood reported on the pathetic characteristics of the objects in the rooms: the children "examined" the most "common" of the flowers closely, although most of the specimens were "what we would call cast-offs" and did not "represent anything like a systematic series." George Sherwood to Henry Fairfield Osborn, May 28, 1919, Central Archives, 1084, American Museum of Natural History Archives.
44. Marietta Johnson, "Education as Natural Development," *Natural History* 17, no. 4 (August 1927): 361–65.
45. Anne Lloyd, "In the Children's Museum," *Children's Museum News*, May 1920.
46. Isabel L. Whitney, "Children's Museum Seal," *Children's Museum News*, December 1924.
47. Chris Jenks, *Childhood* (London: Routledge, 1996).
48. Schlereth, *Cultural History and Material Culture*, 99.
49. Edward P. Alexander and American Association for State and Local History, *The Museum in America: Innovators and Pioneers* (Walnut Creek, CA: AltaMira Press, 1997), 53.
50. Anna Billings Gallup, "The Children's Museum as Educator," *Popular Science Monthly* (April 1908): 371.
51. Caroline M. Worth, "The Children's Museum," *Childhood* 1, no. 4 (June 1922): 11.

52. Sydney Reid, "The Children's Wonder-House," *The Independent*, January 4, 1912.
53. "The Children's Museum of Brooklyn Institute," *Scientific American* 82, no. 19 (May 12, 1900): 296.
54. "The Children's Museum," *The Year-Book of the Brooklyn Institute of Arts and Sciences* 12 (1899–1900): 12.
55. George E. Hein, "Progressive Education and Museum Education: Anna Billings Gallup and Louise Connolly," *Journal of Museum Education* 31, no. 3 (2006): 161–74.
56. Kohlstedt, *Teaching Children Science*, 67.
57. Hein, "Progressive Education and Museum Education."
58. John R. Gillis, Marta Gutman, and Ning De Coninck-Smith, "The Islanding of Children—Reshaping the Mythical Landscapes of Childhood," in *Designing Modern Childhoods: History, Space, and the Material Culture of Childhood* (New Brunswick, NJ: Rutgers University Press, 2008), 318.
59. Reid, "The Children's Wonder-House," 33.
60. Elizabeth E. Scantlebury, "Spokane Should Have a Museum for Children," n.d.
61. "From the Children's Point of View," *Children's Museum News*, February 1919.
62. "Library Notes," *Children's Museum News*, December 1926.
63. Reid, "The Children's Wonder-House."
64. Mario A. Charles, "Bedford-Stuyvesant," in *Encyclopedia of New York City*, ed. Kenneth T. Jackson (New Haven, CT: Yale University Press, 1995).
65. "The Tale of a Microscope," *Children's Museum News*, March 1932. Sydney Reid also mentions children arriving at the museum "dragging unwilling nurses" ("The Children's Wonder-House," 33).
66. "The Children's Museum," *Year-Book*, 249.
67. "The Children's Museum," *The Junior Eagle* (Brooklyn, NY: February 22, 1914).
68. "Children's Museum League," *Children's Museum News*, November 1915.
69. "A sheaf of letters . . .," *Children's Museum News*, May 1926, 273.
70. Paula S. Fass, *The Damned and the Beautiful: American Youth in the 1920s* (New York: Oxford University Press, 1977).
71. "The Children's Museum," *The Junior Eagle* (Brooklyn, NY: July 19, 1914).
72. "Prize Contests," n.d.
73. "Library Notes," *Children's Museum News*, February 1917.
74. "Requirements for Certificate in Bird Study," *Children's Museum News*, March 1918, 22.
75. "The Children's Museum League," *Children's Museum News*, May 1915.
76. "Children's Museum League," *Children's Museum News*, March 1920.
77. "Museum Tests," *Children's Museum News*, April 1922, 52–53.

78. "Library Notes," *Children's Museum News*, February 1917.
79. "Bird Walks to Prospect Park," *Children's Museum News*, December 1913, 22.
80. "Children's Museum League."
81. C. R., "One Phase of the Summer's Work," *Children's Museum News*, November 1917, 10. See also discussions about greed and covetousness in "A Woodcraft Hike," *Children's Museum News*, May 1922, 59; "Field Trips for 1922," *Children's Museum News*, 1922, 5.
82. "Days A-Field and What They Mean," *Children's Museum News*, November 1920, 2.
83. "Summer Work in the Busy Bee Room," *Children's Museum News*, October 1916.
84. "Mineral Study in the Museum," *Children's Museum News*, November 1917.
85. "A Good Way to Spend the Summer," *Children's Museum News*, January 1919.
86. Reid, "The Children's Wonder-House," 30. Another article in an unnamed newspaper, published on January 25, 1914, mentioned a museum patron, fourteen-year-old Andrew Bostwick, who fixed whatever "bell or electric light" might be out of order, making it so that Anna Gallup "rarely need[ed] to call an electrician." "The Children's Museum," January 25, 1914. Almost needlessly, given the amount of space that the article had already dedicated to boys, Reid added, "Schoolgirls use the museum and its facilities freely, but they do no original work." An article in the Brooklyn *Junior Eagle* in 1914 did mention two sisters—Katie and Fannie Weitzer of 974 St. Mark's Place—who involved themselves in the wireless station, but their names never pop up in the *Children's Museum News*. Their futures as wireless operators, if they did continue with this interest, are not mentioned. "The Children's Museum," *Junior Eagle* (Brooklyn, NY: January 18, 1914).
87. Susan J. Douglas, *Inventing American Broadcasting, 1899–1922* (Baltimore, MD: Johns Hopkins University Press, 1987). For more on youth participation in wireless culture, see Michele Hilmes, *Radio Voices: American Broadcasting, 1922–1952* (Minneapolis, MN: University of Minnesota Press, 1997), especially chapter two, "How Far Can You Hear?"
88. Kohlstedt, *Teaching Children Science*, 119–20.
89. "New Books in the Library," *Children's Museum News*, December 1933.
90. Anna Billings Gallup, "The Children's Museum as an Educator," *Popular Science Monthly*, April 1908, 375.
91. Reid, "The Children's Wonder-House," 34.
92. Anna Billings Gallup, "A Mother's Account of a Children's Museum Lad," *Children's Museum News*, January 1914, 26–28.
93. "The Wireless Station," *Children's Museum News*, January 1915.
94. "Brooklyn Boys Radio Chiefs," *Brooklyn Daily Times*, October 25, 1915.
95. Reid, "The Children's Wonder-House."
96. "Wireless," *Children's Museum News*, December 1917.
97. "The Return of Our Boys," *Children's Museum News*, May 1919, 62; "A Promotion," *Children's Museum News*, December 1918, 16.
98. Anna Billings Gallup, "A Children's Museum and How Any Town Can Get One," 1926.