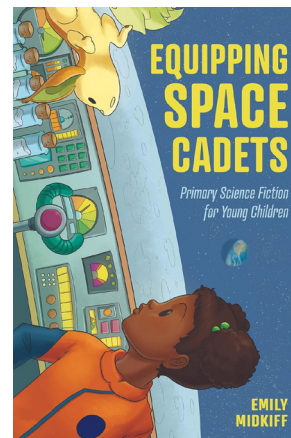


Equipping Space Cadets: Primary Science Fiction for Young Children, by Emily Midkiff



Bruce Lindsley Rockwood

Emily Midkiff. *Equipping Space Cadets: Primary Science Fiction for Young Children*. UP of Mississippi, 2022. Childrens Literature Association Series. Hardcover. 218 pg. \$99.00, ISBN 9781496839022. Paperback. 218 pg. \$30.00, ISBN 9781496839015. Kindle E-Book. 211 pg. \$30.00. ISBN 1496839013.



At a time when disputes—whether political, cultural, or merely pedagogical—are growing over what literature should be available to children in pre-K through primary school, and the very idea of encouraging librarians, teachers (and parents) to read aloud from, teach with, or make available to children picture books and early readers that challenge or encourage interest in science (much less science fiction!), especially for girls and diverse readers, Emily Midkiff has undertaken an arduous effort to address this challenge. Her goals are straightforward: to identify categories of picture books and early readers that exemplify ‘quality’ sf; assess how widely sf is available and read by or to children in our schools; to show how young readers are ready for, and appreciate, what she seeks to identify as “quality primary” age sf; and to encourage writers, publishers, and acquisitions professionals in the value of the production and promotion of quality primary sf. (5-8) Wider availability of such texts will better prepare younger readers to transition to more complex sf texts when they reach and exceed the storied “golden age” of 12 so often referred to in superficial discussions of who is “ready for” the genre. (18)

In her introduction, Midkiff discusses the example of a publisher’s initial reluctance to have Jon Scieszka include “too much science” in his sf series that starts with book 1, *Frank Einstein and the Antimatter Robot* (2014). (3-4) She points out that the book’s text and detailed illustrations include “the sort of plausible explanations found in sf for adults.” (3) Usefully, her close reading of this text includes excerpts from the illustrations in this book (6) and examples of intertext references contained in the story that will ring true to adult readers and primary age children who are exposed to movies, television, and other cultural markers of sf themes. For example Frank is shown “reading a copy of Asimov’s *I, Robot* when Grampa Al asks to know what he is working on” (4).

Midkiff argues that “sf for preadolescent children... is often approached with the belief... that scientific extrapolation and speculation in fiction are beyond most children’s abilities or interests”

(5). Her book argues in essence that this is *not* true, and she supports this assertion with three interdisciplinary case studies (Chapter 4) to show that primary sf does exist, much of it fits her definition of quality, is appreciated when available, can provoke lively reactions and discussions when presented to small groups of children, and deserves wider acceptance and promotion. Her argument is that the “dismissal of primary sf is fueled by largely ungrounded beliefs about children, science, and genre.” (5) The case studies are a School Library circulation survey of books checked out in all fields, as coded by Midkiff from records submitted (105-117), which tends to show that primary sf while underrepresented in collections, is more likely to be checked out multiple times than other fiction; a survey of librarians and teachers, 59 of whom responded to the survey request concerning whether they recommended or made use of primary sf in class; (117-129) and a small group read-aloud exercise of several stories where she read to children with parental consent, recorded the event and analyzed the responses of the children to the texts and each other’s comments (130-151).

Chapter 1 of the book commences with a review of two related questions: “What is Children’s Literature?” (9-12) and “What is Science Fiction?” (12-16), followed by an integration of the two: “What is Primary Science Fiction?” (17-27), and a “Guide” to identifying primary sf (27-30). This is applied to “The Case of Robots” (30-35), with a close textual analysis of Rian Sias’s *Zoe and Robot: Let’s Pretend* (2011). Midkiff usefully compares claims, arguments and examples from Brian Aldiss, John Clute, Istvan Csicsery-Ronay, Grace Dillon, A. Waller Hastings, and in particular Farah Mendlesohn’s *The Intergalactic Playground* (2009) to lay out the scholarly critical background for her investigation of her theme, the value of primary sf.

