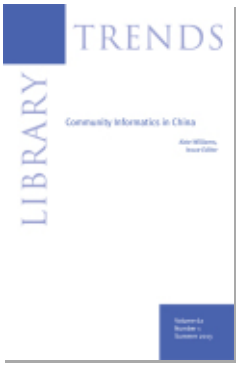
Evolution in Children's Science Books: Recommendations and Library Collections, 1863–1956

Kate McDowell, Caroline Nappo



Library Trends, Volume 60, Number 4, Spring 2012, pp. 655-674 (Article)

Published by The Johns Hopkins University Press
DOI: 10.1353/lib.2012.0013

Evolution in Children's Science Books: Recommendations and Library Collections, 1863–1956

Kate McDowell and Caroline Nappo

Abstract

Evolution has remained a controversial topic for children in the United States since the 1925 Scopes Trial brought the issue to the national stage. Children's science trade books in public library children's collections were important sources of information about evolution. This analysis draws on the Main Street Public Library (MSPL) database of the collections of five small Midwest public libraries from the 1890s to the 1960s. Using this and other historical sources, this article explores and analyzes trade books about evolution that were published and recommended to young people from 1863 to 1956. Knowing which books were recommended for libraries, which were collected by Main Street libraries, and how often evolution appeared in these books provides a lens for understanding how this literature characterized evolution for young readers over time.

Introduction

In the summer of 1925, the Scopes Trial was major national news. "The Trial of the Century," as many contemporaries called it, amplified conflicts between the newly invigorated Christian fundamentalists and secular society. Although evolution was the topic and a high school teacher was on trial, the young people in high school were not in the spotlight. But what if they got interested in the subject? What resources and information was available to them about the evolution controversy? High school students in small Midwest towns might have turned to their local public library. In the public libraries of Morris, Illinois; Sauk Centre, Minnesota; and Rhinelander, Wisconsin, for example, students could have found the 1922 Newbery Medal book *The Story of Mankind* by Hendrik Van Loon, which touches on human evolution as the foundation of human civilization. These libraries also collected books that profiled Charles Darwin as

LIBRARY TRENDS, Vol. 60, No. 4, 2012 ("Windows on the World—Analyzing Main Street Public Library Collections," edited by Wayne A. Wiegand), pp. 655–674.

a scientist, such as *Masters of Science and Invention* by Floyd Darrow. Young people in small towns could have found these and other science trade books on public library shelves. For the young, public libraries served as windows to a larger world.

Scholarship has not yet investigated how public libraries contributed to the cultural landscape of knowledge surrounding the topic of human evolution. While a number of scholars have evaluated how evolution changed in textbook content and school contexts, this topic deserves investigation in public library children's collections as well. This analysis draws on the Main Street Public Library (MSPL) database that contains the collections of five small Midwest public libraries from the 1890s to the 1960s.[1] Using this and other historical sources, this article explores and analyzes science trade books about evolution that were written, published, and recommended to young people from 1863 to 1956. Knowing which books were recommended for libraries, which were collected by Main Street libraries, and how often evolution appeared in these books provides a lens for understanding how this literature characterized evolution for young readers over time.[2]

The Scopes Trial highlighted a clash of various mediating forces that influenced education. Describing the trial as a clash between science and religion is an oversimplification, as evolution and Christianity coexisted in children's books and elsewhere prior to the early twentieth century. The real forces at work were emerging clashes of more specific cultural values, particularly fundamentalist Christians and the increasingly secular society of the 1920s (Bowler, 2007; Larson, 1997). At issue was how children were to be educated in a society that was both Christian and increasingly secular at the same time. Evolution became a symbol of the fundamentalists' objections to the increasing absence of biblical doctrines from school instruction. Children's science books reflect changing attitudes about reconciling science instruction and religion.

By the 1920s, public libraries had long described themselves as educational institutions (Ditzion, 1947; Shera, 1949), and so clashes over education were relevant to their work, especially to children's librarians who were closely connected to teachers in many locales (Green, 1883). In public libraries, published book-recommendation lists such as *Children's Catalog* were an important mediating force between national professional groups and local library staff who built collections. These lists represented the best thought of the time from professional librarians regarding collection development. Rarely can historians examine as many as five local library collections to see whether national recommendations influenced purchasing. Of course, these libraries are not representative of the Midwest as a whole; a range of local influences was significant in each locale, but exploring all of those influences is beyond the scope of this investigation. This article will examine a national issue—controversy over

evolution—and its impact on public libraries, comparing national recommendation lists and local collections of five public libraries. Examining library recommendations and collections will afford an understanding of what young people in several small Midwest towns could have accessed related to the idea of evolution and its surrounding controversy in the early twentieth century.

The scope of this project is broad, even within the relatively narrow confines of children's science books. The research questions we developed required both quantitative and qualitative approaches. In quantitative terms, we sought to discover how frequently evolution appeared in highly recommended science trade books for children and how often those recommendations were reflected in children's public library collections. In qualitative terms, we sought to understand how evolution has appeared in science books for children and how cultural controversies affected how authors described evolution to young people. In order to understand how children might have learned about evolution through public library collections, it was necessary to pursue these two courses in parallel. We found the books children might have borrowed through statistical evidence of frequency of publication, recommendation, and collection. Then we analyzed the content of the most frequently recommended and collected books, including textual evidence of how authors wrote about evolution.

Historical Context: Children and Evolution from 1863–1956

The time frame for our study was to some extent predetermined by the dates of the Main Street Public Library database, which spans the 1890s to 1970s. We also wanted to select a time frame that was simultaneously manageable and expansive. Charles Darwin's influential and controversial book *The Origin of Species* has sparked heated debate since its initial publication in 1859. Furthermore, this nearly hundred-year range allows for investigation of the publishing landscape before, during, and after the central event in evolution education history, the Tennessee Scopes Trial of 1925, when a high school teacher and his chosen textbook ran afoul of the religious doctrine of fundamentalist Christians. This was the trial that brought evolution education into the national press as a controversial topic. A number of studies have followed the later publication of biology textbooks to discern the impact of the Scopes Trial and the public controversy it ignited (Ladouceur, 2008; Rosenthal, 1985; Shapiro, 2008; Skoog, 1979; Skoog, 1984). However, no studies to date have examined children's public library collections to see what, if any, effect these cultural controversies had in public libraries as cultural institutions.

