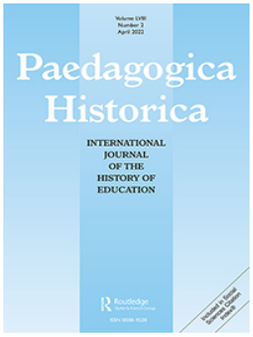

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Learning to read while reading to learn: Marcius Willson's basal readers, science education, and object teaching, 1860–1890

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ARTICLE

Learning to read while reading to learn: Marcius Willson's basal readers, science education, and object teaching, 1860–1890

Peter B. Knupfer

ABSTRACT

The essay discusses innovations in reading education by the schoolbook author Marcius Willson (1813-1905) through an examination of two popular series of basal readers he produced during and after the American Civil War. His School and Family Series (Harper & Brothers, 1860-) generated acrimonious debate about science education, literacy, and object pedagogy in the primary grades. His successor Popular Series (Lippincott, 1881-) went beyond compilation of classic literature in a basal reader by creating a fictitious community populated with a diverse cast of characters and storyboard of incidents that could draw young readers out of the classroom and into a broader world of nature and commerce. Both series competed effectively against rivals in national and regional markets and foreshadowed modern concepts of reading education based on the idea of "learning to read while reading to learn." The essay also affirms the centrality of individual authorship and scholarship as the textbook market industrialized.

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science education; literacy; object teaching; pedagogy; common schools

Surveys of basal readers of the common school era, from Rudolph Reeder's inventory in 1900, through Nila Blanton Smith's long-standard treatment in her history of literacy, to the insightful recent work of Jean Ferguson Carr, Stephen L. Carr, and Lucille M. Schultz, have provided a firm understanding of the scale and contours of these mainstays of the common school classroom.[1] What emerges from these studies is a textbook *genre* that emphasised character-building and cultural identity through verbal articulation of the English language, mostly through study and recitation of classical and rhetorical literature by English and American authors and orators. As Carr, Carr, and Schultz explain,

> learning to read was a *textual* practice: learning to recognise and recite an alphabet, syllables, words, sentences, and texts; to read graphic symbols; and to understand the organisation of printed texts. And in the nineteenth century, it was an *oral* practice: learning to pronounce,

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[1]Of a half-dozen major surveys of this literature, the following are important for our purposes here: R.R. Reeder, *The Historical Development of School Readers and of Method in Teaching Reading* (New York, Berlin: Macmillan and Mayer & Müller, 1900); Nila Blanton Smith, *American Reading Instruction: Its Development and Its Significance in Gaining a Perspective on Current Practices in Reading* (Newark, DE: International Reading Association, 1986); Richard L. Venezky, "A History of the American Reading Textbook," *Elementary School Journal* 87, no. 3 (January 1987): 246–65; and Jean Ferguson Carr, Stephen L. Carr, and Lucille M. Schultz, *Archives of Instruction: Nineteenth-Century Rhetorics, Readers, and Composition Books in the United States* (Carbondale: Southern Illinois University Press, 2005) also has an excellent bibliography.

> enunciate, and articulate sounds and sentences; to emphasise and pause; to adjust the body to speech; to declaim and recite.[2]

By mid-century, an emphasis on sacred themes gave way to concerns that children be educated in "practical", or "useful" knowledge of events and objects within the scope of their own experience.[3] Authors introduced selections from history, nature stories, and civics while they came under the influence of Pestalozzian principles of sensory training through lessons involving everyday objects that children might encounter in or outside the classroom. Meanwhile, the process of industrialisation in book-making had reached all the major publishing houses with the introduction of steam-powered presses, cheap paper and bindings, metallic stereotyping of plates, improved illustrations and engraving, and mass-marketing through popular media and advertising circulars.[4] These changes offered opportunities for educational entrepreneurs to partner with large publishing firms that were establishing branch offices near growing school markets in the Midwest and along the West coast. In many cases, basal readers were captured by industry and developed in-house rather than by individual author-creators, culminating in the absorption of much of the textbook industry and author copyrights by the giant American Book Company trust in 1890. Having sold his copyrights for 1000 USD back in 1836, McGuffey himself could be said to have outsourced his individual creations to in-house writers and editors, who subsequently transformed them into a formula applied to all editions, especially after 1857.[5]

What does not emerge from this scholarship, however, is a firm understanding of authors, authorship, and compilation: we know more about texts than about the people, the firms, and the processes behind their creation, use, and circulation.[6] With the exceptions of Noah Webster and William Holmes McGuffey, whose works dominate surveys of nineteenth-century reading education, we lack recent, comprehensive, or in-depth biographies of individual authors, publishing histories of best-selling works, explorations of outliers and diverse methods or approaches to reading education in these books, examinations of the marketing of texts in the quest for adoptions, or reliable data on revenues, circulation, and classroom use.[7] Until larger trends in technology,

[2]Carr, Carr, and Schultz, *Archives of Instruction*, 81–2.

[3]Ibid., 83–4. On "useful knowledge" in this period, see Cathy N. Davidson, *Revolution and the Word: The Rise of the Novel in America* (New York: Oxford University Press, 2004), 134–8; Johann N. Neem, *Democracy's Schools: The Rise of Public Education in America* (2017), 5–30; and Scott L. Montgomery, *Minds for the Making: The Role of Science in American Education, 1750–1990* (New York: Guilford Press, 1994), 64–8.

[4]Michael Hackenberg, "The Subscription Publishing Network in Nineteenth-Century America," in *Getting the Books Out: Papers of the Chicago Conference on the Book in 19th-Century America*, ed. Michael Hackenberg (Washington: Centre for the Book, Library of Congress, 1987), 45–75.

[5]Carr, Carr, and Schultz, *Archives of Instruction*, 118; "1st, 2d, 3d, & 4th Readers W.H. McGuffie to Truman & Smith," Contract, 28 April 1836, Typescript (Walter Havighurst Special Collections, Miami University Libraries).

[6]For the purpose of this discussion, a "basal reader" combined content and specific instruction to teachers and pupils in the mechanics of reading, unlike English grammars or other forms of juvenile literature often used in classrooms.

[7]The first scholarly biography of Lindley Murray, whose *English Reader* (1799–1815) went through 259 editions in the United States, came in 2011: Lyda Fens-de Zeeuw, "Lindley Murray (1745–1826), Quaker and Grammarian" (PhD diss., Universiteit Leiden, Utrecht, 2011). McGuffey's iconic status is evident in surveys of the era's educational history, most recently, Neem, *Democracy's Schools*, 39–46. The latest in a line of admiring accounts is Quentin R. Skrabec, *William McGuffey: Mentor to American Industry* (New York: Algora, 2009). Even though reliable circulation data prove elusive, McGuffey also dominates publishing histories of reading books, e.g. John William Tebbel, *A History of Book Publishing in the United States*, 4 vols (New York: R.R. Bowker Co., 1972), 1: 551–4. On Webster, E. Jennifer Monaghan, *A Common Heritage: Noah Webster's Blue-Back Speller* (Hamden, CT: Archon Books, 1983). Jacob Abbott's "Rollo" series and his many smaller books on scientific subjects were widely used in schools but were not basal readers, see among others Katherine Pandora, "The Children's Republic of Science in the Antebellum Literature of Samuel Griswold Goodrich and Jacob Abbott," *Osiris* 24, no. 1 (2009): 75–98. No formal biographies exist of Charles Walton Sanders, George Stillman

editorial control, and marketing took hold on the industry, individual authors still made a difference. It is one thing to assert the truism that "basals are a business", a commercial product created by "publishers in terms of their investment in development and potential for profit".[8] But behind the efforts of the publishing industry were authors and compilers also in search of a "profit" – otherwise known as a livelihood – who were attempting to innovate without alienating huge swathes of a developing market, to implement new approaches to reading based on their experience, limited education, and sense of what schools and teachers wanted, all as the age of academic social sciences, empiricism in research, and the professionalisation of teacher education at normal schools was dawning. Operating, in today's parlance, as an independent contractor rather than employee, an author made choices that deeply influenced the work itself. The observation that "basals are a business" can lull us into believing that industrialisation absorbed the creation of readers into an assembly-line process involving the appropriation of others' literary work by unskilled or anonymous compilers. Yet it still was an intensive *intellectual* as well as *entrepreneurial* effort that required significant research into sources, editorial decisions about selections to publish, special consideration of pupils' and teachers' changing levels of comprehension and skill, political calculations about the public's prejudices and interests (especially regarding religious and sectional themes), devising a comprehensible and logical structure for the work, and annotating it for pronunciation, style, and classroom use. Compilers also had to navigate a changing market in partnership with a publisher who exercised increasing leverage over a book's content, costs, and ultimate fate.

