

She's got the Moves: Treatment of a late-nineteenth century movable edition of *Cinderella*

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Abstract: This paper discusses *Dean's New Scenic Books No. 3, Cinderella*, a moveable book published around 1867 by Dean & Son, a London firm specializing in moveable children's and toy books. Treatment was completed during an internship at the Bodleian Libraries, Oxford, and was carried out in conjunction with the Bodleian's ongoing treatment of objects from the Opie Collection of Children's Literature. The collection contains books printed between the 16th and 20th centuries collected by Peter and Iona Opie, famed scholars of children's literature, folklore, and games. Many volumes from the Opie collection vividly draw attention to their history of use and misuse by young readers—they are often in poor condition, torn, stained, filled with doodles, or haphazardly repaired by juvenile hands. This volume is no exception, and its treatment raises many questions about how to return functionality without eradicating this history of use. Discussion with supervising conservators, curators, and a visiting printer-in-residence and pop-up book artist, as well as research into the history of movable books, their evolution into the realm of children's literature, and the rise of the toy book in the second half of the nineteenth century, all assist in resolving this question as well as others, including: how to best allow the pop-up elements to function again; how treatment decisions should factor in future display or handling; and whether restoring the functionality of the pop-up elements will put the volume at risk of the same mechanical failure.



Figure 1: *Cinderella* (Dean & Son: London, 1867). Bodleian Libraries, University of Oxford, Vet.A7 d.829.

When I began treatment of a movable edition of *Cinderella* at the Bodleian Library this past fall, I was surprised at how readily my colleagues recalled the movable books they had favored as children. One described a volume whose pages opened into three-dimensional rooms in which paper figures could be arranged by the reader; another recalled a book of scenes at a zoo where lions roared and monkeys leapt behind cut-out paper cages. It is no surprise that movable books stand out so vividly in our collective memory as readers—their mechanical illustrations contain elements of

surprise, spectacle, and magic that create a reading experience unlike any other. As Iona and Peter Opie, famous scholars of children’s literature, described in a 1975 article, these are books that “come to life.”¹

The Opies, however, were discerning in regard to what defines a ‘good’ movable book, specifying that “Mechanical books should look like ordinary books. Their success is measured by the ingenuity with which their bookish format conceals unbookish characteristics.”² Many such volumes are contained within the Opie’s own collection, which is held today at the Bodleian Library at the University of Oxford, where I spent six months as an intern beginning in September of 2018.³ While the library is better known for its vast collections of medieval manuscripts and early modern books, the Opie collection is of high value, and the conservation department has been conducting ongoing treatment of items from it. Access to the collection provided an invaluable resource while preparing this paper; as well, it established a strong context within which to consider some issues that are specific to volumes of children’s literature.

Containing material spanning from the 16th to the 20th century in a wide variety of formats, including horn books, miniature libraries, and printed



Figure 2: Damage and mends in E. Marshall *The Infant's Library: Book 5* (London: E. Marshall, [between 1800 and 1828]). Bodleian Libraries, University of Oxford, Opie V 11 (5).

¹ Peter and Iona Opie, “Books that come to life,” *Saturday Book* 34, September 19, 1975, 64.

² Opie, “Books,” 64.

³ For information on the Opie collection, see “Early Children’s books in the Bodleian Library: An exhibition 25 September 1995 – 20 January 1996,” Oxford: Bodleian Library, 1995.

games, the Opie collection provides abundant material evidence not only of *what* children have read, but also *how* they have read. Many volumes vividly draw attention to a history of use and misuse by young readers—volumes such as these are often in poor condition, torn, stained, filled with doodles, or haphazardly repaired by juvenile hands (Fig. 2). Pages are resealed or tied back together after becoming disbound; one encounters a horrifically abundant amount of tape. Such a history of use and poor handling was immediately evident in this movable edition of *Cinderella*, published by Dean & Son in 1867 (Fig. 1). This book's binding was in very poor condition, with a horizontal split extending through both boards, significant stains and losses in the printed paper covering, and a large detached piece at the



Figure 3: A page opening in *Cinderella* with one flap lifted and two closed flaps sitting upon the printed text.