Works of science written for and recommended to young people have rarely been the subject of literary scholarship; children's literature

scholarship tends to investigate children's fiction, with a few exceptions (Dobrin & Kidd, 2004; Mickenberg & Nel, 2008). Similarly, historians of science have given relatively little attention to children's science education, including the books or textbooks used, available, or recommended (Kohlstedt, 2005). How evolutionary theory as expressed in Charles Darwin's ideas was disseminated to various groups of people has been the subject of some scholarship; but groups investigated are generally presumed to be adults, organized by their geography, gender, race, and religion (Numbers & Stenhouse, 1999); for the most part, children are overlooked in these investigations. Some scholars have analyzed the major changes in popular science publishing from the Victorian era to the mid-twentieth century, but again, few touch on science books for children (Bowler, 2009; Lightman, 2007).

History of education scholars have studied how the treatment of evolution changed in high school biology textbooks before, during, and after the Scopes Trial. Histories of the Scopes Trial offer a number of different explanations (Larson, 1997). Richard Hofstadter (1963) situates the antievolution movement as part of a larger history of anti-intellectualism. Edward Larson (1987) argues that one overlooked cause of the controversy was the expansion of secondary education, with new demographics in school populations. Adam Shapiro (2008) describes the school antievolution movement as fueled in part by the new state prescription of textbooks as well as a new emphasis on "civic biology" in those textbooks, an emphasis that encouraged the application of evolution and other biological concepts to human life and society. Other scholars examine the ongoing impact of the evolution controversy on textbooks published from the 1960s to the 1980s (Glenn, 1990; Moore, 2001; Rosenthal, 1985; Skoog, 1984). While all of these studies are significant, focusing exclusively on textbooks elides both science trade books and what younger children might have chosen for themselves in public libraries (Ladouceur, 2008). This article draws on library history and historical records to contribute to a larger print-culture history about how evolution and education controversies affected public libraries.

Methodology

Because the topic appeared in books that were not categorized under "evolution," searching for children's science trade books that contained discussions of evolution required strategies that went beyond simple catalog searches. We began with identifying sixteen influential bibliographical guides for children (see appendix A for a full list),[3] including all nine volumes of *Children's Catalog*, an authoritative source that became a standard collection-development tool for public children's librarians during this period. Because this source was updated and reprinted in approximately five-year time intervals from 1909 to our endpoint of 1956, it is an

unusually useful source for seeing how recommendations changed over time. Focusing on this type of resource affords a view of how recommendations changed, including how books and subject headings reflected changing cultural contexts. Although the lists' entries were organized by subject heading, rarely did a title or annotation provide sufficient detail to indicate whether that book contained "evolution." In a few cases, "evolution" was a subject, but subject headings varied even when *Children's Catalog* recommended the same title repeatedly. However, we did discover that the subject heading "evolution" appeared in the 1924 *Children's Catalog*, disappeared in the 1930 and 1936 editions, and reappeared in 1941. These subject-heading changes corresponded closely with the Scopes Trial, and led us to create three periods of analysis for this essay: "Pre-Scopes Trial" (1865–1925), "Scopes Trial Chilling Effect" (1926–1940), and "Post-Scopes Trial" (1941–1956). These are discussed in greater detail below.

Full texts of 110 books were available electronically through Google or the Internet Archive; however, most were available in print only. Electronic and print searching afford and require different approaches. We developed and refined a list of possible search terms, ranging from the specific "evolution" to the very broad category "natural history," and including "adaptation," "ancient man," "animals, extinct," "anthropology," "archaeology," "Beagle expedition," "Bible, natural history," "cave dwellers," "Darwin," "Darwinism," "ethnology," "fossils," "history, ancient," "mammals, fossils," "man," "man, prehistoric," "natural history," "paleontology," and "Stone Age." The list reflects the need to search variations on a word in an electronic database. Google Books only searches for entire words in text, rather than word fragments. Thus, some terms required multiple searches using variations of terms to determine whether or not a book described or discussed evolution. As we refined the terms, we examined or reexamined how a book's content related to evolution. As a result we identified 244 books from the lists worth in-depth examination for evolution content. Print searching often required sight scanning entire texts for keywords, since book indexes (if available) did not always indicate if the work discussed evolution.

Because the content of books varied greatly, we developed a descriptive coding system: "1" indicated the book explicitly discussed human evolution, "2" that it alluded to evolution without explicit description of evolution. Allusions took the form of words like "adapt" or "survival" or reference to changes over vast spans of time, but without reference to Darwin, natural selection, or Neo-Lamarckian views of evolution (discussed further below). Many of the "2" books discussed how animals and humans experienced "gradual changes" over thousands or even "millions of years," and the differences between "ancestors" of animals and their contemporaries today. A "2" also covered any book that hints at evolution but stops short

of explicitly citing a connection between humans and apes. We also assigned a "2" to books that discussed dinosaurs but not evolution, because these books tend to discuss gradual changes, the earth's age in billions of years, and otherwise imply animal evolution. A "3" meant either no mention of human or animal evolution whatsoever or, in rare cases, mention of evolution only to dismiss it. Of the 244 books we examined, 62 were code "1"; 75 code "2"; and 107 code "3."

Finally, we looked at whether these national recommendations were reflected in any of the five local collections represented collectively in the MSPL database. Recommendations from nationally published lists appear frequently in library holdings, and so they appear to have been influential. The Main Street public libraries did not collect all the lists, but several did collect multiple volumes of *Children's Catalog,* and some owned others we examined.[4] The lists represent recommended books, and, to the extent that the libraries' collections reflect those national recommendations, they also show trends in the changing children's science book publishing landscape. In this sense, the lists function here as a tool for identifying culturally influential children's science books. Thus, MSPL collections provide one lens for understanding how books represented "evolution" to young people. For this purpose, we examined only code 1 and 2 books, in which evolution was either actively spelled out or implied, against the MSPL collections (see table 1).

Table 1. Main Street Public Library "Evolution" Holdings

	Code 1 total	MSPL holdings	Code 2 total	MSPL holdings
Before Scopes (1863–1925)	34	20	32	20
Scopes aftermath (1926–1940)	14	4	25	11
Post-Scopes (1941–1956)	14	9	18	1
Totals	62	33	75	32

The most striking finding was that after the Scopes Trial, the percentage of code 1 books dropped from approximately fifty-eight to twenty-eight. From 1926 to 1940, only four books specifically addressing evolution were purchased for any MSPL library.