This essay places a largely neglected author, Marcius Willson (1813–1905) at the centre of a story arc describing two unconventional sets of reading texts, one of which prompted serious debate over education, pedagogy, and child psychology, and both marking an important departure in content-based reading education. Willson stamped his best-selling texts with a particular style, personality, philosophy, and content that set them apart from their rivals and attracted considerable controversy. Although well-educated by the day's standards Willson was not an advanced thinker about literacy and child psychology. He was a man of markets, a pedagogue turned entrepreneur who seized opportunities to carve his own niche in a very large market. A voracious reader and disciplined writer who wrote all of his books and advertisements himself, he eschewed the assembly-line, team-driven authorship of the industry, and, having left a teaching career for work as a full-time textbook author and compiler, managed to maintain a prodigious output of books, inventions, and educational services for almost 60 years until his death at age 92 in 1905.[9] No stranger to controversy, he had tangled in the mid-1840s with reformer and historian Emma Willard in a highly public spat over school histories that harmed his more than her

Hillard, David Bates Tower, William R. Swinton, Lyman Cobb, or other best-selling entrepreneurial authors of basal readers prior to the transition of authorship to professional academics in the late nineteenth century.

[8]James V. Hoffman and Donna E. Alvermann, "What a Genealogical Analysis of Nila Blanton Smith's *American Reading Instruction* Reveals About the Present Through the Past," *Reading Research Quarterly* 55, no. 2 (2020): 264–5.

[9]Willson's personal papers have yet to surface; a single unpaginated manuscript notebook written in 1864 and 1865, held at Gottesman Libraries, Teachers College, Columbia University, containing drafts of his articles, replies to critics, and elaborate plans for his readers, is the only significant primary source beyond his publications. See Kikuko Nishimoto, "'Uiruson Rīdā' No Haikei to Kōsō [Background and Concept of Willson's Readers]," (paper presented at 120th National University of Japan Language Education Conference, Kyoto, Japan, 5 May, 2011: copy in author's possession) for an extensive analysis of this source.

reputation.[10] Willson's innovations were a response to market conditions, an attempt to fill a gap left by competitors Lindley Murray, George Hillard, David Tower, William R. Swinton, Charles Walton Sanders, and especially McGuffey, whose looka-like readers skirted academic subjects outside the literary canon and focused on declamation, aspirational and patriotic literature, and moral education. Willson blended existing practices into a new approach that he gambled would set his work apart from his rivals', earn him a good living, and bring him fame as a public benefactor.

Whether for profit or to advance "important *educational principles*, to which I have devoted the study of years", Willson believed that the central problem – "how to bring such subjects of a higher English Education as every intelligent parent would like to have his own children possess *some* knowledge of, within the reach of *all* the children of our schools" – could only be solved "as Horace Mann admitted to me, [through] the incorporation of such subjects into the reading lessons of the school-room".[11] What mattered to Willson was connecting the method (what contemporaries called "the art") of learning to read to the quality and usefulness of what one actually read: he believed that children could read to learn while learning to read.[12]

All basal readers are about *something*, after all, so what "subjects" was Willson referring to? Willson saw English and American literature and oratory as a means to convey "useful knowledge", by which he meant the science underlying material and human life outside the classroom. In Willson's mind common schools should convey common knowledge, and the ubiquitous daily reading lesson was the place for it to happen. Willson's "School and Family Series" (1860–1871) published by Harpers offered a broad curriculum in natural science mixed with literature about nature, delivered through his version of object pedagogy. His "Popular Series", published by J.B. Lippincott of Philadelphia (1881–1885) avoided science and spiced an original narrative set in a small town of Willson's invention with literary selections embracing travel, cultural study, and exposure to "the sterner realities of life".[13] In both cases a reading book would shift from studying English as a subject to conveying "useful knowledge" in order to harness the child's curiosity about the natural and material world to the skill of reading. Some competing reading books offered minor variations of this strategy but no other series of school readers of comparable sales during the decades they were in print was organised around either of Willson's approaches to reading education, especially once the academic disciplines, such as science, history, and mathematics, won their separate places in the school curriculum.[14] In the end Willson was no McGuffey, as the latter's publishers would be quick to point out.

[10]Peter B. Knupfer, "How to Write a History Textbook: The Willard-Willson Debate Over History Education in the Common School Era," *History Education Quarterly* 59, no. 2 (2019): 257–87.
[11]Marcius Willson, notebook.
[12]The catch phrase "learning to read before reading to learn" was coined by Jeanne Chall in her influential studies of developmental stages of reading, summarised in Jeanne S. Chall, Vicki A. Jacobs, and Luke E. Baldwin, *The Reading Crisis: Why Poor Children Fall Behind* (Cambridge, MA: Harvard University Press, 1990), 11–14.
[13]Marcius Willson, *The Fourth Reader of the Popular Series* (Philadelphia: J.B. Lippincott & Co., 1885), 3.
[14]Smith, *American Reading Instruction*; and Carr, Carr, and Schultz, *Archives of Instruction*, 94–5.

Science education and object pedagogy combined: the Harpers School and Family Series

In late December 1858, at the offices of the Harper Brothers publishing house in Franklin Square, Willson pitched an outline for the first of his two important departures from conventional reading education over the next 35 years. The Harpers project was his riskiest, most ambitious, and controversial. The premise of his plan was that content-based reading books could do double-duty in classrooms run by poorly trained and novice teachers while providing children with "useful knowledge" of the material world around them. Geography may well have been the gateway to broader science education during this period, as Kim Tolley has shown, but Willson saw things differently: the time devoted to reading in the common schools took precedence over any other subject, leading him to introduce scientific knowledge where it was mostly likely to be taught and used by *everyone* of all races, genders, and classes.[15]

His outline sketched a primer and six ensuing readers that were to gradually encompass natural history and literature, calibrated to grade level or age. The higher books in the series were to traverse the natural domain through a warren of subjects that looked like the card catalogue of a dilettante's home library, but with an emphasis on natural science illustrated by poems, short stories, and images drawn from literature. Specifically, the First and Second Readers (for children ages eight to nine) were to offer "Stories of Animals. Descriptions of Natural Objects. Moral lessons &c." The Third Reader, probably intended for children around 10 years of age (likely the fifth grade in the new graded schools of that day), would treat "Natural History of Beasts, Birds, Fishes, Reptiles, Insects, Shells, Human Physiology, Vegetable Physiology, Natural Philosophy, Physics." The Fourth would add "Physical Geography, Chemistry, agricultural chemistry, Chemistry of Common Life, Architecture – Civil and Naval, Human Physiology, Veg. Phys., Nat. Phys., History, Importance of." Thirteen- and fourteen-year-olds advancing beyond this formidable catalogue of subjects could march through a Fifth Reader with "Astronomy, Mental Philosophy, Moral Philosophy, Evidence of Christianity. – Natural Theology &c., Political Science, Phys. Geog., Chemistry, Geology and Minerals", followed by a capstone "Academical Reader" on "the microscopic world, Rhetoric, Criticism, Taste, Oratory, Logic, Painting Sculpture, Music, and Gardening and Horticulture".[16] No extant series of school readers in the United States even approached this scale of coverage.

But the innovation Willson pursued was not only in science education; his Harpers series combined existing pedagogical models and subject disciplines into a comprehensive common school reading curriculum. His concern was content area reading, not disciplinary literacy, concepts unknown in his day but prefigured in his books and the debate that swirled around them.[17] On the one hand the typical classroom reader, including some of

[15]Kim Tolley, *The Science Education of American Girls: A Historical Perspective* (Philadelphia: Taylor & Francis Group, 2002), 13–34; and "Examiner" [Marcius Willson], "Reading as a Branch of Common School Education," *The Illinois Teacher* 10, no. 12 (December 1864): 440, drafts in Willson notebook; Neem, *Democracy's Schools*, 56–7.

[16]"Marcius Willson's Series of School Books, Etc," Signed Contract, 14 February 1859, Archives of Harper & Brothers, 1817–1914 (New York: Special Collections, Columbia University Libraries) Microfilm Edition (Cambridge: Chadwyk Healey, 1980) (hereinafter Harpers MSS) Reel 1, Contract Books Vol. 1, 369. Expected age levels estimated from the recommended curriculum in Marcius Willson, *A Manual of Information and Suggestions for Object Lessons in a Course of Elementary Instruction. Adapted to the Use of the School and Family Charts, and Other Aids in Teaching* (New York: Harper & Brothers, 1862), 289–318.

[17]Cynthia Hynd-Shanahan, "What Does It Take? The Challenge of Disciplinary Literacy," *Journal of Adolescent & Adult Literacy* 57, no. 2 (2013): 93–8.

Willson's, emphasised disciplinary knowledge essential to understanding English as a focus of study and practice (elocution, parts of speech, forms of oratory and orality, literary style, and plot devices). These readers often devoted large sections to instructing teachers in the minutiae of speech and language, replete with specialised terms, symbols, and markings intended to prepare teachers to analyse their pupils' work. Willson's plan went further, towards "popular science" mediated and simplified through literary and cultural materials as a bridge to later disciplinary study of science.