She condenses this chapter into a three-part test to determine whether primary sf can be said to be ‘quality’: “1. Is there a speculative ‘what if’ question or extrapolative ‘if this, then what?’ question to the story? 2. Does the ending imply that something has changed in the world or that new possibilities have opened due to the events of the story, however small? 3. Would the story’s plot, themes or lesson be different if you replaced the sf components of the story with something realistic or magical?” (30)

Chapter 2 addresses the general question of how readers read and interpret science fiction generally, discusses the “processes and protocols of reading sf” (37-42), and applies them to the forms of early childhood literature such as board books, popup books, picturebooks, early readers and so forth. She applies the “reader response theory of reading first described by Louise Rosenblatt” to how children read sf (37), and cites the work of Darko Suvin, Orson Scott Card, and David Hartwell to discuss how the “sf intertext includes far more than just books” and provides a cultural foundation to facilitate children understanding and appreciating the themes and stories of sf texts (38-39). Her investigations show that “widely consumed reboots of *Star Trek*, *Star Wars*, *Doctor Who*” and more prepare young children to successfully read and relate to sf (39) As for all reading instruction, Midkiff notes that “high-quality primary sf offers support---or ‘scaffolding’---for young readers, ensuring that sf is accessible to children of various skill levels and backgrounds,” citing the work of Jerome Bruner and Lev Vygotsky (42). She applies a close reading

of Chris Gall's *There's Nothing to Do on Mars* (2008), showing how the pictures provide context and meaning that challenges the text, and how the book "pushes back against the idea that sf and children's fiction have conflicting patterns, and the text/picture tension is critical to that message." (50-51) As another example she cites David Wiesner's picturebooks *Flotsam* (2006) and *June 29, 1999* (1992) (51-53), the latter one of the books she used in her read-aloud case study to assess how children react to a text in real time (132-145).

Chapter 3 focuses on "Reading Representation," addressing the various ways in which primary sf, and particularly early childhood sf, tends in recent decades to provide more representation of, and opportunity for self-recognition of themselves, in girls and diverse communities than in children's literature generally. She cites Lisa Yaszek's observation that sf has always been "naturally compatible with the project of Feminism" (70). Midkiff notes the conservative complaints about the Hugo awards to N.K. Jemisin for her *Broken Earth* trilogy, which was perceived as somehow a threat to genre sf (70), but argues that primary sf is "in in the direst need of attention to diversity" (71). Using the Cooperative Children's Book Center (CCBC), <https://ccbc.education.wisc.edu/>, as a resource, she shows the low percent of the 4035 children's books of all sorts published in 2019 that feature Black/African, Asian, Latinx, Pacific Islanders, Arab, or Indigenous characters. Female characters are also underrepresented. Her own research shows that "High-quality, diverse primary sf books already exist, but they are not getting nearly enough critical attention or support" (72), citing the 357 primary sf books she identified in her study (87). Appendix A identifies the 357 primary sf books from the 1920s to the 2010s to support her analysis (157-178). Pros and cons of several representative stories are discussed, including Deborah Underwood and Meg Hunt's *Interstellar Cinderella* (2015): "The mechanical engineering aspect of the story is sidelined in favor of the fractured fairy tale" (74). In contrast, Ben Hatke's *Zita the Spacegirl* (2010) is seen to "satisfy several girl-friendly aspects in conjunction with speculation" (75). She reprints several pages of illustrations from the book to illustrate her explanation (76-77). Other examples include *A Wrinkle in Time: The Graphic Novel* (2015), and Ryan Sias's *Zoe and Robot: Let's Pretend!* (2011).