Pre-Scopes Trial, 1863–1925

The time period from 1863–1925 saw a tremendous rise in number of books published for children, both fiction and nonfiction (Tebbel, 1972). Of the latter, most children's science books contained no discussion of evolution. In this publishing context, many science books for children were oriented toward nature study, a popular educational idea during this period that encouraged children to comprehend nature through sight, touch, and smell, containing rich descriptions of the natural world and encouraging children to experience nature for themselves. Some books

included imaginative personifications of nature or anthropomorphic natural phenomenon (Andrews, 1893).

There were three kinds of books that engaged with evolution in some manner: books that refuted the theory, books that implied evolution (code 2), and books that affirmed the idea of evolution (code 1). Titles that refuted evolution were scarce; however, four such books were recommended in Hewins's *Books for the Young* (1882), though none appeared in MSPL collections (Buckland, 1876; Figuier, 1870; *Parrots and Monkeys*, 1879; Smiles, 1878). Twenty code 2 books appeared in MSPL collections, so coded because they either mention Darwin or his ideas or imply evolution through discussion of "adaptation." Another twenty books in MSPL collections fit our code 1 category by describing evolution, though only a handful of these mentioned human evolution.

Books that implied evolution (code 2) included titles that referred to Darwin or his ideas, such as Henrietta Wright's *Children's Stories of Great Scientists* (1888), which features a brief biographical chapter on Darwin's life and ideas. Also in this category was Darwin's own *What Mr. Darwin Saw in His Voyage Round the World in the Ship "Beagle,"* (1879), which describes Darwin's observations of natural phenomena (but eschewed explanations). Andrew Lang's edited volume *The Red Book of Animal Stories* (1899) included mention of dinosaurs, animal adaptation, and animal evolution, and so alluded to evolution but omitted human evolution. Another code 2 book, Jennie Mix's *Mighty Animals* (1912), describes "some of the animals which lived on this earth before man appeared" (p. 3) with extensive descriptions and illustrations of dinosaurs, and implies evolution in describing the teeth of Diplodocus as "adapted only to soft food" (p. 19) like succulent plants. Renowned zoologist's William Hornaday's *American Natural History* (1904) implied evolution in its descriptions of apes, when he notes that human interest in these creatures is unusually strong because they "stand nearest to man" and are "so much like human beings" (p. 7).

In another code 2 book, *Fairy-Land of Science,* Arabella Buckley (1905) used the terms "forces" or "fairies" to describe the mechanisms of nature, detailing how flowers and bees adapt to one another to reproduce flowers and honey. Evolution was consonant with all of these descriptions and implied in some, and we know from Buckley's other books and her association with Charles Darwin that she supported the theory of evolution (Gates, 1997; Lightman, 2007). In *Life and Her Children* (1881), Buckley is more explicit about "the struggle for life," ascribing emotional qualities to various creatures and framing the "struggle for existence" as a kind of lesson about "that higher devotion of mother to child, and friend to friend." Buckley argues that understanding this "struggle" ultimately leads to "a tender love for every living being, since it recognizes that mutual help and sympathy are among the most powerful weapons, as they are also certainly the most noble incentives, which can be employed in fighting the

battle of life" (p. 301). While this is an optimistic reading of how children might understand evolution, it marks an early moment at which evolutionary ideas were connected to ideas about human society.

A careful science reader might have found that Buckley's writing style had a detractor, as both her work and E. Roy Lankester's book appeared in several of the MSPL collections. Although both Buckley and Lankester wrote about evolution, Lankester, in *Extinct Animals* (1905), describes "fairy tales of science" as an "inappropriate phrase" to use in children's science books (p. 59). Lankester also explicates evolution in a section addressing why some animals become extinct. Extinction "is connected, of course, with the whole doctrine of the origin of the different kinds of animals," he writes. "We all recognize now that there has been a gradual development of the different forms of animals by natural birth, from ancestral forms more or less like themselves" (p. 30). Lankester was one example of many authors who began to eschew narrative tropes as the personification of natural phenomenon, replacing them with less fanciful but still concrete and clear descriptions of scientific concepts.

Conflicts also appeared in children's literature regarding evolution and Christianity. Some books attempted to address these tensions and reconcile science and religion in various ways, described by one scholar as "theistic evolution" (Larson, 1987, p. 99). For example, in *Masters of Science and Invention,* Floyd Darrow (1923) points out that "evolution does not explain the problem of creation. Evolution is simply the Creator's method of working, as revealed in the record of His handiwork" (p. 171). Arabella Buckley's books contain descriptions of adaptation that imply evolution while crediting God, which one scholar described as "spiritual evolutionism" (Lightman, 2007, p. 238). Like Buckley's earlier writing, Frederic Kummer's *First Days of Man* (1922) blends fact and imagination, an approach that he justifies in his preface: "the development of civilisation is a romance" (p. v), and it is "sufficient that the story rests upon a foundation of fact" (pp. 20–21). He personifies Mother Nature, Wind, and other natural forces, treating them as characters that contribute to the formation of the earth: "No matter what sort of a life any creature is in the habit of living, if you make him live another kind of life, he will change himself to suit it" (p. 32). Science and religion are seamlessly combined in this book, describing the "wonderful law, made by God" that allowed the adaptation of various forms of life over the course of "thousands of years" (p. 41).

Influential children's librarian Frances Jenkins Olcott in *The Children's Reading* (1912) questions "the spiritual depression of Darwin" as compared with scientists such as Sir Isaac Newton and Johannes Kepler (p. 230). She suggests that the latter were better for children. Olcott was not a fundamentalist, but seems to be reacting to the religious and scientific confusion surrounding evolutionary ideas. Olcott was a faculty member in the nationally influential Training School for Children's Librarians at the

Carnegie Library of Pittsburgh, the main training program for children's librarians in the United States in the early twentieth century (Brand, 1983). That she offered these reflections about children's science reading suggests that librarians may have had concerns about evolution in children's books before the Scopes Trial.