The troubled national climate in 1859 made this venture a major gamble for Harpers even though it had published dozens of textbooks.[18] Willson's would be the firm's first basal reader, a latecomer to a market already led by a number of best-sellers. But on the strength of Willson's pitch, James, John, and Fletcher Harper signed a landmark contract giving him an office, complete editorial control over content, an annual salary of 1600 USD plus 8% of retail sales, copyrights to his works, travelling expenses, access to Harpers's unmatched internal resources, including its engraving shop with its growing archive of illustrations, its in-house steam presses and national distribution channels, and, most important of all, free and almost limitless national promotion via *Harpers Weekly* and *Harpers Monthly Magazine* for this new School and Family Series. Illustrations were to be "in the best style of the art", the contract pledged, "and the books shall be got up in a style as to paper, printing, and binding, that is not surpassed by any of the Reading books now in use, – and all at the expense of the said Harpers". In return, Willson was to produce the readers, hire and manage agents across the country, and promote the series through articles in educational periodicals, advertisements, and circulars.[19] Willson was even more ambitious than his outline and contract revealed. He intended to combine literacy, literature, science, and object pedagogy into one interdisciplinary curriculum of six progressive volumes reinforced by classroom aids, spellers, and manuals for teachers through the first 10 years of school based on a new model of object teaching that Willson dubbed the "development system". Willson the author was at the centre of the entire business plan.

Launched in 1860, the basal readers came first, with six volumes on the market by 1863.[20] These books touted several significant improvements in literacy education. First, the higher books in the series were profusely illustrated by Harpers's premier in-house engraver, Charles A. Parsons, richly detailing dozens of species plus minerals and buildings, which Willson emphasised in elaborate, lengthy advertising circulars.[21] Perhaps more important was the incorporation of Willson's "development system", a teaching method based on the object pedagogy that was spreading across American public education. Championed by the English sociologist Herbert Spencer and advocated by educational reformers, object teaching (also occasionally described as the "inductive method")[22] aimed at instruction of elementary-school students through the training of the senses to observe, interpret, and understand "common" objects (toys, rocks, machinery, animals). In the 1860s the dominant American

[18]Robert S. Freeman, "Harper & Brothers' Family and School District Libraries, 1830–1846," Paper 166, *Libraries Faculty and Staff Scholarship and Research* (2003), http://docs.lib.purdue.edu/lib_fsdocs/166.
[19]Harper & Brothers, "Marcius Willson's Series of School Books, Etc," 369.
[20]William H. Demarest, comp., "Harpers Catalogue," Harper MSS, Reel 24, 459–60.
[21]Eugene Exman, *The Brothers Harper: A Unique Publishing Partnership and Its Impact Upon the Cultural Life of America from 1817 to 1853* (New York: Harper & Row, 1965), 105–20; and Harper & Brothers, "Willson's Readers," Advertisement, *American Educational Monthly*, 1 March 1864, 1–16.
[22]Kim Tolley, "Learning from Nature: Alexander von Humboldt's Influence on Young Women's Geography and Natural History Education in Nineteenth-Century America," *Paedagogica Historica* 56, no. 1–2 (2019): 101–120, DOI: 10.1080/00309230.2019.1630448.

version settled in at the New York State Normal School, Oswego under the leadership of Edward A. Sheldon, author of an influential manual on the practice, to train teachers in its precepts and send them out as apostles to school districts across the country.[23]

Willson's series was designed with object teaching in mind: the use of illustrations as discussion-starting representations of objects for the classroom, an emphasis on drawing, shapes and colours as the foundation of sensory learning, and especially the inclusion of sections in the fourth reader that scripted model object lessons by "Mr. Maynard," an imaginary teacher who practised what Willson was preaching. It was logical that Willson supplemented the readers with a series of related manuals and teaching aids that promoted his method. In 1861 he teamed up with another evangel of object teaching, Norman Allison Calkins (1822–1895), assistant superintendent of the New York City public schools and author of a best-selling book on this method, to produce a manual with an encyclopaedic collection of objects and related lessons ending with an "approximate programme for a course of elementary instruction during the first ten years of school life" in reading, maths, history, geography, and beyond, plus 22 classroom charts crammed with colour palettes, diagrams, word lists, and pictures of animals, plants, and insects all keyed to the readers.[24] Critical to this design was Willson's belief that his "development system" for learning would, through progressive exposure to science mediated by poems, pictures, and stories, nurture children's interest beginning at an early age while simultaneously training their "mental culture" with new and more complex ideas.[25]

The primer, first, and second readers of his series (for ages, roughly, 7 to 9, grades 1–4), contained no technical scientific content beyond illustrated short stories of animals, but they did employ his version of object teaching, for which the illustrations were the key. Lessons and images in the early volumes, he explained,

> are designed to present to the mind of the pupil a moving panorama of a real, busy life, which he can comprehend, and which at the same time will suggest, and call forth, whatever of interest and instruction can be connected with the scenes that thus pass before him.

[23]Two recent treatments of object pedagogy, Sarah Anne Carter, *Object Lessons: How Nineteenth-Century Americans Learned to Make Sense of the Material World* (New York: Oxford University Press, 2018); and William J. Reese, *America's Public Schools: From the Common School to "No Child Left Behind"* (Baltimore, MD: Johns Hopkins University Press, 2005), 79–117 offer needed correctives to the baleful verdict on it as a "dismal formalism" by scholars like Larry Cuban, *How Teachers Taught: Constancy and Change in American Classrooms, 1890–1900*, 1st ed. (Arlington, VA: ERIC Clearinghouse, 1984), 31–3. Nathan R. Myers, "American Pestalozzianism Revisited: Alfred Holbrook and the Origins of Object-Based Pedagogy in 19th Century America," *American Educational History Journal* 34, no. 1–2 (2007): 85–96, broadens the story beyond Sheldon and Oswego. "Object epistemology" – objects as media of instruction – was already circulating through the museum community in the early republic: Steven Conn, *Museums and American Intellectual Life, 1876–1926* (Chicago: University of Chicago Press, 1998), 4–9, 22–4.

[24]N[orman] A[llison] Calkins, *Primary Object Lessons for a Graduated Course of Development* (New York: Harper & Brothers, 1861); Marcius Willson and N.A. Calkins, *A Series of School and Family Charts, Accompanied by a Manual of Object Lessons and Elementary Instruction* (New York: Harper & Brothers, 1862); and Willson, *Manual of Information* (1862), 300–18. In charge of the country's largest primary school system for 35 years, Calkins exercised significant influence over curriculum and practice: see Claire Strom, "Calkins, Normal Allison," in *American National Biography Online* (Oxford University Press, 2000); Rick Edward Heironimus, "Johann Heinrich Pestalozzi: A Study of His Influence on American Sunday Schools" (EdD diss.,Southern Baptist Theological Seminary, Louisville, KY, 1977), 97–105; and Carter, *Object Lessons*, 55–7, 84–92.

[25]The fullest statement of this "development system" is in Marcius Willson, *A Manual of Information and Suggestions for Object Lessons in a Course of Elementary Instruction. Adapted to the Use of the School and Family Charts, and Other Aids in Teaching*, 2nd ed. (New York: Harper & Brothers, 1863), 3–22.

These books down-played rules-bound instruction in grammar, elocution, and spelling so that students would "read as they would talk", to "teach pupils, at the very beginning, not *Rules*, but correct HABITS of reading".[26]

True to the original plan, science and natural history emerged prominently in the next sequence of third, fourth, and fifth readers, (roughly ages 10–14, grades 5–10). Willson did not think of these as "science books" in the vein of texts on chemistry or zoology. Instead he intended to introduce children to "classified knowledge" through lessons involving objects (either physical or through illustrations that represented the natural world in orderly and comprehensive schema). Thus, children would not be subjected to on-demand recitation of facts about the "the horse, a quadruped" (a typical lesson in object pedagogy strictly applied) but would participate in conversations and stories about *horses*, of the genus *Equus* presented with "all the charms which poetry, and vivid description, and incident, and anecdote, and the best illustrations can lend".[27] Willson argued that the science behind the material world was central to children's daily experience and that a child's natural gift for storytelling enabled young minds to comprehend its "basic principles" and "laws". Thus, he asserted, a child could read and learn that within a pebble lay *stories* that "connect it with the geological history of our earth . . . in its little self it presents the records of a history wonderful and grand in the extreme".[28] Unlike contemporary science texts that used conversation to promote mastery of the subject, Willson hoped that engaging children through narrative and conversation would "popularise" the subject while conveying "as much positive *information* as would be compatible with these requisites for a good reading-book".[29] Contrary to the prevailing practice of "lessons poured into an unwilling ear", he planned to present "facts as to awaken the perceptive faculties to voluntary and pleasurable activity, for the purpose of *developing thought*" and "embrace a wider range of utility than the merely ornamental part of the art of reading – the mere calling of *words* in an elocutionary manner".[30]

Willson's frequent invocation of "mental discipline" through "education of the senses" echoed the faculty psychology underlying Pestalozzian models of childhood learning, but he added the important objective of comprehending and contextualising the meaning of sensory observations through conversation and storytelling by students as the vital determinant of success in learning to read.[31] Willson's adaptation of object teaching recalls historian Nathan R. Myers's conclusion that "the Pestalozzian movement in America is best thought of as originating in multiple and diverse centers while having nuanced interpretations".[32]

[26]Marcius Willson, *The Second Reader of the School and Family Series* (New York: Harper & Brothers, 1860), vi.
[27]Harper & Brothers, "Willson's Readers," 1.
[28]Willson, *Manual of Information* (1863), 13–14.
[29]Marcius Willson, *The Third Reader of the School and Family Series* (New York: Harper & Brothers, 1860), iii. On the technique of conversation in science books, see Tolley, *Science Education*, 63–5.
[30]Willson, *Manual of Information* (1862), 21–2. He expanded on these themes in several articles, including [Marcius Willson], "The Old and the New in Education II," *American Educational Monthly* 1, no. 4 (April 1864): 100–3, and [Marcius Willson], "The Old and the New in Education," *American Educational Monthly* 1, no. 1 (January 1864): 20–1; drafts in Willson's notebook, which noted that the Canadian "National" and "Irish" Series of readers also incorporated science education into reading and object lessons. Criticisms of rote learning in reading lessons were a staple of curricular reform rhetoric: Neem, *Democracy's Schools*, 48–52.
[31]Willson, *Manual of Information* (1863), 317–18. On mental discipline and practical education, see Carr, Carr, and Schultz, *Archives of Instruction*, 4–8. On faculty psychology, see Frank M. Albrecht, "A Reappraisal of Faculty Psychology," *Journal of the History of the Behaviorial Sciences* 6, no. 1 (1970): 36–40.
[32]Myers, "American Pestalozzianism Revisited," 96.