bottom corner of the right board. Though the text block was entirely detached from its case binding, it had been resealed at least once before, as evidenced by remnants of thread through the cloth spine covering. The front flyleaf was significantly creased, leaves were worn at the edges, and all but one of the four bifolios were split at the spine fold. The thin volume contains only eight pages, onto each of which were adhered three flaps of decreasing height as illustrated in a mock-up in *When* lifted they create a three-dimensional scene and reveal the printed text below (Fig. 3). Evidence suggested that these three flaps would have been connected by a silk ribbon, fixed at each flap with a metal grommet. This ribbon would have facilitated the mechanical action, raising all three flaps when the outermost one was lifted, while maintaining the proper spacing between each of them. None of the ribbon had survived intact.

Many of the flaps were creased, torn, or detached and held in place with tape; as well, the thick grommets had caused significant distortion and abrasion throughout the text block.

As I began to formulate a treatment plan for this volume, two major factors guided my decision making. First, I wanted to consider to what extent the volume's history of damage should itself be preserved. Its poor condition suggested more than a life of inadequate storage or neglect—it also emphasized frequent use by a particularly zealous young reader and spoke to the inherent fragility of movable books. The second set of questions related to the structural and mechanical integrity of the book—whether or not the mechanical mechanism should be restored, and if the leaves should be guarded, reewn and integrated with the binding.

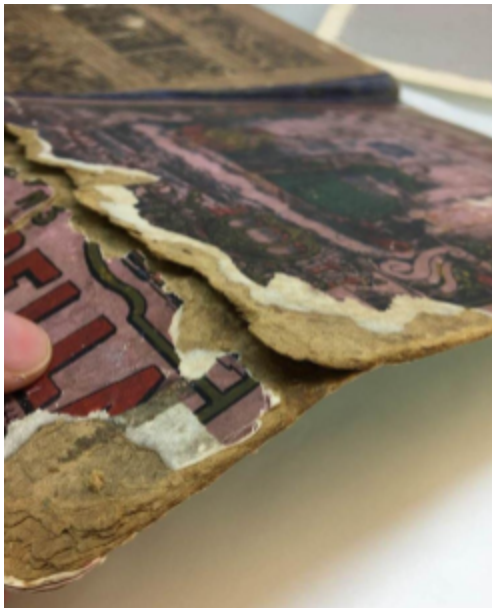


Figure 4 (above): The split in the front board, which was causing significant structural instability.

Figure 5 (right): The front board before treatment (top) and after treatment (bottom).



This first question strongly factored into treatment of the binding. As mentioned already, there was a large horizontal split running through both straw boards. This was causing significant

structural instability, making it difficult to handle and risking further damage to the printed paper covering (Fig. 4). Losses in and distortion of the board along the split resulted in an uneven surface. At another institution, perhaps, it would have been favorable to lift the printed paper covering, build up the uneven surface, and fill the loss in the covering material with a paper toned to match the general pinkish background color. Instead, in keeping with the guiding principle of minimal intervention at the Bodleian, it was agreed that stabilization of the boards was the main priority, and that treatment should preserve the visibility of this historic damage. A medium weight Japanese paper was toned to match the color of the brown strawboard, inserted into the split, and adhered with paste (Fig. 5). Structurally, the treatment was very successful—the binding can be easily handled without risk of further damage.

Within the text block, tears were mended and creases in the front flyleaf were relaxed. Because the glassine tape was already lifting and did not provide structural support to the flaps as they were lifted, it was decided that the tape should be removed. This was done with a mix of DI water and ethanol applied with a brush through the top of the carrier, allowing it to penetrate until it softened the water-soluble adhesive. Where tape had been holding together torn flaps in areas like that pictured in Figure 3, a medium-weight Japanese paper mend, shaped to extend quite far beyond the tear, was sufficient to improve structural stability as the flaps were manipulated.

Before deciding whether or not the mechanical action should be restored, I wanted to gain a better sense of the historical and social context of movable books in the mid nineteenth-century. How unusual would this book have been to young readers, how innovative, how surprising? Were moveable books widely available or still quite novel? How many survive today?