Evolution was increasingly apparent in science books for children by the 1920s, and many that described evolution for children made bold claims about its scientific veracity (making them code 1 in our classification). First among these code 1 books is Hendrik Van Loon's *The Story of Mankind* (1921), winner of the initial Newbery Medal in 1922, which features evolution in an illustration of "The Ascent of Man" showing the evolution of humans from "lower" to "higher" forms (p. 12). Several other frequently recommended books referenced or described evolution, including: *Masters of Science and Invention* by Floyd Darrow; *First Days of Man* by Frederic Kummer; *Jungle Peace* by William Beebe (1918); *Everyday Life in the Old Stone Age* by Marjorie and C. H. B. Quennell (1922); and *How the Present Came from the Past* by Margaret Wells (1917). For example, Darrow devotes a full chapter to Darwin, comparing the "revolutionary" impact of Darwin's theory to earlier scientists Galileo and Copernicus (p. 167). Darrow's description of the *The Origin of the Species* [*sic*] (1861) is resoundingly positive, citing the "mass of evidence, so overwhelming in its completeness that only those who would not listen could doubt the fact of evolution" (p. 169). He also argues explicitly that religion and the theory of evolution had been reconciled, noting that "the new belief did not destroy their [theologians'] faith after all" (p. 169). Similarly, in *Everyday Life in the Old Stone Age,* the authors argue: "Every animal in the world to-day, and every person, including you, is a descendant of a long line of ancestors that managed to live . . ." (p. 68). The increasing frequency of bolder claims for the theory of evolution and for human evolution mark a change in children's science books of this period.

As conflicts around evolution and religion gradually gathered, so did new ideas about how evolutionary concepts should be applied socially. One scholar describes the social application of Darwinian ideas as "civic biology" (Shapiro, 2008, p. 425). Mary Elizabeth Burt, the compiler of *Literary Landmarks* (1892), suggests that children need evolution for "self-improvement":

> It may not be practicable or even desirable for children to follow out any theories concerning the evolution of man from lower orders of animals, since there are a hundred links missing to every one which has been found, but it always amuses a child and excited his incredulity to discover that there are such theories. That the society of to-day in its best form is an evolution from early savagery when men were little better than brutes has become a matter of history undisputed, and it is important that children should recognize its truth. . . . To show a child the evolution of man from his early savage state to his present

> enlightened condition is to give him a moral basis of character, a hope for personal growth. (p. 92)

While such an application was far from Darwin's intentions, this nonetheless reflects larger trends toward "civic biology" and the extension of evolution to social contexts. In *How the Present Came from the Past* (1917), Margaret Wells further connects evolution to children's learning and growth processes. Wells describes the close relationship of humans and primates: "When man first began to live on this earth, . . . he was most like the very cunning monkey and ape" (p. 12). The preface states that teaching human evolution was intended "to acquaint young children with primitive man" for the purpose of helping them "grow into a sympathetic appreciation of a complex society like that of the present" (p. vii). Whether Wells's claim was true or not, the advent of the Scopes Trial certainly brought greater complexity to the field of science books about evolution for the young.

Scopes Trial Aftermath, 1926–1940

The Scopes Trial has been as painstakingly researched and its precipitating causes persistently debated (Bowler, 2007; Hofstadter, 1963; Larson, 1997). This study augments that history not by recounting the facts or lingering controversies but by focusing on how that trial impacted children's books recommended for public libraries. Recommendations for children's books featuring evolution shifted dramatically in the years following the trial. While the 1925 *Children's Catalog* included "evolution," the fourth (1930) and the fifth editions (1936) dropped this subject heading entirely. Though references to Darwin remain present in books like Bolton's *Famous Men of Science*, the subject listings in these editions omit "evolution." Studies of textbooks have found a similar diminution or omission of evolution in the years immediately following the trial (Moore, 1998; Moore, 2001). This deleted practice may reflect timidity among the editors and librarians of H. W. Wilson company, publishers of *Children's Catalog*. Some recommended books still refer to evolution, both directly and indirectly, but they were classified under "natural history" and "ancient man" in the 1930 and 1936 editions.

Among the MSPL collections, fewer books on evolution were purchased from 1926 to 1940. Eleven books that alluded to evolution (code 2) were collected, and their characteristic content was similar to that of the previous period. Books such as *In the Beginning* (1929) by Eva Erleigh or *Life Long Ago* (1937) by Carroll L. Fenton alluded to evolution with language such as "adapt" or "struggle," but omitted human evolution. Because of these similarities in code 2 books from these time periods, we focus here on analysis of the code 1 books. Only four books of a recommended twenty-six containing explication of evolution (code 1) were collected by any of these libraries. Table 2 lists the four books that several of the MSPL collections contained.

Table 2. Four "Evolution"-Related Books in Main Street Public Library Collections, 1926–40

Title	Holdings
Earth for Sam	Sauk Centre, MI
	Morris, IL
	Rhinelander, WI
Voyage of the Beagle	Morris, IL
	Rhinelander, WI
Story of Earth and Sky	Osage, IA
	Sauk Centre, MN
	Rhinelander, WI
Animals on the March	Rhinelander, WI

The Rhinelander library collected all four books; it was also the only library of the five to have a professionally trained librarian, which makes the collection of these books suggestive if not conclusive regarding the emerging value of intellectual freedom among librarians in this time period (Wiegand, 2011).

Both recommendations and collections reflected wider economic fluctuations, and the publishing world keenly felt the devastating impact of the Great Depression. Children's literature historian and scholar Leonard Marcus described the impact of the economy on children's book publishing. A total of 873 new children's books were published in 1931, but by 1934 only 466 new books were published (Marcus, 2009). This major economic crisis conspired with other factors to make the Post-Scopes era one in which few of the MSPL collections contained books about evolution.

Because so few were collected, each of these four books that explicated evolution deserves analysis. Several address cultural controversies around evolution, including religious objections and the Scopes Trial. In *The Story of Earth and Sky* (recommended in four lists) Carleton Washburne (1933, p. 351) introduces Darwin and the theory of evolution explicitly: "He [Darwin] decided that there was selection going on all the time *naturally* and that the process of selection was 'survival of the fittest'" (emphasis in original). Although Herbert Spencer, not Charles Darwin, coined the phrase "survival of the fittest" (Menand, 2001, p. 143), Washburne's approach to discussing evolution is clearly pro-evolution. He also touches upon educational controversy: "Some states even passed laws to keep any one from teaching about evolution." Washburne notes that "it worried people to think that human beings were related to animals," and makes an analogy between controversies over Darwin's theory of evolution and Copernicus's earlier argument that the earth is round (p. 355).