To make his point, Willson instructed teachers through exemplary lessons on natural philosophy and the mechanical world conducted by an imaginary model teacher, "Mr. Maynard", in the fourth and fifth readers of the series for 11- through 14-year-olds. Using the device of a series of deep and elaborate conversations between Mr. Maynard and his small class of bright, curious male and female teens gathered in a bucolic "Glenwild" school somewhere in "the Alleghenies", Willson described a brand of object teaching that combined nature study, science education, and classical literature.[33] These lessons, which appear to be geared more towards teachers than students, were adorned with references to poetry and prose while the relentlessly curious Maynard – "a teacher whose whole soul was imbued with science – prodigal of his intellectual wealth" – showcased a unique blend of experience, observation, and intellect that actually was rare among contemporary common school teachers. For Maynard, "every object in nature, however seemingly insignificant … would elicit inquiry, awaken thought, and lead to the explanation of interesting truths in philosophy … And good in every thing."[34] His capsule summary of this psychology, suggestive of later theories of learning based on "multiple intelligences",[35] emphasised that children could read to learn while learning to read. Maynard's method would "discredit the doctrine that pupils must entirely master one subject before entering upon another", for the human mind

> 'is not a unit in its operations.' … 'Let no one,' said [Maynard], 'compare the mind of the child, thus educated, to a reservoir filled by art. While every system of education should be based upon thorough discipline of the mental powers, I would place before them an abundance of the materials of knowledge; and as ideas are recollected perceptions, we may expect, other things being equal, to find the most ideas in those who have had the most thorough education of the senses.'[36]

Maynard's lessons advanced beyond the classifying typical of object lessons ("what is this?" "it is a ball" "what is its shape?" "it is round", etc.) that Calkins's manual featured. Instead, he and his pupils journeyed through surrounding woods, along rivers, into nearby mills, and across meadows where they engaged in long, deep conversations, punctuated with recitations of poems, stories, and allusions to ancient and modern scientists, about the physical properties of objects Maynard pointed out. His erudite students then applied their growing knowledge to their own worlds (on summer vacation "George had contrived a new arrangement of levers to remove stumps on his father's farm …" whereas "Ida and Ella … had seen many practical illustrations of those laws of philosophy which they had already learned" while on vacation at the seaside).[37] By

[33]Although scholars have noted the progression from object pedagogy to nature study, Willson's emphasis on literature and classical studies as mediators of scientific disciplines distinguished his work from later nature study, which moved from local geography outward to the general environment. See Tolley, "Learning from Nature;" Kevin C. Armitage, *The Nature Study Movement: The Forgotten Populariser of America's Conservation Ethic* (Lawrence: University Press of Kansas, 2009), 22–3, 25–6; Sally Gregory Kohlstedt, *Teaching Children Science: Hands-on Nature Study in North America, 1890–1930* (Chicago: University of Chicago Press, 2010); Peter Rillero, "The Enlightenment Revolution: A Historical Study of Positive Change Through Science Teacher Education," *Journal of Science Teacher Education* 4, no. 2 (1993): 37.

[34]Marcius Willson, *The Fourth Reader of the School and Family Series* (New York: Harper & Brothers, 1860), 276–9.

[35]Willson would have welcomed the theory's application to multiple learning strategies to inspire and develop "the mental powers": see Thomas Armstrong, *Multiple Intelligences in the Classroom*, 4th ed. (Alexandria, VA: Association for Supervision and Curriculum Development, 2018).

[36]Willson, *The Fourth Reader of the School and Family Series*, 318–19.

[37]Marcius Willson, *The Fifth Reader of the School and Family Series* (New York: Harper & Brothers, 1861), 317–18.

developing their ideas through discussion and study and then applying the results to their own lives, Maynard's students embodied Willson's vision.

This approach departed from the method the Oswego school had adopted of using any random objects familiar to children (a ball, a cap, a lump of coal) to train students' sensory perceptions before exposing them to disciplinary content. Anticipating controversy, Willson's ads declared that scientific concepts underneath "the common things of life" were within the comprehension of young minds if freed from "a forbidding nomenclature" imposed by "science", to reveal "the miracles of wisdom, goodness, and design everywhere around us – the very things that appeal to our sympathies and interests".[38] This "popular education" for "the masses" would demystify and popularise science by seeking what later became known as "scientific literacy" by introducing natural objects early in reading instruction and gradually blending more sophisticated language and concepts in the higher books of the series.[39]

His ideas reflected his eclectic interests and reading, lacked a basis in empirical research, and cherry-picked from different schools of psychology. He praised Spencer, proclaimed his faith in Pestalozzi, and, like the German theorist Johann Friedrich Herbart (1776–1841), sought to use his curriculum to associate children's factual observations with larger concepts.[40] But he also strayed from these thinkers in his emphasis on the child's capacity for understanding and applying "useful information". In that sense his model of reading and learning foreshadowed modern research that posits children's earlier ability to navigate more complex vocabularies and contexts when reading.[41]

Armed with these arguments he plunged into his Harpers venture with characteristic energy and persistence. Within two years six of the seven planned readers appeared followed by two graded spellers, the charts, and the teaching manuals.[42] He brought the full weight of the Harpers publishing empire to bear in marketing and distributing this ambitious curriculum. Hiring energetic agents, securing endorsements from celebrities, planting friendly articles on object teaching in educational periodicals, exploiting Harpers's deep ad budget for educational journals and newspapers, and blanketing markets with a monthly *Bulletin* (subtitled "Educate the People!") inserted as an advertising supplement in *Harpers Monthly*, Willson flooded educators' mailboxes

[38]Harper & Brothers, "Important to Educators. Object Teaching," Advertisement, *Massachusetts Teacher* 15, no. 11 (November 1862): 441.

[39]George E. DeBoer, "Scientific Literacy: Another Look at Its Historical and Contemporary Meanings and Its Relationship to Science Education Reform," *Journal of Research in Science Teaching* 37, no. 6 (2000): 582–601.

[40]From his perch at Harpers, Willson joined in the general acclaim of Spencer by educators: Marcius Willson, "Educational Tendencies of the Age," *The Educational Bulletin* 1, no. 7 (February 1861): 1–2; Harold B. Dunkel, "Herbartianism Comes to America: Part II," *History of Education Quarterly* 9, no. 3 (Autumn 1969): 377–8.

[41]Clarence J. Karier, *The Individual, Society, and Education: A History of American Educational Ideas*, 2nd ed. (Urbana: University of Illinois Press, 1986), 230–5; see also the papers by Dolores Durkin, Roger Farr, Thomas H. Anderson, Bonnie B. Armbruster, and Harold L. Herber in *Learning to Read in American Schools: Basal Readers and Content Texts*, ed. Richard C. Anderson, Jean Osborn, and Robert J. Tierney (Hillsdale, NJ: Lawrence Erlbaum Associates, 1984), 29–44, 193–234; Bonnie D. Houck and Kari Ross, "Dismantling the Myth of Learning to Read and Reading to Learn," *ASCD Express* 7, no. 11 (March 2012); the essays in Janice S. Gaffney and Billie J. Askew, eds., *Stirring the Waters: The Influence of Marie Clay* (Portsmouth, NH: Heinemann, 1999); and Gina N. Cervetti, "The Impact of an Integrated Approach to Science and Literacy in Elementary School Classrooms," *Journal of Research in Science Teaching* 49, no. 5 (May 2012): 631–58. The current Common Core uses "informational texts" as well as fiction for literacy education in the lower grades, Common Core State Standards Initiative, "English Language Arts Standards: Reading: Informational Texts," http://www.corestandards.org/ELA-Literacy/RI/, with increasing complexity and incorporation of science concepts in later grades.

[42]Marcius Willson, *Willson's Primary Speller* (New York: Harper & Brothers, 1863); and Marcius Willson, *Willson's Larger Speller* (New York: Harper & Brothers, 1864).

with articles, testimonials, and rationales for his books.[43] Powered by the Harpers marketing machine, the School and Family Series sold tens of thousands of copies and supporting materials, vaulting it to the top of the Harpers catalogue. By the mid-1860s Willson's readers, and in many cases the entire series, were adopted by major urban, state, and district school systems and normal schools in at least 10 states, and after the Civil War it could be found in Freedmen's Bureau schools in the liberated South.[44] Royalties, eventually amounting to some 200,000 USD for Willson alone by 1877,[45] funded his move in 1869 to the new hamlet of Vineland, New Jersey, where he built a lovely country home and pursued a life of constant writing, inventing, and publishing for the next 36 years (Figure 1).