Fortuitously, as part of its printer-in-residence program, the Bodleian was hosting Emily Martin, who specializes in making movable artists books. Her first point, upon meeting, was to clarify some

terms. The *pop-up* refers to a book in which the mechanical action happens on its own through the simple action of opening the page; in contrast, the *movable book* is one in which the reader must activate the mechanical action by lifting a flap or pulling a tab. Her excitement at seeing *Cinderella* made something else clear—while books like this one may have been produced in large quantities, not many of them survive, either due to their inherent fragility, the damage caused by their readership, or that as affordable, mass-produced children’s books, they were considered by their owners to be disposable.

Dean & Son, publisher of *Cinderella*, was in fact *the* major publisher of moveable children’s books in the nineteenth century. Based in London and founded in the late 1700s by Thomas Dean, the company published widely. In 1840 they made the decision to focus exclusively on toy books and are considered the first to produce true moveable books in large quantities—they released around fifty different movable books between 1860 and 1900.⁴ New technologies made their enterprise possible—chromolithography allowed for the rapid production of highly colorful images, and industrialization allowed for mass production. However—visual evidence and the sparse existing literature on Dean & Son confirm that an enormous amount of time-consuming manual labor was still required in the production of books like *Cinderella*.⁵ The intricate flaps were not die-cut but shaped by hand, and each flap had to be arranged and adhered one at a time. Despite the extent of labor required, even Dean and Son’s movable books were relatively affordable, costing around 2 shillings a piece.⁶

⁴ “Toy books” is a term used to describe 19th century colorfully illustrated children’s books. For more information on toy books, see: Peter Haining, *Moveable Books: pages & pictures of folding, revolving, dissolving, mechanical, scenic, panoramic, dimensional, changing, pop-up and other novelty books from the collection of David and Briar Philips* (London: New English Library, 1979).

⁵ References on Dean and Son include: Peter Haining, *Movable Books*; Jacqueline Reid-Walsh, *Interactive Books: Playful Media Before Pop-Ups* (London: Routledge, 2017); Jo Tisinger, “Dean and Son Publishers: A Short History,” in *Movable Stationery* 21, no. 2 (2013): 3-7; Hannah Field, *Playing with the Book: Victorian Movable Picture Books and the Child Reader* (Minneapolis: University of Minnesota Press, 2019).

⁶ Dean & Son, *Retail List of Novelties, Chiefly for Children, for Christmas and the New Year* (Dean & Son, London: Dean & Son, 1862), 3.

As evident in an 1862 catalog, Dean & Sons had a long list of titles available, with listings that highlighted their movable books specifically (Fig. 6). They boast: “These very popular books, of which D. & S. were the inventors and originators, have of late been made much stronger, and improved; the movements working on copper-wire in lieu of thread.”⁷ The publisher seemed well aware of how prone to damage these books were. Another volume, in its preface, urges its readers to handle with care, with the reminder:

“RECOLLECT THAT PAPER IS NOT IRON.”⁸

Access to the Bodleian’s strong collection of children’s literature allowed me to look at a number of other movable books published by Dean and Sons. Collectively, these volumes suggest that young readers were not really heading the publisher’s warnings. They also illustrate the range of mechanical mechanisms that Dean & Sons employed throughout the 19th century.

One such example is a copy of *The History of the Three Little Kittens who Lost their Mittens*, published by Dean and Sons around 1890, that had been preserved in surprisingly good condition. Yet still, the inherent fragilities of the form resulted in folded flaps, as illustrated in Figure 7.

