

■ Understanding Children's Literature and Material Culture through Pop-Up Books*

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Abstract

This paper explores the linkage between children's literature and material culture through pop-up books. The questions to be explored include how the pop-up book's literary-visual content is combined crucially with the book's physical properties—the mechanical devices—to script for the child-reader, and how elements of material properties in pop-up books shape the reader's construction of various categories, such as environmentalism, toys, souvenirs, and/or collection. The paper argues that the pop-up book is a fitting form for investigating material culture because there is hardly any book form apart from pop-ups that best manifests its materiality to children. Each pop-up mechanism is designed to draw the reader in; when a pop-up spread unfolds, it demands a reaction from the reader. The pop-up books selected for analysis include *In the Forest* (2012), *Robots* (2014), and *The Wonderful Wizard of Oz: A Commemorative Pop-Up* (2000). While all three pop-ups enhance the comprehension of the link between children's books and material culture, their diversity in themes, aesthetic devices, and social reception serves different purposes, displaying the distinct dimension of objects. The paper consists of three parts. The first part considers a number of contemporary theoretical literatures on objects. The second part briefly surveys the history of movable/pop-up books, overviewing the genre's evolution and its conjunction with children.

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The third part examines the selected pop-up books, with special attention placed on each book's device features, aesthetic accomplishments, and material elements. The paper concludes that the pop-up book is a form deserving more critical attention not only because its materiality helps us theorize in more nuanced ways about how children can exercise agency, but also because the ingenuity and efforts of paper engineers demand, likewise, more recognition and appreciation.

Keywords: children's literature, pop-up books, material culture, Anouck Boisrobert and Louis Rigaud, Philippe UG, Robert Sabuda

Introduction

A glance at recent children's books reveals that many children's books come to life by popping up, from classics like *Alice's Adventures in Wonderland*, *Winnie-the-Pooh*, and *Anne of Green Gables* to contemporary titles such as *The Lorax* and *Harry Potter*. Though pop-ups are ubiquitous, they are often overlooked in discussions on children's literature. Lisa Boggiss Boyce suspects that the insubstantial and ephemeral nature of pop-up books has resulted in this neglect (243, 244). Another reason may be related to how pop-up books are received by readers. Pop-ups' three-dimensional features and the surprises within enhance their tendency to be treated as physical toys or presents, rather than books for reading and learning. A third reason concerns how material culture is perceived in children's literature. Robin Bernstein points out that "[m]ost scholars [. . .] treat children's literature and material culture as separate discourses" ("Children's Books" 162). Given this academic climate, pop-ups are thus often disparaged as the commercialization and dilution of children's literature.

Pop-ups, or movable books, nevertheless, have existed in children's books since the beginning of book publishing.¹ In 1765, London book publisher Robert Sayer produced the first in a series of movable books specifically for children (Rubin). This act not only marks the onset of the conjunction of movable books and children's literature; it also roughly coincides with the English book publisher John Newbery's launch of children's literature as a distinct category of literature to be marketed alongside toys (Bernstein, "Toys" 458). "The union of literature and material culture has not only defined children's literature since 1744," (Bernstein, "Toys" 459), their entanglement has also broadened and intensified, and hence "the pairing, through play, of children's literature and toys has persisted for three centuries" (Bernstein, "Children's Books" 162). Currently, children's literature, play, and material culture form an almost inextricable triangulation, making children's literature unique, distinguished from other literature (Bernstein, "Children's Books" 162, 167).

Children's literature has conventionally been distinguished by its child-adult relationship. The long-held dominant view attributes the genre's uniqueness to one group (adults) writing for another group (children). Bernstein, however, denounces this dynamic as falling into a one-way movement, because when power emanates from the top down, adult power is overestimated and children's agency undervalued (Bernstein, "Toys" 460). If children's literature as a genre is rede-

¹ The difference between "movable books" and "pop-up books" is explained later in the paper.

financed and reevaluated in relation to material culture and play, she proposes, the view of children's literature will be reversed with possibilities anew: adults produce *both* children's literature *and* children's material culture; children, likewise, play *with* and *through* both (460; emphasis added).

Motivated by a desire to not only make pop-up books visible but also highlight children's literature's continuing integration with toys and toy-like books, this paper explores the linkage between children's literature and material culture through pop-up books. Pop-up books as a specific genre of material objects that are often associated with children's reading and childhood culture constitute part of children's material experience. Children engage with the world through interaction with the pop-up book's materiality and its material expression. The physical manifestations of pop-up books, likewise, help us look into the culture of children's literature and the child-adult relationship. The pop-up book is a fitting form for investigation for two reasons: first, there is hardly any book form apart from pop-ups that best manifests its materiality to children. Secondly, each pop-up mechanism is designed to draw the reader in; when a pop-up spread unfolds, it demands a reaction from the reader. Whereas Iona and Peter Opie consider that the success of "mechanical books" lies in "the ingenuity with which their bookish format conceal[s] unbookish characteristics" (qtd. in Montanaro), this paper takes the reverse view in uncovering the unbookish characteristics behind the pop-up book. The questions to be explored include how the pop-up book's literary-visual content is combined crucially with the book's physical properties—the mechanical devices—to script for the child-reader, and how elements of material properties in pop-up books shape the reader's construction of various categories, such as environmentalism, toys, souvenirs, and/or collection. The purpose of this essay is not meant to be pedagogical application, reading strategy implementation, or perception evaluation, but an interpretive approach to advancing children's literature studies and strengthening the link between children's literature and material culture through researching the meanings of pop-up books.