The debate over Harpers series's use of science and object pedagogy

The series sharply polarised the educational community and has not fared well in the professional literature since. Although the ensuing debate can be traced in reports of teacher institutes and articles in the budding industry of educational periodicals, it was sparked by, and occurred alongside, intense rivalry for market share by competing publishers. Long before educational theory was transformed into an empirical discipline by the behavioural and cognitive revolutions, the fate of new ideas was influenced by publishers and markets.[46] In Willson's case, it was through the growing medium of advertising that the quarrel mixed the interests of commerce with the needs of public education – regardless of whether a particular practice worked, it needed to sell, and in the end the customer was always right.

Perhaps the aggressive sales tactics prompted the sharp response. By 1864 Willson's critics in the Midwest, led by a rival publisher backed by one of the nation's leading scientists, attacked him as a fraud, his books as a waste of valuable class time, his version of object teaching as impractical for young children. The most significant material threat came from Sargent, Wilson & Hinkle of Cincinnati, the current publisher of McGuffey's Eclectic Series. Willson and his publisher battled this icon of the classroom for adoptions

[43]Harper & Brothers, "Educational Journals," undated, Harper MSS, Reel 22, Memorandum Books, Vol. 2, 132, and Harper & Brothers, "[Advertisements] September, 1861," Harper MSS, Reel 22, Memorandum Books, Vol. 3, 235. Endorsements came in from William H. Wells, John Swett, Isaac Goodnow, and other luminaries (some of them future business partners with Willson: Marcius Willson, "Contract Correspondence," Unsigned Memorandum, 20 October 1860, Harper MSS, Reel 56, Correspondence Related to Contracts, 1832–1914). N[orman] A. C[alkins], "For the Teacher. Object Teaching. Introductory," *New York Teacher* New Series 11, no. 1 (October 1861): 22–24 was reprinted elsewhere; Willson, "Educational Tendencies"; [Editor], "Education," *New York Observer and Chronicle* 38 (21 June 1860): 197; Harper & Brothers, "Important to Parents and Teachers: A New Era in Popular Education," Advertisement, *New York Tribune* 20, no. 5961 (1 June 1860); [Editor], "Willson's Readers," *The Illinois Teacher* 6, no. 7 (July 1860): 280; "Willson's Readers," *California Teacher* 1, no. 1 (1863): 48–9.

[44]California's state curriculum incorporated the entire series and supplements: see John Swett, "First Biennial Report of the Superintendent of Public Instruction of the State of California, for the School Years 1864 and 1865," in *Appendix to Journals of Senate and Assembly of the Sixteenth Session of the Legislature of the State of California Vol. 2* (San Francisco, CA: Q.M. Clayes, State Printer, 1865), 125–30. Endorsement, Lyman Abbott, "Willson's Readers and Spellers," *The American Freedman* 1, no. 2 (May 1866): 154–5. A favourable review that examined the books carefully is "Recent Educational Literature. II. Language and Ethics," *The Round Table. A Saturday Review of Politics, Finance, Literature, Society, and Art* 6, no. 138 (14 September 1867): 174–8.

[45]"Personal," *Harper's Weekly* 21 (30 June 1877): 499. Willson's royalties attracted criticism, "The Pay of Authors," *St. Louis Globe-Democrat*, no. 42 (1 July 1877): 4. Harpers's financial records for the 1860s and 1870s are lost; from 1881–1890 all of his Harpers readers together averaged 89,000 annual sales and $2100 per year in royalties, figures compiled from biannual ledger entries, July 1881–November 1890, Harpers MSS, Reel 33, Royalty Accounts Vol. 1.

[46]Susan Schulten, "Emma Willard and the Graphic Foundations of American History," *Journal of Historical Geography* 33, no. 3 (July 2007): 548 n19.

Willson's Fifth Reader: its Principles, Plan, and Characteristic Features.

five different species.

Part VI., CIVIL ARCHITECTURE, is illustrated with engravings of the Grecian Orders, Gothic Architecture, Modern, etc., with selections from Bulwer, Byron, Scott, Warton, Charlotte Smith, Bryant, Hemans, Downing, etc.

Part VII. is the Second Division of NATURAL PHILOSOPHY, in which the subject is *not* treated as in our scientific text-books.

Part VIII., PHYSICAL GEOGRAPHY, introduces some of the finest poetical and prose descriptions of Oceans, Mountains, Valleys, Prairies, Volcanoes, Earthquakes, Cataracts, Caves, Grottoes, Coral Islands, Avalanches, Glaciers, Lakes, Rivers, etc., with illustrations of all; and the whole so arranged as to give a connected view of this department of science.

Part IX., CHEMISTRY, and Part X., GEOLOGY, are also popularized, and as varied in matter and manner as the other divisions.

Part XI., devoted to ANCIENT HISTORY PRIOR TO THE CHRISTIAN ERA, is composed, in great part, of those beautiful Historical Poems by Wordsworth, Glover, Doane, Byron, Macaulay, Addison, etc., and selections from Shakspeare, the whole interwoven in one continuous narrative of the events of Ancient History.

It is thus, by variety of matter and manner, that the reading lessons in these scientific divisions are rendered *interesting* as well as instructive, and made to subserve a purpose beyond that of the mere "art of reading."

Among the ten Miscellaneous divisions is one devoted to "Gray's Elegy," in which each of the thirty-two verses is illustrated. This alone is worth the price of the book.

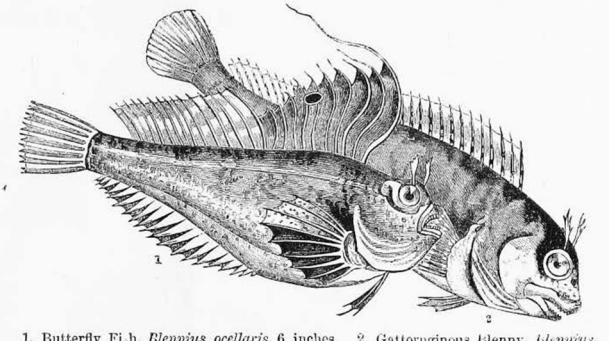
PART V.

FOURTH DIVISION OF ZOOLOGY;[1]

EMBRACING

ICHTHYOLOGY,[2]

OR THE NATURAL HISTORY OF FISHES.



1. Butterfly Fish, *Blennius ocellaris*, 6 inches. 2. Gattoruginous Blenny, *Blennius gattorugine*, 8 inches. Both are salt-water fish. See p. 240.

LESSON I.—NATURE OF THE STUDY.

1. Oh, what an endless work have I in hand',
To count the sea's abundant progeny'![3]
Whose fruitful seed[4] far passeth those on land,
And also those which fill the azure sky!
'Tis easier far to tell[5] the stars on high',
Although they *endless* seem' in estimation',
Than to recount the sea's posterity';
So fertile be the floods in generation',[6]
So vast their numbers', and so numberless their nation.—SPENSER.

2. The sounds and seas', each creek and bay',
With fry[7] innumerable swarm', and shoals[8]
Of fish that with their fins, and shining scales,
Glide under the green wave, in sculls[9] that oft
Bank[10] the mid sea. Part single,' or with mate',
Graze the sea-weed their pasture', and through groves
Of cōral stray'; or, sporting with quick glance,
Show to the sun their waved coats dropt[11] with gold.—MILTON.

3. Fishes form the last of the four divisions of the vertebrated animals. As inhabitants of a medium so widely different from that in which terrestrial[12] creatures exist, and, in

Figure 1. Page from "Willson's Readers", Advertising supplement, American Educational Monthly (1 March 1864).

across the Midwest, California, and war-torn Maryland. Local agents for these competitors hounded educational officials with circulars, promotional pricing, and cutthroat offers to replace each other's books in school after school.[47] With major interests at stake, this intense competition for markets sent publishers probing for every flaw in their rivals' works, and thereby deepened a lively debate over science education in reading books and, by extension, over object teaching itself. Willson's critics enumerated a number of the series's technical flaws, but the burden of these attacks fell upon the connection between science and "the art of reading" in the last three readers of the series. McGuffey's publishers had already broadcast circulars attacking "scientific school readers", encouraged local district adoption committees to issue reports that attacked Willson's books, and posted ads in educational periodicals that detailed his errors and featured former customers confessing buyer's remorse.[48] Critics arraigned his series as sham science that fogged the minds of children with abundant complicated technical terms. Besides, they argued, "the art of reading" should use elocution to inspire and evoke emotion, not to acquire information. Where are Clay, Webster, Everett, and other orators "whose eloquence has inspired thousands of our youth with a love of country and a love for learning and for liberty?" asked Oran Faville, superintendent of Iowa schools. "Teaching science is not the legitimate purpose of a reading-book", he continued.