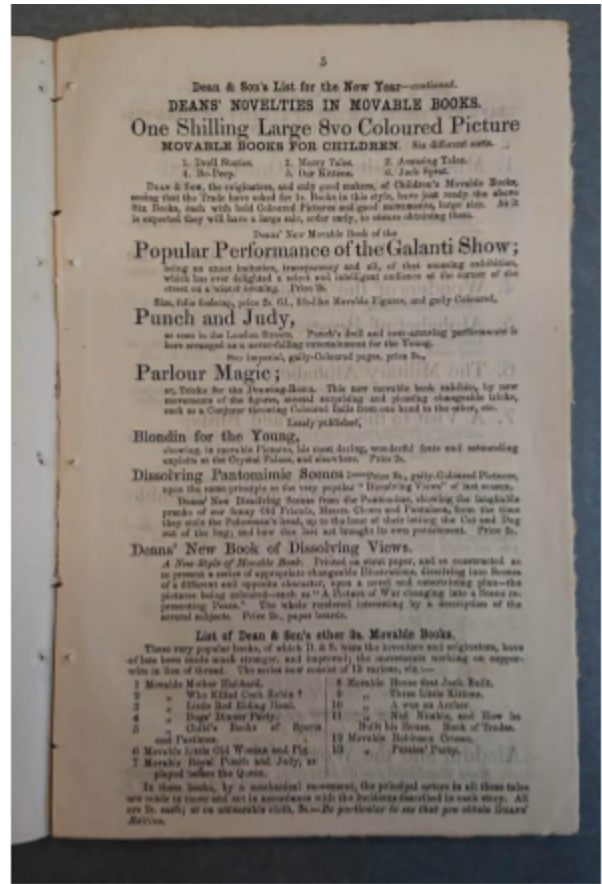


Figure 6: A page from *Retail List of Novelties: chiefly for children, for Christmas and the New Year* (London: Dean & Son, 1894). Bodleian Libraries, University of Oxford, Opie W 15

⁷ Dean & Son, *Retail List*, 5.

⁸ Eric Faden, “Movables, Movies, Mobility: Nineteenth-century looking and reading,” in *Early Popular Visual Culture*, Vol. 5, No. 1 (April 2007), p. 74.

This volume employs the coils of copper wire mentioned in Dean’s catalog, which are just discernible in the mother cat’s scarf.



Figure 7: Showing creased flaps and the copper coil mechanism in *History of the three little kittens who lost their mittens* (London: Dean & Son, ca.1890). Bodleian Libraries, University of Oxford, Johnson d.2136



Figure 8: Illustrating the oversized binding to accommodate the mechanical tabs in *Happy Children: with moving pictures* (London: Dean & Son, 1886). Bodleian Libraries, University of Oxford, Johnson c.507



Figure 9: The deteriorated mechanical structure reveals the use of printers’ waste in *The Venetian Blind Moveable Picture Book* (London: Dean & Son, 1894). Bodleian Libraries, University of Oxford, Johnson c.506

Another volume, *Happy Children: with moving pictures* of 1886, was particularly interesting for its binding, which extends far beyond the text block at the bottom edge to protect the mechanical paper tabs (Fig. 8). This publication’s movable mechanism is dependent on metal brads, the thickness of which caused a significant distortion throughout the text block, illustrating some of the inherent vices of the movable book.

A third type of mechanism is evident in *The Venetian Blind Movable Toy Book*, published in 1894, in which a tab would be pulled to transform one picture into another (Fig. 9). This example was in incredibly poor condition, and none of the moving mechanisms were functional; however, the poor

condition revealed that all of the illustrations had been produced on printers waste, suggesting one of the ways in which Dean and Sons cut costs and saved money.



Figure 10: *Little Red Riding Hood* (London: Dean & Son, [not before 1863]). Bodleian Libraries, University of Oxford, Opie EE 144



Figure 11: A page opening with intact ribbons in *Little Red Riding Hood*.

Best of all, I was able to look at another of Dean's New Scenic Books, an 1863 edition of *Little Red Riding Hood* with the same structure as *Cinderella*, but with all its ribbons still intact (Fig. 10). These ribbons stuck out beyond the boards, which surely contributed to their quick deterioration. I was surprised to discover that each ribbon extended so far beyond the largest flap, creating in effect a tail with which to lift them—possibly this would have minimized some strain on the paper flap itself. However, it didn't prevent damage entirely—there was tape on every single leaf where the metal grommet had become loose. In an image of a particularly exciting scene from the story one sees how visible the ribbon would have been between the flaps (Fig. 11).