W. Maxwell Reed's (1930) *The Earth for Sam* (recommended in six lists) opens with theories about the earth's origin. He promotes science by arguing: "Hunting for more knowledge about the history of the earth is

even more interesting than reading about it after it has been discovered" (p. 9). Reed also includes a humorous illustration that shows a caveman wielding a club over the earth, with the caption: "The New Boss!" (p. 337). Reed makes his pro-evolution stance clear when he addresses controversies over human ancestry: "There is no sharp distinction between a man primate and an ape primate. The one is evolved as gradually from the other as the hoofed horse was evolved from the five-toed horse" (p. 354).

At the same time, Reed's writing indirectly references social ideas about evolution that relate to "social Darwinism" or eugenics-influenced ways of understanding racial differences. Reed argues that life developed from a group of cells to more complex forms, including mammals, and that "finally from among the mammals there appeared the primates and from among the primates the European white primates who founded the British Empire and the United States of America" (p. 378). This demonstrates that human social contexts sometimes inflected ways of explaining evolution to children.

In Reed and coauthor Jannette Lucas's (1937) *Animals on the March* (recommended in three lists), reference to eugenics-related ideas is more explicit but also perhaps more confusing. At first, their discussion of evolution is straightforward, concretized in relation to variations among "each litter of puppies or kittens":

> The ones best adapted to escape from their enemies and to get their food are more sure to survive than those which are born with some handicap. So in millions of years some groups became very swift either in catching the animals they wanted to eat or in escaping from some animals which wanted to eat them. . . . In the struggle for existence many ways of living were developed. (p. 16)

Reed and Lucas elaborate on such group changes, describing how a "horde of savage animals invades a country" and "almost exterminates a certain group of amphibians or reptiles." Because the group invaded "cannot change its method of fighting quickly enough to protect itself from its more powerful enemies," they then extend these ideas to human social groups, arguing: "The Indians [*sic*] suffered in this way when millions of white men invaded North America" (p. 19).

Amabel Williams-Ellis's (1931) *The Voyage of the Beagle* mentions controversies surrounding evolution alongside another explicit refutation of the creationist position. Scientists have come to dismiss the idea of "Special Creation," she argues, or "the idea that God created each sort of animal separately" (p. 238). Later she describes the controversy that ensued when "Darwin suggested that man himself had been gradually evolved in the same way" as animals (p. 242). These four titles—on the shelves of four of five MSPLs—show definite responses to public controversies, strong pro-evolution stances, and the increasing connection of evolution-related concepts to human social structures.

Post-Scopes Trial, 1941–1956

Though the impact of the Scope Trial was long lasting, by the early 1940s the immediate aftermath of the controversy appears to have subsided. In the sixth edition of *Children's Catalog* (1941), "evolution" reappears as a subject heading along with "Bible—Natural History." Books recommended under this heading were biblical stories featuring animals and related to "Natural History" only because they contain animals. Including a new heading aimed at fundamentalist interpretations of the Bible alongside a heading for evolution may have been the editors' attempt to accommodate both creationists and evolutionists in the same resource.

Though many of the subject headings remained the same, in book recommendations the fifth edition of the *Children's Catalog* were significantly updated. It recommends almost no books published before 1930; the subsequent editions (six through nine) continue this pattern of focusing heavily on recently published titles. This may have been due in part to the larger numbers of children's books being published, which allowed for more current recommendations and up-to-date collection purchases.

Because of these changes, the code 2 and code 1 books were entirely new. Eighteen code 2 books appeared in one or more of the MSPL collections. While code 2 books from previous periods tended to allude to evolution by using terms like "adapted," these books are much more likely to use the term "evolution." There are notable changes in typical descriptions of animal evolution as compared to previous periods. For example, *Beasts of the Tarpits* by Robinson and Robinson (1941) and *Animals of Yesterday* by Parker (1941) use the term "animal ancestors," applying typically human terminology to the natural world. Another book, *So Long Ago* by Smith (1944), describes animal evolution and alludes to concepts of inheritance and inherited traits. As in earlier periods, some code 2 books again mention Darwin as a scientist, such as *Against All Odds* by Lansing and Sharp (1942), which describes Darwin's voyage in dramatic terms, but does not explicitly address evolution.

Books citing human evolution are more common than in previous periods. Fourteen code 1 titles appeared in MSPL collections. These books contain more illustrations, including a number of creatively structured timelines that visualize the spans of geological time over which evolution occurs. Many descriptions of evolution are now contextualized in a geological time frame, and illustrations represent a new attempt to convey vast spans of geological time. Roy Andrews (1953) admits in *All about Dinosaurs*:

> When we talk about millions of years, it is difficult to get a real mind-picture of that vast length of time. Ape-like human beings did not exist until one million years ago. Our recorded history is hardly 7,000 years old. The time back to the Age of Reptiles is like the distance in miles separating us from the moon. (pp. 6–7)

Similarly, in *Climbing Our Family Tree,* Alex Novikoff (1945) describes the process of evolution: "If we had a motion picture projector that could speed up so fast that we could watch *ten million years* go by in *one minute*, we would be able to see the changes of species from one to another, starting with the first tiny living things and ending with modern man" (p. 10). Here Novikoff attempts to describe in words what others were beginning to put into illustrations.

Novikoff's book is also notable for its antiracist description of human evolution; he wrote: "All races are members of the *same species*. Proof of this is that people of different races can mate with each other and produce perfectly normal children. . . . No race is better or worse, or smarter or more generous than any other race" (p. 79). Novikoff's science writing for children garnered enthusiastic reviews from both popular and scientific journals, although some of his other writings were politically controversial (Holmes, 1989).