> While the attention is fixed upon correctly pronouncing words and giving proper expression to sentences, the intellect can not be taxed to comprehend scientific truth; for it is an axiom that 'the mind can be intently fixed on but one thing at a time'.[49]

In 1870 California's Superintendent of Public Instruction cancelled statewide adoption of the books, which he denounced as expensive and

> radically vicious. They encourage the cardinal vice of American education – superficiality – attempting to teach science and reading at the same time, in such a way as to disgust an intelligent child for life with the very name of "science," while defeating almost wholly the legitimate object for which a school reader should be used.[50]

Potentially more devastating was a public denunciation of Willson's readers by Samuel Stehman Haldeman (1812–1880), a leading natural scientist and a major figure in promoting professionalisation of science in mid-nineteenth-century America.[51]

[47]Such behaviour was typical for the industry: Tebbel, *History of Book Publishing*, 1: 533, 2: 559–76. Skrabec, *William McGuffey*, 159–60 likens Willson's agents to "carpetbaggers" working on commission and "not for continuance of sales", but agent contracts in the Harpers MSS are effectively wholesale, not commission-based, agreements with steep discounts to agents who could sell at whatever the market might bear. Willson was concerned that his books would be driven from state normal schools and disparaged in state educational journals. See for example Marcius Willson to Richard Edwards, Vineland NJ, Private, Draft Letter, Willson Notebook (January 1865); Edwards to Willson, Normal, IL, Private, Draft Letter, 9 January 1865, Box 1, Folder 107, Richard Edwards Presidential Papers, Dr. JoAnn Rayfield Archives, Illinois State University.

[48]See duelling ads [Marcius Willson], "The Attack Repelled: or, the Reviewers Reviewed … A Reply to the 'Bloomington Criticism'," in [Marcius Willson], *To Teachers, Superintendents of Schools, and Boards of Education*, Broadside, (New York: Harper & Brothers, 1865), 5–11; and Sargent, Wilson, and Hinkle, "Falsehoods Exposed: Or the Harper-Willson Critic Criticized, in the Matter of McGuffey's Readers Vs. Willson's," Advertisement, *Indiana School Journal* 10, no. 3 (March 1865).

[49]Oran Faville, "Willson's Readers," *The Illinois Teacher* 10, no. 8 (August 1864): 291–3.

[50]O. P. Fitzgerald, "The Text-Book Question," *California Teacher* 8, no. 2 (August 1870): 45–9.

[51]On Haldeman see W. Conner Sorensen, "Haldeman, Samuel Stehman," *American National Biography Online* (Oxford University Press, 2000), http://www.anb.org/articles/13/13–00677.htm; and W. Conner Sorensen, *Brethren of the Net: American Entomology, 1840–1880* (Tuscaloosa: University of Alabama Press, 1995), 13–18. A large, diverse literature discusses the professionalisation and the reorganisation of scientific authority that Haldeman laboured to advance: see in general Dorothy Ross, *The Origins of American Social Science* (Cambridge: Cambridge University Press, 1991), 61–3;

Haldeman had been campaigning against popular science by amateurs and magazines like *Harpers*.[52] After announcing to a teachers convention that "his object in attacking some books, was to induce publishers to get proper men to write books, and let us reap the benefit of the rivalry thus created",[53] Haldeman joined Willson's critics (who would quote him at length), with a 24-page pamphlet attacking Willson as a fraud who knew "nothing" of subjects appearing in a "series [that] forms a mass of charlatanism probably unparalleled in the annals of education".[54] With sarcasm and condescension, Haldeman dissected what he claimed was Willson's misuse of scientific terms, the absence of details to qualify the books' generalisations about animal behaviour, inaccurate illustrations, and the series's confused interspersing of science with poetry and miscellaneous literature across four volumes. In sum, Willson overused complex vocabulary while failing to supply *enough* explanatory detail. Determined that only "proper men" teach science, Haldeman also distributed his pamphlet to his friends – one of whom advised that "Mr Willson . . . incontinently go & hang himself" – and then abetted Willson's rivals in the fight for adoptions.[55]

Willson's adaptation of object pedagogy also made him a target. By the mid-1860s object teaching had become controversial.[56] The theory's emphasis on description and classification of objects attracted the widespread criticism that, as John Swett observed in 1900, "in the hands of unskilled teachers object lessons often became a dead formalism"[57] whereby children memorised a grab-bag of sophisticated terms about common objects without understanding what they really meant. As a result, numerous instances of misuse by unprepared instructors seeped into reports about this method, earning it a scathing, and widely quoted, rebuke from the pen of Charles Dickens.[58] The

and Sally Gregory Kohlstedt, *The Formation of the American Scientific Community: The American Association for the Advancement of Science, 1848–60* (Urbana: University of Illinois Press, 1976) and especially her discussion of amateurism in Sally Gregory Kohlstedt, "The Nineteenth-Century Amateur Tradition: The Case of the Boston Society of Natural History," in *Science and Its Public: The Changing Relationship*, ed. Gerald Holton and William A. Blanpied (Dordrecht-Holland: D. Reidel, 1976), 173–90. The surge of public interest in popular science experienced pushback from a rising generation of academics, see Sally Gregory Kohlstedt, "Parlors, Primers, and Public Schooling: Education for Science in Nineteenth-Century America," *Isis* 81, no. 3 (1990): 444.

[52]Pandora, "Children's Republic of Science."

[53]"Proceedings of State Teachers' Association," *Pennsylvania School Journal* 13, no. 1 (July 1864): 70–86.

[54]S[amuel] S[tehman] Haldeman, *Notes on Willson's Readers* (Columbia, PA: The author, 1864), 21, a slightly revised edition appeared in 1870. McGuffey's publishers devoted two expensive pages of two-column fine print advertisements to extracts of Haldeman's pamphlet, see Sargent, Wilson, & Hinkle, "Falsehoods Exposed: Or the Harper-Willson Critic Criticised, in the Matter of M'Guffey's Readers Vs. Willson's," Advertising supplement, *Ohio Educational Monthly* Old Series 14, no. 12 (December 1865): 13n, 30–1; the same insert had been published in *Indiana School Journal* the previous March.

[55]Benjamin D. Walsh to S.S. Haldeman, 8 April 1865, Rock Island, IL, Ms Collection 974 Samuel Stehman Haldeman MSS, Box 3, Folder 26, Kislak Centre for Special Collections, Rare Books and Manuscripts, University of Pennsylvania (hereinafter Haldeman MSS). See also Louis Lightner to S.S. Haldeman, 2 October 1865, Dixon, Haldeman MSS, Box 2, Folder 21. Haldeman intervened against Willson in a Baltimore feud over adoptions, see Lewis H. Steiner to S.S. Haldeman, Lancaster, 23 July 1865, Haldeman MSS, Box 2, Folder 97 and Lieutenant Governor Christopher Cox's assurance to Haldeman that "your criticisms will have great weight in making up my own opinions & should have their effect on the [state education] Board": Chris Cox to S.S. Haldeman, Baltimore, 3 August 1865, Haldeman MSS, Box 1, Folder 51. Haldeman also attacked Willson elsewhere, "Quackery in American Literature," *The Southern Review* 3, no. 5 (January 1868): 210–23, and S.S. Haldeman, "The Eagle a Fisher," *American Naturalist* 1, no. 1 (March 1867): 615–16.

[56]See e.g. "Discussion on Object Teaching," *Ohio Educational Monthly* New Series 8, no. 7 (July 1866): 243–53, and a broader discussion of the debate in Carter, *Object Lessons*, 29–57.

[57]John Swett, *American Public Schools: History and Pedagogics* (New York: American Book Company, 1900), 278.

[58]Although Dickens may have reconsidered his put-down, Charles Dickens, "Object Teaching," *Massachusetts Teacher* 15, no. 7 (July 1862): 258–61, associations of object teaching with villainous Dickensian practitioners – Mr Gradgrind in *Hard Times*, and the sadistic, one-eyed Wackford Squeers of Dotheby Hall, in *Nicholas Nickleby* – have become a staple of criticisms of this method. For Squeers, see the parody "Object-Teaching in Melrose," *New York Times*, 4 May 1878, 4. For Gradgrind, see H.B. Wilbur, "The Oswego System of Object Teaching," *American Journal of Education* 15, no. 38

most famous of these criticisms, by H.B. Wilbur, Superintendent of the New York State Asylum for Idiots, attacked Sheldon's Oswego system and advocated learning to read before reading to learn. A child cannot multitask, Wilbur argued, and has "no practical use for science and therefore does not need its technicalities".[59] Other critics directed these arguments towards Willson and Calkins as apostates from the Pestalozzian faith. Professor William N. Hailman (1836–1920) of Louisville, an editor and pioneer in the development of kindergarten education, charged that the Harpers series was ignorant of "the first principles of education" and unreliable as a scientific authority.[60] Unlike Sheldon's system, Willson and Calkins neglected "principles and experience, arrangement and accuracy", Hailman claimed, leading "many honest teachers" to abandon object teaching as "an 'unmitigated humbug'".[61]

More temperate critics praised the Primer, First, and Second Readers for their approach to reading instruction but flinched at the complicated interdependence of the series's manuals, charts, and readers. Emerson E. White (1829–1902), editor of Ohio's state educational journal and author of a geography text based on object teaching, observed that Willson's method was a "wide departure" from Pestalozzi's focus on accurate perception of common objects. Things should be done in their proper order or the method would fail, he said. "The 'object' method with its accurate perception of *facts*" belonged in the lower grades, and "must precede and lead to the grasp of scientific principles" called for by the development system. He warned that

> teachers who use the Charts and Manual only, and with superficial ideas as to what constitutes *object teaching*, will fall into the error of attempting to feed babes the strong meat, instead of the milk, of science. Little children cannot be inducted, by any process, into the philosophy of things. The power of generalisation and classification belongs to a later period of mental development.[62]

Apparently the marriage of science and object pedagogy in Willson's readers seemed to deepen rather than ameliorate the latter's weaknesses.