The form of the “scenic book” derives from two different types of movable mechanisms—from the flap book, with elements that must be lifted up from the page; and the paper peepshow, with multiple layers that create a visual depth of space. The flap book had a long history of use in publishing before its application to the realm of children’s literature. It had been widely employed in early anatomical books such as Vesalius’ *De humani corporis fabrica*, first published in 1543. Flaps like those in the *Fabrica* were often didactic, used to illustrate complex visual imagery, like the human body.

Peepshows⁹ also dated back to the early modern period and were popularized in the 17th and 18th centuries in a large-scale format, exhibited at fairs or other public spaces by itinerant showmen, much like a puppet show. In the mid-19th century they began to be produced out of paper as small souvenirs, known as paper peepshows or tunnel books, especially for the Great Exhibition of 1851.¹⁰ The peepshow format was an ideal device to recreate the overwhelming experience of visiting the Great Exhibition, which exemplified the new abundance of consumer products and visual information that appeared in the mid 19th century. Constructed of a series of paper slats joined together in an accordion-like structure, the peepshow could be stored flat, but expanded to create a spectacular illusion of depth of space.

There is a great deal of scholarship devoted to the changing visual culture of the mid-nineteenth century, describing an “explosion of the visual image...due, in part, to advertising and film and, in part, to technological innovations like color printing and photography.”¹¹ Viewers were not only seeing *more*,

⁹ Paper peepshows are often referred to as “tunnel books” in the United States. For more information on the format, refer to: Ralph Hyde, *Paper Peepshows: The Jacqueline & Jonathan Gestetner Collection* (Woodbridge, Suffolk, England: Antique Collectors’ Club Dist, 2015).

¹⁰ Amy F. Ogata, “Viewing Souvenirs: Peepshows and the International Expositions,” in *Journal of Design History*, Vol. 15, No. 2 (2002), pp.69-82; and Hannah Davison, “A Peep into the Great Exhibition of 1851,” last modified 26 February 2016, <https://www.amdigital.co.uk/about/blog/item/peep-into-the-great-exhibition>

¹¹ Amanda M. Brian, “Listening to Lothar Meggendorfer’s Nineteenth-Century Moving Picture Books,” in *The Princeton University Library Chronicle*, Vol. 74, No. 3 (Spring, 2013), p. 374.

but they were also seeing in new ways. Various optical technologies like the phenakistoscope, the zoetrope, or the magic lantern, allowed viewers to see literal ‘moving images’ in their own home, often in the form of children’s toys. While today we associate ‘moving pictures’ with the cinema, the term actually was used to describe movable books in the nineteenth century, as apparent in the full title of the movable book *Happy Children*, mentioned above.¹² All of this emphasizes the social and historical significance of moveable books—more than mere novelty or entertainment, they were connected to widespread changes in 19th century viewing practices.

Despite the relative simplicity of the mechanism of Dean and Son’s *Cinderella*, it seemed essential to restore the moveable element. Yet merely replacing the lost ribbon was not an option—it had originally been affixed with the grommet itself. Some of the grommets were lost, and I did not want to disturb the ones that remained, especially where fragments of the silk ribbon were still visible. I needed to find a way to secure a replacement ribbon, fixing it in place at each flap to maintain proper spacing, without causing damage to the paper, especially where the metal grommet was lost.

The Bodleian’s conservation workshop contains a vast supply of various linen cords and tapes. From this I selected a very thin linen tape that would be quickly identifiable to readers as replacement material but was thin enough to fit easily through the hole without being visually obtrusive. Discussing options with my supervisor, we came up with the idea of using small “buttons” of parchment as a way of minimizing strain or friction where the ribbon was laced through the flap. Parchment has long been used as a means of securing ties on bindings—strong, thin, and flexible, it was the perfect material. At first I considered adhering the parchment button directly to the verso of the flap to secure the new linen tape in place, and tested this approach with a mock-up (Fig. 12). However, I quickly decided that this would

¹² Faden, “Movables,” 71.

pose too great a disruption to the original material. I did not want to risk deterioration of the metal grommets with moisture-containing adhesive, nor risk that the remaining fibers of silk be lost.