Race and racial equality also featured in Ralph and Adelin Linton's (1947) *Man's Way from Cave to Skyscraper*. That "the present races of mankind evolved from some lower form of life" is "no longer doubted by anyone who is familiar with the evidence" (p. 3). The Lintons introduce the topic of race by describing white children who grew up "with the Indians" and became "expert" in behaviors considered an "Indian inheritance." All humans are closely related, they note, and differences are more a matter of culture than race. Like previous authors, the Lintons make a general argument about ways evolution should and should not be applied to social issues:

> To follow the development of man from his humble beginnings to his present greatness should help us to think more clearly about the problems which that greatness has brought with it. In particular, it should help us to think sanely about racial differences and the troubles arising from them. If anthropology proves any one thing it is that all races have a common origin and have very much the same potentialities. (p. 7)

The Lintons also argue that there was "no logical ground for the conflict between science and religion. . . . The evidence that man's body has evolved from lower forms does not preclude the possibility of his having a soul created by Divine Grace" (p. 8). This claim, however, is markedly different from earlier theistic evolution stances. Rather than argue that God created the mechanism of evolution, Linton now uses the less definitive phrase "does not preclude the possibility" to describe the relationship between science and evolution, prioritizing a secular approach.

William and Helena Bullough's (1954) book *Introducing Animals-with-Backbones* includes an intentionally humorous illustration of a monkey and a college professor staring wide-eyed at one another, implying mutual surprise at their ancestry. Evolution is described as a process, whereby "some time long ago, our old ancestors left the trees to walk and run upright on

the ground, and to roam the world in family groups. In the course of untold ages we learned how to speak and then how to draw and write" (pp. 71–72). This joking approach suggests that the potency of the controversy had dissipated by the 1954 publication of the Bulloughs's book.

In conclusion, it is worth noting that some engaging and well-reviewed science books for children did not appear in any of the MSPL collections. This absence is also part of the picture, especially when the Scopes Trial began to appear as history written for children. One such book, Il'in's *How Man Became a Giant* (1942) offers an example of how the trial was historicized and described for children:

> A schoolteacher was brought in court and tried because he had dared to tell his pupils about man's relationship to the ape. A number of worthy citizens appeared on the streets wearing armbands reading: "We are not monkeys and we refuse to be made monkeys of." The poor schoolteacher, who hadn't the remotest idea of trying to turn these donkeys into monkeys was quite overcome by the mob of people who came to bring accusations against him. . . . So a Tennessee judge abolished the entire science of the origin of man as established by Darwin and other scientists. But facts are stubborn things. They cannot be abolished by judicial decree. (pp. 37–38)

This book along with many other examples demonstrates that a renewed vigor of pro-evolution claims characterized science books for children from the early 1940s to the mid-1950s. While many books in the MSPLs evinced such claims, it is suggestive to contrast what was collected with the even stronger historical claims that did not appear in MSPL collections.

Conclusion

For rural Midwest high school students in the 1920s, chances were good that their local public library would have been a source of information for schoolwork and life. Young people in small towns with public libraries had access to books about evolution that reflected the broader conflict as it emerged. The Scopes Trial had an impact on the recommendations and purchasing of children's science books. The change in recommendations for books featuring evolution is most evident in treatment of the term "evolution" in various editions of the *Children's Catalog*. When "evolution" first appeared in the 1925 *Children's Catalog,* one book was recommended with caution. "Evolution" disappeared in the 1930 and 1936 editions, and it only reappears in the 1941 edition with the new subject heading "Bible—Natural history." Obviously, the controversy over teaching evolution to children impacted these nationally influential recommendation lists.

Controversy over evolution appears to have had an impact on the MSPL collections as well. Prior to the Scopes Trial, the MSPL collections held twenty of thirty-four recommended books addressing evolution, whereas after the trial only four titles containing evolution were in any of the five MSPLs. Examining how evolution appeared in these books shows

how themes of religion, human society, and reactions to the Scopes Trial appeared over time. Until about 1940, when authors included religion in their science books, references were typically in line with what scholars describe as "theistic" or "spiritual" evolution. Authors espoused both Christian religious ideas and evolution, but reconciled them from a Christian perspective. In books published after about 1940, conflicts between religion and evolution are described with an air of objective distance, with authors arguing that the perceived conflict is unnecessary while giving primacy to a secular point of view.

Social applications of evolutionary ideas, from children's understanding of human history to their own personal betterment, appear repeatedly in books published from 1926 to 1956. In several of these titles, evolution is connected to not only species struggle but also to arguments about eugenics and race. Some books imply through text and illustration that the struggle for survival led certain groups, specifically Western Europeans, to have dominance over the earth and over other groups. Others endorse an explicitly egalitarian understanding of race. These variations raise many intriguing questions about how science has been interpreted for children as a set of metaphors that inherently reflect or react against the biases of their society.

Prior to the widespread adoption of textbooks and standardized curricula, the public library was a place where children could access books about evolution. Even as textbooks became standardized and some states outlawed the teaching of evolution, public libraries remained (and remain) a potential source of these ideas. The perceived innocence of children means that even their exposure to controversy is itself controversial, and so investigating trends in the publication and collection of controversial topics for children opens up interesting vistas for research. This study provides one case for investigating how controversial topics appear in, or disappear from, children's books and public library children's shelves over time. Libraries are fruitful lenses through which to see developments in American cultural history, and this article affirms that public controversy over evolution had a real impact on children's public library collections.

Appendix A.

Recommendation Lists by Year Published

Title	Year Published
Books for the Young	1882
Five Hundred Books for the Young	1892
Descriptiv List of Books for the Young	1895
Books for Boys and Girls (1st ed.)	1897
Books for Boys and Girls (2nd ed.)	1904
Index to Saint Nicholas/Children's Catalog 1	1909
Children's Catalog 2	1917

Children's Catalog 3	1925
Children's Catalog 4	1930
Realms of Gold	1930
Children's Catalog 5	1936
Five Years of Children's Books	1936
Children's Catalog 6	1941
Children's Catalog 7	1946
Children's Catalog 8	1951
Children's Catalog 9	1956

Notes

1. Collections included in the MSPL database are from the Sage Library in Osage, Iowa; the Morris Public Library in Morris, Illinois; the Moore Library in Lexington, Michigan; the Rhinelander Public Library in Rhinelander, Wisconsin; and the Bryant Library in Sauk Centre, Minnesota.
2. Although the MSPL database begins in the 1890s, many of the books it contains were inherited from founding social library collections dating back to the 1870s.The first children's science book examined for this study was published in 1863.
3. Other sources from before *Children's Catalog* were the lists *Five Hundred Books for the Young* (Hardy, 1892) and *Descriptiv* [*sic*] *List of Books for the Young* (Griswold, 1895). We included only two lists published after *Children's Catalog* began publication in 1909: Bertha Mahony Miller and Elinor Whitney's *Realms of Gold* (1929) and their subsequent supplement *Five Years of Children's Books* (1936). Miller's influential status in children's literature and librarianship as founder of *Horn Book* among other accomplishments made these lists worth considering.
4. The Rhinelander Public Library held volume one of *Children's Catalog* and the *Index to St. Nicholas*. The Sage Library held volumes two and three of *Children's Catalog*. The Bryant Library held *Children's Catalog* volumes five and seven, and the Morris Public Library also held *Children's Catalog* volume five. Only librarians in Rhinelander and Morris had any professional training, so these holdings indicate that the lists penetrated even communities where librarians were not actively connected to the American Library Association through their schooling. Sauk Centre had "professional" librarians after 1933.