These criticisms endured in subsequent scholarship. Rudolph Reeder's study of basals dismissed the science emphasis in Willson's Harpers texts as a "negative" example to other school readers because they "showed the absurd limit to which the utilitarian principle might lead". Disciplines like science and history, he continued, "have not lost, but rather

(March 1865): 198; John Manning, "Charles Dickens and the Oswego System," *Journal of the History of Ideas* 18, no. 4 (October 1957): 580–6; Rillero, "Enlightenment Revolution," 40; Faville, "Willson's Readers"; and S. Chester Parker, "Pestalozzian Formalism: Degenerate Object-Teaching; Simple to Complex," *The Elementary School Teacher* 12, no. 3 (November 1911): 100–2.

[59]Wilbur, "The Oswego System," 193, 200–1. See also "Object-Teaching According to the Oswego Method," *New York Teacher and American Educational Monthly*, November 1869, 443–7.

[60]Quoted in Sargent, Wilson, & Hinkle, "Falsehoods Exposed," 5.

[61]W.N. H[ailman], "Book Table. A Manual of Elementary Instruction. by E. A. Sheldon," *Indiana School Journal* 8, no. 9 (September 1863): 280. Hailman also pushed his own brand of object pedagogy while criticising other practitioners: William N. Hailman, *Outlines of a System of Object-Teaching, Prepared for Teachers and Parents* (New York, Chicago, and Louisville: Ivison, Phinney, Blakeman & Co.; S. C. Griggs & Co.; Bradey & Gilbert, 1867); and William N. Hailman, "Object Teaching," Address to State Teacher Convention, 30 December 1863, *Indiana School Journal* 9, no. 2 (February 1864): 53. On Hailman, see Catherine A. Cosgrove, "A History of the American Kindergarten Movement from 1860 to 1916" (EdD diss.,Northern Illinois University, DeKalb, 1989), 85–8.

[62][E. E. White], "Willson's System of Object Teaching," *Ohio Educational Monthly* Old Series 12, no. 1 (February 1863): 59–60.

gained by losing their place in the reading book".[63] Rillero agreed, excluding the Harpers series from an analysis of science-oriented content in over two dozen readers.[64]

Willson's response to criticisms provides a rare glimpse of a textbook author's thinking about his product. In private he fumed against the conflict of interest in his rivals' attacks upon books "that differ, in principle, from *all* the old series".[65] Still, he went public. Appearing as "Examiner" in the *Illinois Teacher* in late 1864, he argued that reading should concern "acquisition of ideas" rather than the current fixation on "the *signs* of ideas".[66] Science could be presented not as "technicalities, and barren facts about matters that are incomprehensible to children", but as "classified knowledge": the systematic organisation of any body of knowledge that "embraces the whole material world" and beyond, to include "a science of mind, and a science of morals". Opposition to making "scientific *subjects* the basis of reading-lessons … is simply, to object to any *plan* of reading-lessons designed to illustrate any subject whatever!"[67] Willson's conception of learning to read while reading to learn blended disciplines for young readers rather than relying upon one alone, but such a mixture was too much for many educators to swallow.[68]

Haldeman's attacks hurt him because he had never claimed to be a specialist. In his notebook he scribbled numerous responses to "microscopical criticisms" by a man immersed in the "technicalities" of science who was demanding that Willson write a "scientific manual" rather than a book of readings for children.[69] Willson had made some attempts to correct current and prevent future errors,[70] but in public he defended imprecision and use of euphemisms as literary devices rather than attempts at disciplinary literacy. Very young readers could be told that a whale is a fish instead of a mammal in order to interest them in the natural world, he argued, while accurate, complex scientific terms could be reserved for older students.[71] The clash between Willson and Haldeman symbolised a larger contemporary redefining of "science" away from Willson's "classified knowledge" that was broad and inclusive of philosophy and ethics, and towards Haldeman's focus on clearly delineated specialised domains of individual disciplines.

[63]Reeder, *Historical Development of School Readers*, 54–6.

[64]Peter Rillero, "The Rise and Fall of Science Education: A Content Analysis of Science in Elementary Reading Textbooks of the 19th Century," *School Science and Mathematics* 110, no. 5 (May 2010): 281–2. Although some surveys of content-focused readers noted or summarised the series (e.g. Smith, *American Reading Instruction*, 114, Carr, Carr, and Schultz, *Archives of Instruction*, 94, 113, 121–2) others mostly ignored it, e.g. Venezky, "A History"; Roscoe R. Robinson, *Two Centuries of Change in the Content of School Readers* (Nashville, TN: George Peabody College for Teachers, 1930), 36–8; David W. Moore, John E. Readence, and Robert J. Rickelman, "An Historical Exploration of Content Area Reading Instruction," *Reading Research Quarterly* 18, no. 4 (Summer 1983): 419–38. Because Meiji educational reformers used his readers, Willson has attracted more attention in Japan than in the United States, see especially Kikuko Nishimoto, "'Rīdā' No Hensan-Sha Marcius Willson Ni Kansuru Kenkyū [A Study On Marcius Willson, Editor of Willson's Readers]," *Kokugokakyouiku (Japanese Teaching Society of Japan)* 70, no. 0 (2011): 68–75, DOI:10.20555/kokugoka.70.0_68; also Martin Nordeborg, "Confucian Frosting on a Christian Cake: The Translation of an American Primer in Meiji Japan," *Japanese Language and Literature* 43, no. 1 (2009): 83–119; Isao Nishihira, "Western Influences on the Modernization of Japanese Education, 1868–1912" (PhD diss., Ohio State University, Columbus, 1972), 298–305.

[65]Willson to [Charles Coburn?], undated draft letter, in Willson notebook.

[66]"Examiner" [Marcius Willson], "Reading," 440.

[67]Ibid., 442.

[68]"No Primary School Teacher will undertake to carry into practice the impracticable book of Wil[l]son," Boston superintendent John D. Philbrick declared in Calkins's presence: "Literary Notices," *Portsmouth Journal of Literature and Politics*, 5 September 1863, 2.

[69]Willson notebook.

[70]Haldeman claimed that Willson had sought, and ignored, his advice on this matter: Haldeman, *Notes*(1864), 4.

[71]Harper & Brothers, *To Teachers*, 6.

Willson's Harpers series failed to answer the challenge that object pedagogy and science education posed to a developing school system's resources. Complaints about teacher preparation dominated debates about object teaching. "It is too high a kind of instruction", one writer advised in 1866. "It requires more available knowledge, tact, and experience than most teachers can command. We are not all Arnolds or Manns."[72] Like every published manual of practice for object pedagogy, the School and Family Series sought to fill gaps in the teacher's knowledge rather than provide a script for classroom instruction, but the problem for Willson and Calkins was that *any* innovation was in danger of failing "in the hands of unskilled teachers". The sophisticated exchanges that characterised Maynard's lessons might have represented an ideal type that Willson hoped to foster, but they were far beyond the education and experience of the typical common school teacher or pupil. No manual could create Renaissance men like Mr. Maynard who engaged children in easy conversation about science and literature in some pastoral *salon*; such skills were the product of training and experience. No one better understood this than Calkins, who spent decades inculcating object pedagogy in New York City's huge, overcrowded primary school system.