Figure 12 (left): A preliminary mock-up of an attachment method for the replacement cords in which they were laced through parchment buttons.



Figure 13 (center): A revised method, in which the cord was laced through and adhered between two parchment buttons.

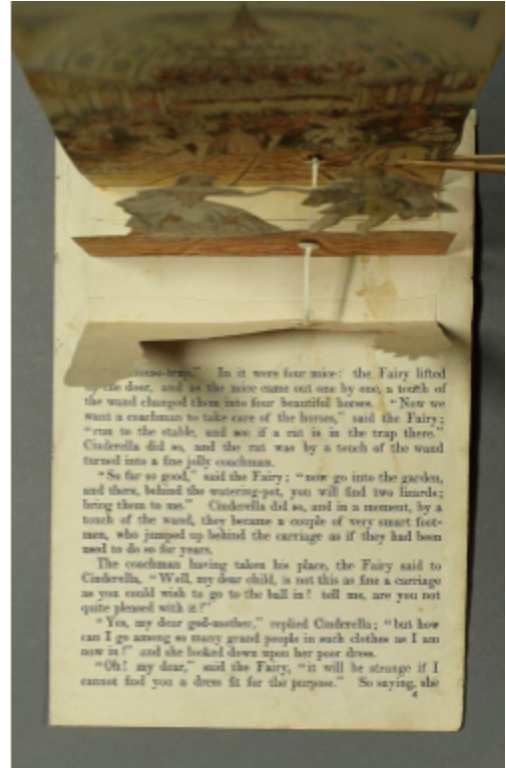


Figure 14 (right): Showing completed treatment of a leaf of *Cinderella*, in which the replacement cord has been fixed in place using parchment buttons on either side of each flap.

Another mock-up abandoned adhesive completely, lacing the linen tape through two parchment buttons (one on each side of the flap), a method that was secure and easily adjustable, but difficult to carry out. Finally, I decided on a method of attachment in which *two* parchment buttons are placed on either side of each flap. A small slit is cut in the first button and the cord is pulled through; it is adhered to the button with a drop of EVA (ethyl-vinyl acetate), flattened, and another button, with a staggered slit, is laced on and adhered (Fig. 13). This essentially pinches the linen tape in place on either side of the flap. This solution reduces strain on the flaps, maintains the proper spacing between them, and can easily be removed (Fig. 14).

Overall, I am pleased with this treatment, though it did add quite a lot of thickness to the text block (Fig. 15). However, when comparing the treated volume to the intact example, it can be seen that

the original movable mechanism inherently causes a fair amount of added thickness. It was decided that



Figure 15: The text block of *Cinderella* (above) grew in thickness as a result of treatment; however, the intact copy of *Little Red Riding Hood* (below) shows some inherent swell in the top half of the volume.

the leaves should not be guarded and re sewn; instead, they will be housed together with the boards in a protective enclosure. Creasing in the flaps indicated the extent of damage that had occurred while operating the mechanism while the leaves were still bound, as if the covers had been shut while the flaps were still lifted. The decision not to reintegrate the leaves with the text block will promote better reader accessibility as well as compensating for the added thickness to the text block.

I am especially happy with the ease with which this treatment can be reversed.

While researching Dean & Sons

publications, I looked at many digitized movable books online. Overall, I was struck by the digital image's inability to convey the movable mechanisms that were present. Lost was all sense of locomotion, of transformation, of the mechanical actions that play out upon the page. While at the Bodleian, a number of digital imaging projects were underway, all of which will enable viewers to better understand complex objects—a medieval coffer was captured for 3D imaging, and an ornate leather book case was imaged with photogrammetry. At the present time, this copy of *Cinderella* does not

have enough research or historic value to merit such labor intensive or expensive digitization techniques; but it is possible that some day it will, especially as such technologies become easier to carry out. While I remain convinced that digitization will never compare to the experience of viewing an actual object, it remains key for promoting accessibility and awareness of objects in our care. It is prudent to consider that new digitization techniques might be possible in the near future, and to factor this into our treatment considerations.

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