Midkiff then discusses "Alternative Futurisms and Primary Science Fiction" (83-91), exploring the potential for more diverse primary sf, acknowledging a few positive representative examples, while acknowledging their limitations. She explains: "To examine the extent of diversity in these books, I coded them into two categories proposed by Lee Galda et.al. in *Literature and the Child*: painted faces and culturally rich." The former refers to a story that offers "visual cues of diversity" which may not otherwise impact the story line, while culturally rich stories have "a nonmainstream culture or identity... integral to the story." (87) She argues it is not enough to have "painted faces" representing diverse characters in illustrations, the stories themselves should be culturally rich to enhance young readers of all backgrounds engagement with the text (87-88). One positive if rare example given is Cathy Camper and Raul the Third's graphic novel *Lowriders in Space* (2014), discussed in detail with reprinted illustrations. (89-93) The only primary sf discussed in her data set that features a Native American character is Adam Rex's hybrid novel *The True Meaning of Smekday* (2007) (97-100). There is a Pearson statistical analysis of the correlation

of gender, diversity and sf quality in the books in Midkiff's data set (91 and Appendix A) which shows "quality is slightly correlated with female characters and not reliably correlated with diversity" (91). I appreciate the attempt here to provide statistical rigor to what is essentially an impossible task, and the effort here provides a template for future scholarship in the field.

The book concludes with two Appendices providing documentation of her sources and evaluations. Appendix A describes and lists the 357 texts she "read and analyzed for this study" covering works from the 1920s to the present (157-178). Books included were limited in three ways: they had to meet the definition of sf she provides in Chapter 1; be significantly illustrated to meet her emphasis on early primary readers as the target of her research; and her decision that there could be no more than 3 books in the same series (157). Books were grouped as Picturebooks, Early Readers, Comic Books, Graphic Novels, or Hybrid Novels. Each was evaluated for quality (Yes/No: was Speculation and/or Extrapolation encouraged by the text?); whether they had female primary characters; and whether they promoted diversity by either of the broad categories discussed in Chapter 3: "painted face," "culturally rich," or none (161). Appendix B (179-186) contains a list of suggested recommended quality sf texts in the age appropriate categories she identifies. The book concludes with end notes (187-190), works cited (191-199) and an index (201-206).

Having read aloud a great many board and picture books over 50 years, many of them fantasy or sf, to our four children and our grandchildren, and as the son of one librarian and being married to a children's librarian/early childhood educator, I was initially inclined to doubt her hypothesis that primary sf is not widely available or promoted. I thought of earlier Jon Scieszka books such as *The Time Warp Trio* series, with its own TV series spin-off, <https://www.timewarptrio.com/>, *The Enormous Egg* by Oliver Butterworth (1956), *The Wonderful Flight to the Mushroom Planet* (1954) by Eleanor Cameron, and the Danny Dunn series of adventures by Raymond Abrashkin and Jay Williams, all of which have useful illustrations, are aimed at younger readers, and address science fiction tropes, as a few examples not mentioned in her book. And then there are, in addition to school libraries, other means of exposing children to sf she might explore to expand her sense of the contemporary reach of primary sf, such as the Bruce Coville and other books many children are offered in Scholastic Books Club newsletters and school book fairs over many years. See: <https://clubs.scholastic.com/home> [Although censorship of their offerings is creeping into what schools in some states can now offer; see: <https://www.npr.org/2023/10/17/1206219484/scholastic-book-fair-diversity-book-bans> and <https://www.nytimes.com/2023/10/25/us/scholastic-book-fair-race-gender.html?smid=nytcore-ios-share&referringSource=articleShare>] The omission of some of these authors and potential resources suggests that there is more sf (quality or otherwise) available to younger children than Midkiff may realize. On the other hand, school and town libraries have limited space and budgets, and books get worn out and deaccessioned, so some of the books I'm familiar with, as well as those discussed by Midkiff, may not be readily available. We are agreed that there is a need for more willing and eager young readers, and that this can be supported by more quality primary sf being written and published.

NON-FICTION REVIEWS

Space Cadets

Midkiff's book should be included in the libraries of schools of education, and considered by public and school librarians as they review their acquisition policies and make more invitations to authors to visit for book talks in the children's room. It matters.

Bruce Lindsley Rockwood, Emeritus Professor of Legal Studies at Bloomsburg University, Pennsylvania, is a long-time member of SFRA, having served as Vice President (2005-2006), and regularly writes reviews for *SFRA Review* from his retirement home in Midcoast Maine. He has taught and published on law, literature, climate change and science fiction, and attends SFRA and WorldCon with his wife Susan when possible (most recently in Montreal, Spokane, and the June 2021 virtual SFRA).