References

Andrews, J. (1893). *The stories Mother Nature told her children*. Boston: Ginn.

Andrews, R. C. (1953). *All about dinosaurs*. New York: Random House.

Andrews, S. (Comp.). (1936). *Children's catalog: A dictionary catalog of 4000 books with analytical entries for 1020 books and a classified list indicating subject headings* (5th ed.). New York: H. W. Wilson.

Andrews, S., Cook D. E., & Cowing, A. (Comps.). (1941). *Children's catalog: A dictionary catalog of 4200 books with analytical entries for 910 books* (6th ed.). New York: H. W. Wilson.

Bacon, C. (Comp.). (1917). *Children's catalog of 3,500 books: A guide to the best reading for boys and girls* (2nd ed.). New York: H. W. Wilson.

Beebe, W. (1918). *Jungle peace*. New York: H. Holt.

Bernier, A., Chelton, M. K., Jenkins, C. A., & Pierce, J. B. (2010, March 30). Chronology. In *200 years of young adult library services history*. Retrieved September 4, 2011, from http://www.voya.com/2010/03/30/chronology/

Bolton, S. K. (1889). *Famous Men of Science*. New York: Thomas Y. Crowell and Company Publishers.

Bowler, P. J. (2007). *Monkey trials and gorilla sermons: Evolution and Christianity from Darwin to Intelligent Design*. Cambridge, MA: Harvard University Press.

Bowler, P. J. (2009). *Science for all*. Chicago: University of Chicago Press.

Brand, B. E. (1983). Sex-typing in education for librarianship: 1870–1920. In K. Heim (Ed.), *The status of women in librarianship* (pp. 29–49). New York: Neal-Schuman.

Buckland, F. (1876). *Log-book of a fisherman and zoologist*. Piccadilly, UK: Chapman and Hall.

Buckley, A. B. (1905). *Fairy-land of science*. New York: D. Appleton.

Buckley, A. B. (1881). *Life and her children.* London: Edward Stanford.
Bullough, W. S., & Bullough, H. (1954). *Introducing animals-with-backbones.* New York: Crowell.
Burt, M. E. (1889). *Literary landmarks: A guide to good reading for young people, and teachers' assistants.* Boston: Houghton Mifflin.
Cook, D. E. (Comp.). (1951). *Children's catalog* (8th ed.). New York: H. W. Wilson.
Darrow, F. L. (1923). *Masters of science and invention.* New York: Harcourt, Brace.
Darwin, C. (1861). *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life* (3rd ed.). London: John Murray.
Darwin, C. (1879). *What Mr. Darwin saw in his voyage round the world in the ship "Beagle."* New York: Harper & Brothers.
Ditzion, S. H. (1947). *Arsenals of a democratic culture: A social history of the American public library movement in New England and the Middle States from 1850 to 1900.* Chicago: American Library Association.
Dobrin, S., & Kidd, K. (2004). *Wild things: Children's culture and ecocriticism.* Detroit: Wayne State University Press.
Erleigh, E. (1929). *In the beginning.* New York: Doubleday.
Fenton, C. L. (1937). *Life long ago: The story of fossils.* New York: Reynal and Hitchcock.
Figuier, L. (1870). *Mammalia: Their various orders and habits.* New York: D. Appleton.
Gates, B. T. (1997). Revisioning Darwin with sympathy: Arabella Buckley. In B. T. Gates & A. B. Shteir (Eds.), *Natural eloquence: Women reinscribe science* (pp. 164–176). Madison: University of Wisconsin Press.
Giles, R., Cook, D. E., & West, D. H. (Comps.). (1946). *Children's catalog: A dictionary catalog of 4200 books with analytical entries for 637 books and a classified list indicating subject headings* (7th ed.). New York: H. W. Wilson.
Giles, R., & Cook, D. E. (Comps.). (1951). *Children's catalog: A dictionary catalog of 3400 books with analytical entries for 419 books and a classified list indicating subject headings* (7th ed.). New York: H. W. Wilson.
Glenn, W. H. (1990). Treatment of selected concepts of organic evolution. *Science Education, 74*(1), 37–52.
Green, S. S. (1883). *Libraries and schools.* New York: F. Leypoldt.
Griswold, W. M. (1895). *A descriptiv list of books for the young.* Cambridge, MA: W. M. Griswold.
Hardy, G. E. (1892). *Five hundred books for the young: A graded and annotated list.* New York: Charles Scribner's Sons.
Hewins, C. M. (1882). *Books for the young: A guide for parents and children.* New York: Leypoldt.
Hewins, C. M. (1897). *Books for boys and girls* (1st ed.). Boston: Library Bureau.
Hewins, C. M. (1904). *Books for boys and girls* (2nd ed.). Boston: A. L. A. Publishing Board.
Hofstadter, R. (1963). *Anti-intellectualism in American life.* New York: Knopf.
Holmes, D. R. (1989). *Stalking the academic communist.* Hanover: University Press of New England.
Hornaday, W. T. (1904). *American natural history.* New York: Charles Scribner's Sons.
Il'in, M. (1942). *How man became a giant.* Philadelphia: J. B. Lippincott.
Kohlstedt, S. G. (2005). Nature, not books: Scientists and the origins of the nature-study movement in the 1890s. *Isis, 96,* 324–352.
Kummer, F. A. (1922). *The first days of man.* New York: George H. Doran.
Ladouceur, R. P. (2008). Ella Thea Smith and the lost history of American high school biology textbooks. *Journal of the History of Biology, 41*(3), 435–471.
Lang, A. (Ed.) (1899). *The red book of animal stories.* London: Longmans, Green.
Lankester, E. R. (1905). *Extinct animals.* New York: Henry Holt.
Lansing, M. F., & Sharp, W. (1942). *Against All Odds: Pioneers of South America.* Garden City, N.Y.: Doubleday, Doran.
Larson, E. J. (1987). Before the crusade: Evolution in American secondary education before 1920. *Journal of the History of Biology, 20*(1), 89–114.
Larson, E. J. (1997). *Summer for the gods: The Scopes Trial and America's continuing debate over science and religion.* New York: Basic Books.
Lightman, B. V. (2007). *Victorian popularizers of science: Designing nature for new audiences.* Chicago: University of Chicago Press.
Linton, R., & Linton, A. (1947). *Man's way from cave to skyscraper.* New York: Harper and Brothers.