The Lippincott "Popular Series"

Having defended his work and fought with Harpers in 1871 over the magazine's nativist editorials,[73] Willson moved in new directions. He replaced the final "Academical Reader" for high school students with three "intermediate readers" sandwiched between earlier volumes, containing poetry and classical literature plus his own stories about insects, gradually reducing the presence of natural history until the final volume, which focused entirely on "figurative style" and elocution. This stratagem, along with a short-lived "United States Readers" series shorn of science, assuaged few critics and confused his customers even more.[74]

In 1881 Willson went to J.B. Lippincott of Philadelphia for another series of readers that offered a new tack in reading instruction. Although this "Popular Series" continued Willson's strategies for verbal learning by having children "*read* sentences as they would *talk* them",[75] it marked a departure in the *genre* by weaving an original grand narrative from stories, poems, travelogues, and illustrations drawn from classical sources. In particular, two innovations in this series retained Willson's emphasis on the world outside the classroom. In the second reader "Mr. Bookmore" of "Wilmot Hall", a world-wise and well-read village elder in the tradition of Samuel Goodrich's Peter Parley and much like Mr. Maynard, conducts students through his cabinet of nature's curiosities and library of classics. Mr. Bookmore also narrates 21 letters of cultural and geographical observations penned by fictitious young "Freddy Jones" and "Henry Allen" during a "three-years' voyage around the world" *à la* Jules Verne from

[72]"The Pros and Cons of Object-Teaching," *American Educational Monthly* 3, no. 1 (January 1866): 22.
[73]J. Henry Harper, *The House of Harper: A Century of Publishing in Franklin Square* (Harper & Brothers, 1912), 308–9.
[74]Willson's Intermediate Readers 3 & 4," Signed Contract, 27 January 1865, Harpers MSS, Reel 1, Contract Books Vol. 1, 509–10; Demarest, "Harpers Catalogue," 460. Critics welcomed the intermediate set as "divested of all scientific technicalities and classifications" [E.E. White], "Willson's Intermediate Third Reader," *Ohio Educational Monthly* Old Series 15, no. 1 (January 1866): 127–8. Unsurprisingly, Haldeman huffed at the intermediates as a colossal confusion of texts: S[amuel] S[tehman] Haldeman, *Notes on Willson's Readers* (Columbia, PA: The author, 1870), 6.
[75]Marcius Willson, *The Second Reader of the Popular Series* (Philadelphia: J.B. Lippincott & Co., 1881), 3.

the United States through Europe, the Middle East, South Asia, Japan, and back on the transcontinental railroad with an expedition of "a literary and scientific company that had just been formed for the purpose". These letters became the subject of readings and class discussions in the fifth book of the series.[76]

Through these travel adventures the students could expand their cultural horizons far beyond Willson's second innovation, "Lakeview," the fictitious home town of its main characters, begun in the second and continued throughout the third and fourth readers. Unable to tailor a national series's story to each student's locale, Willson invented a community and invited his readers to join it. Lakeview, probably modelled on Vineland, foreshadowed "Oak Hill Farm" of the future *Dick and Jane* volume *Friends and Neighbours* (1946), but with more realistic, diverse, and concrete events and characters. Lakeview paraded a stable cast of all ages and occupations "through the varying scenes incident to childhood and youth, and thence onward, into the sterner realities of life"[77] that included striking workers, bankrupts and beggars, and exotic foreign cultures and religions, each with lessons to teach.[78] This was not just a compilation of poems and miscellaneous prescriptive literature; Willson *created* most of it, populating the reader with his own characters, incidents, and stories on a terrain of his devising. Here, in miniature form and cloaked as fiction, was another germ of the "expanding horizons" curriculum that shaped American social studies by the mid-twentieth century (Figure 2).[79]

With the publication of his Lippincott series Willson moved on to other projects, but he never abandoned his faith that the world outside was a child's best classroom. Willson's method did not question contemporary morality, social ethics, or racial and gender stereotyping, but in its celebration of the natural world and scientific exploration it differed substantially from the vision of the competition. Willson's ambitious project applied his "educational principles" through commercial ventures incorporating fiction, poetry, speech, natural science, and exemplary educational figures like Maynard, Bookmore, and others. Unshielded by any form of tenure, with a livelihood vulnerable to a changing market, Willson defended but also adapted his work, showing that he, not his publishers, was responsible for these basal readers. Their material success testifies to their wide reach into American classrooms even if his innovations did not slow the ongoing industrial consolidation of both authorship and publication of basal readers or the fragmenting of curricula into disciplinary enclaves. Interdisciplinarity in reading education would have to wait for a new century to achieve his vision's fulfilment.

This story behind the Harpers and Lippincott series of readers departs from the conventional treatment of nineteenth-century readers by refocusing attention to the

[76]Willson, *The Fourth Reader of the Popular Series*, 300–9, 317–26; and Marcius Willson, *The Fifth Reader of the Popular Series* (Philadelphia: J.B. Lippincott & Co., 1881), passim. Reviewers praised this use of "figurative language" about the travellers as a significant contribution: see *Ohio Educational Monthly* Old Series 30, no. 11 (November 1881): 407.

[77]Willson, *The Fourth Reader of the Popular Series*, 3.

[78]The fourth Lippincott reader describes a failed strike by fruit pickers in neighbouring "Fruitland". The "wise people" who crossed picket lines had money to survive the winter, unlike the strikers, who came to regret their decision: ibid., 175–80.

[79]Keith Barton, "Home Geography and the Development of Elementary Social Education, 1890–1930," *Theory & Research in Social Education* 37, no. 4 (2009): 484–514, emphasises home geography as an early progenitor of the "expanding horizons" core of social studies education. Willson combined multiple emerging disciplines into one expansive curriculum introduced through reading.

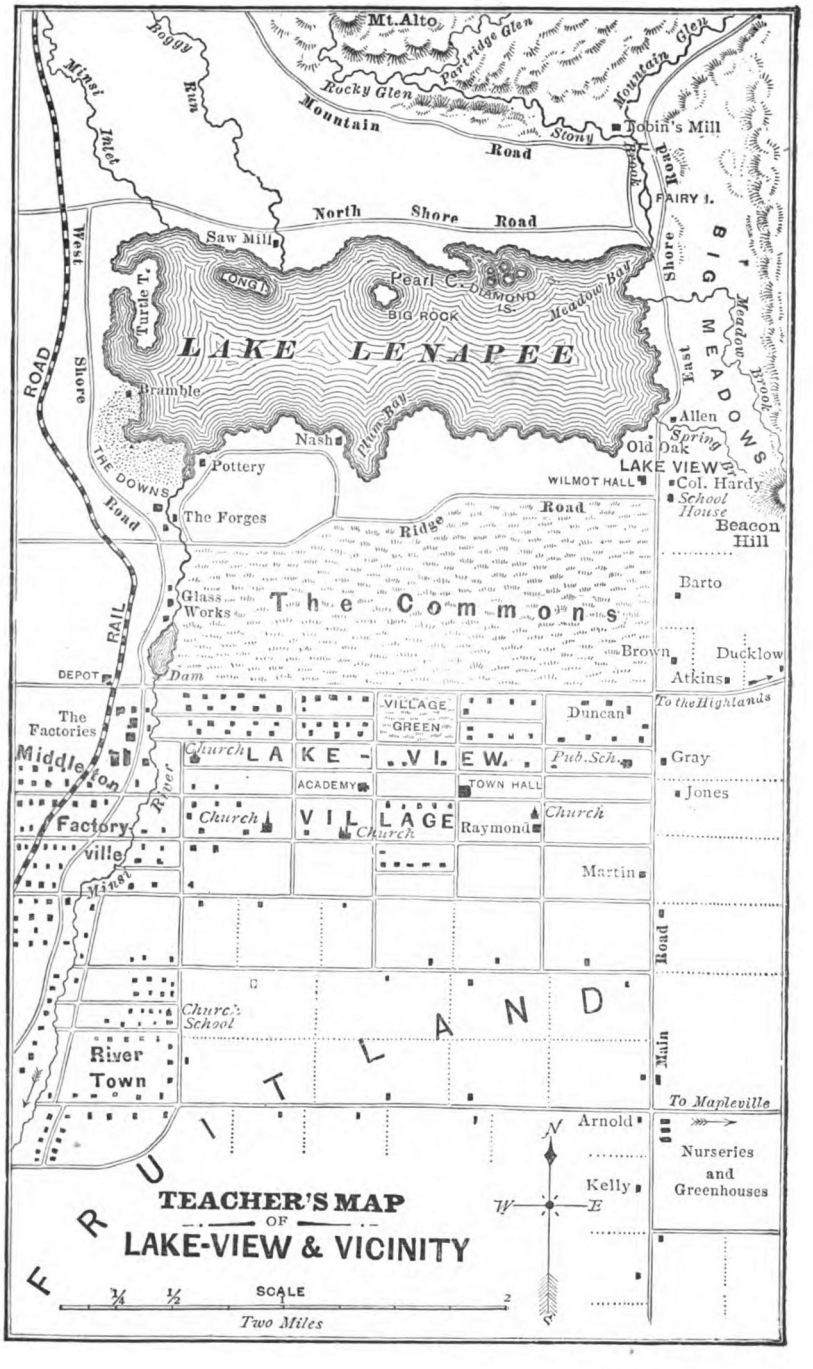


Figure 2. "Lakeview", Willson's fictitious setting, Third Reader of the Popular Series (Lippincott, 1883).

direct influence of authors over a craft undergoing industrialisation and professionalisation. Willson's readers were commercial experiments in object pedagogy, science education, and reading skills, not cookie-cutter imitations of competitors like McGuffey. It was important for authors to innovate and therefore challenge convention while they navigated a larger universe of common expectations about literacy and education. Before pedigreed scholars and their publisher allies took charge of the textbook assembly line later in the century, market conditions demanded an entrepreneurial spirit from authors, so that the writing of textbooks in general, and of basal readers in particular, needed to extend well beyond the scissors-and-paste compilations of an earlier age and into the realm of creative scholarship. Willson, not his publishers, wrote the texts, composed ad copy, managed and paid agents, responded to critics, supervised illustration, researched selections and method, and ultimately decided whether to continue or stop publication. When we move people like Willson from the periphery to the centre of the story of the American textbook, it becomes evident that authors did indeed make a difference.

Notes on contributor

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