Marcus, L. S. (2009). *Minders of make-believe: Idealists, entrepreneurs, and the shaping of American children's literature.* New York: Houghton Mifflin.
McConnell, M. L., & West, D. H. (Comps.). (1956). *Children's catalog: A classified list of 3,204 children's books recommended for school and public libraries with an author, title, and subject index* (9th ed.). New York: H. W. Wilson.
Menand, L. (2001). *The metaphysical club.* New York: Farrar, Straus and Giroux.
Mickenberg, J., & Nel, P. (Eds.) (2008). *Tales for little rebels: A collection of radical children's literature.* New York: New York University Press.
Miller, B. E. M., & Whitney, E. (1929). *Realms of gold in children's books.* Garden City, NY: Doubleday, Doran.
Miller, B. E. M., & Field, E. W. (1936). *Five years of children's books: A supplement to "Realms of gold."* Garden City, NY: Doubleday, Doran.
Mix, J. I. (1912). *Mighty animals: Being short talks about some of the animals which lived on this Earth before man appeared.* New York: American Book.
Moore, R. (1998). Creationism in the United States: The aftermath of the Scopes Trial. *The American Biology Teacher, 60*(8), 568–577.
Moore, R. (2001). The lingering impact of the Scopes Trial on high school biology textbooks. *BioScience, 51*(9), 790–796.
Novikoff, A. B. (1945). *Climbing our family tree.* New York: International Publishers.
Numbers, R. L., & Stenhouse, J. (1999). *Disseminating Darwinism: The role of race, place, religion, and gender.* New York: Cambridge University Press.
Olcott, F. J. (1912). *The children's reading.* Boston: Houghton Mifflin.
Parker, B. M. (1941). *Animals of yesterday.* New York: Harper & Brothers.
Parrots and monkeys. (1879). London: Seeley, Jackson, and Halliday.
Potter, M. E. (Comp.). (1909). *Children's catalog: A guide to the best reading for young people based on twenty-four selected library lists* (1st ed.). Minneapolis: H. W. Wilson.
Quennell, M., & Quennell, C. H. B. (1922). *Everyday life in the Old Stone Age.* New York: G. B. Putnam's Sons.
Reed, W. M. (1930). *The Earth for Sam: The story of mountains, rivers, dinosaurs and men.* New York: Harcourt, Brace.
Reed, W. M., & Lucas, J. (1937). *Animals on the march.* New York: Harcourt, Brace.
Robinson, W. W., & Robinson, I. B. (1941). *Beasts of the tar pits.* New York: Macmillan.
Rosenthal, D. B. (1985). Evolution in high school biology textbooks: 1963–1983. *Science Education, 69*(5), 637–648.
Sears, M. E. (Comp.). (1930). *Children's catalog: A dictionary catalog of 4100 books with analytical entries for 880 books and a classified list indicating subject headings* (4th ed.). New York: H. W. Wilson.
Sears, M. E., & Bacon, C. (Comps.). (1925). *Children's catalog: A dictionary catalog of 4100 books with analytical entries for 863 books.* (3rd ed.). New York: H. W. Wilson.
Shapiro, A. R. (2008). Civic biology and the origin of the school antievolution movement. *Journal of the History of Biology, 41*, 409–433.
Shera, J. H. (1949). *Foundations of the public library; The origins of the public library movement in New England, 1629–1855.* Chicago: University of Chicago Press.
Skoog, G. (1979). Topic of evolution in secondary school biology textbooks: 1900-1977. *Science Education, 63*(5), 621–640.
Skoog, G. (1984). The coverage of evolution in high school biology textbooks published in the 1980s. *Science Education, 68*(2), 117–128.
Smiles, S. (1878). *Robert Dick: Baker, of Thurso, geologist and botanist.* London: John Murray.
Smith, E. Boyd. (1944). *So Long Ago.* Boston: Houghton Mifflin Co.
Tebbel, J. W. (1972). *A history of book publishing in the United States.* New York: R. R. Bowker.
Van Loon, H. W. (1921). *The story of mankind.* New York: Boni and Liveright.
Washburne, C. (1933). *The story of Earth and Sky.* New York: Century.
Wells, M. E. (1917). *How the present came from the past.* New York: Macmillan.
Wiegand, W. A. (2011). *Main Street Public Library: Community places and reading spaces in the rural heartland, 1876–1956.* Iowa City: University of Iowa Press.
Williams-Ellis, A. (1931). *The Voyage of the Beagle.* Philadelphia: J. B. Lippincott.
Wright, H.C. (1888). *Children's Stories of the Great Scientists.* New York: Charles Scribner's Sons.

Kate McDowell is an assistant professor in the Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign, where her courses include youth services librarianship, history of readers, and storytelling. She has published articles in *Children and Libraries*, *Book History*, *Libraries and the Cultural Record,* and *Library Quarterly*. Her article "Surveying the Field: The Research Model of Women in Librarianship, 1882–1898" won the biennial 2010 Donald G. Davis Award of the American Library Association's Library History Round Table.

Caroline Nappo is a doctoral student and Information in Society fellow in the Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign, where she also received her MS. She previously worked as an editor for the Alternative Press Index. Her research interests include library history, information policy, and political economy of information. Her dissertation explores changes in the U.S. system of information provision around technology, access, and policy during the 1930s. She holds a BA from Antioch College.