The pop-up books selected for investigation include *In the Forest* (2012) created by French paper engineer couple Anouck Boisrobert and Louis Rigaud, storied by Sophie Strady; *Robots* (2014), engineered by another prominent French paper artist Philippe UG; and *The Wonderful Wizard of Oz: A Commemorative Pop-Up* (2000) by America's leading artist in the field, Robert Sabuda.² The first two titles tackle

² I choose Sabuda's *Oz* instead of *Alice's Adventures in Wonderland* (2003), another eye-stunning masterpiece, because the former won him the 2002 Meggendorfer Prize, the third time Sabuda receives this prestigious award. Sabuda is also the only artist in the history of the Prize who has won in three consecutive competitions.

transformation, a motif not only common to pop-up narratives but also perfect for the form to elaborate (Boyce 243). *In the Forest* conveys the knowledge of conservation by materialistically displaying a forest's drastic change from a barren landscape (due to deforestation) to refreshing green (after restoration). *Robots* depicts a child's relationship with toys, an important material ingredient of childhood, through pop-up devices that embody a robot's renewal from stiffness (due to rust) to life (after repair). As to *The Wonderful Wizard of Oz: A Commemorative Pop-Up*, it is a material representation and adaptation of a classic children's literature book.

While all three pop-ups enhance the comprehension of the link between children's books and material culture, their diversity in themes, aesthetic devices, and social reception serves different purposes, displaying the distinct dimension of objects. Karin Calvert, a leading social historian of play, in surveying American conceptions of childhood through material culture notes that "objects can have multiple meanings for the society that uses them" (6). Three distinct planes/meanings that may characterize an object include "technomic uses" which are also "accepted as practical by a society," "sociotechnic uses" which "facilitate[] the interactions or relationships between people or convey information about the owner," and "ideotechnic" uses that function "as part of a symbolic vocabulary expressing or affirming cultural beliefs and values" (6). In the case of the pop-up books selected in this paper, they can simply be children's books, but at times they may also be a child's toys, educational tools, collectable items, or objets d'art. Each individual title, moreover, fulfills different functions. *Forest* offers to foster a child's environmental consciousness; *Robots* expresses a child's relations with toys; the *Commemorative Pop-Up Oz* becomes a symbol or icon for childhood memory.

The paper consists of three parts. The first part considers a number of contemporary theoretical studies on objects. The second part briefly surveys the history of movable/pop-up books, overviewing the genre's evolution and its conjunction with children. The third part examines the selected pop-up books, with special attention placed on each book's device features, aesthetic accomplishments, and material elements. The text analysis in this essay focuses specifically on the material expression of the theme, the aesthetic quality of the illustrations, and the appropriateness of the mechanisms given the individual book's concept, a standard that Nancy Larson Bluemel and Rhonda Harris Taylor emphasize. Bluemel and Taylor in evaluating pop-up books note that movable art "should do more than amaze us by its movement. It should add to the story or information given in the book in one or more ways" (3). Moreover, the art in pop-up books should "[r]einforce the text by making the characters and/or setting come to life" (3). Among the three books selected, two are of French origin. Compared with American pop-ups, which often feature lavish decoration and complex mechanical devices, French works tend

to emphasize aesthetic aspects, due to relatively high production costs.³ By selecting samples from different countries, this paper also hopes to offer a glimpse of current pop-up book trends across continents.

Material Culture, Things, Scriptive Things, and Collectable Things

Since there have been productive multidisciplinary approaches to material culture (Bernstein, “Toys” 461; I. Woodward 4), this essay incorporates a range of scholarly inquiries into the uses and meanings of objects. Though the theoretical framework is wide, these inquiries provide a useful vehicle for synthesis of macro and micro approaches in investigating the materiality of pop-up books.

First, let’s consider material culture. The word “material” in material culture refers to objects made or used by humans. Our lives, since childhood, consist of numerous encounters with objects. We pick objects up, and use and act with them in myriad ways to achieve varied ends. Take books for instance: babies and toddlers may treat them as edible or playing objects by chewing on them or tearing them apart. But as young children grow older, they learn to view books as objects for obtaining information or gaining pleasure. Joanna Sofaer Derevenski, speaking of children and material culture, remarks that “[c]hildren perceive, react, and add to the world through material culture as objects guide the child’s experience” (xv). Since objects are ubiquitous, people tend to think that objects manifest, respond to, or transmit meaning that originates with humans. Material culture, nevertheless, treats “culture as something created and lived through objects” (I. Woodward 4). The study of material culture “challenges the historical division between the natural sciences as being the place for the study of the material world and the social sciences as being where society and social relations can be understood” (S. Woodward). It centers upon the material facets of objects, considering how their properties (such as the strength, weight, durability, resistance) and the materials they are made of (such as paper, cloth, plastic) contribute to an understanding of culture and social relations. In seeing how the material properties of an object determine its meanings, material culture studies concern how objects can produce particular effects, allowing and regulating certain behaviors or cultural practices on humans. As Ian Woodward points out, how “people require objects to understand and perform aspects of selfhood, and to navigate the terrain of culture more broadly”—the “people-objects relations” developed through people’s encounters with objects—

³ Pop-up books are still hand-assembled, demanding a large labor force for packaging and thus raising the production cost of pop-up books.

is a key area of contestation in material culture studies (vi, vii).

Bill Brown's "thing theory" moves forward Heidegger's distinction between objects and things to excavate the materiality that is neglected or subsumed in material culture. Thing theorists define an object as a chunk of matter that one looks through or beyond to understand something else. A thing demands that people confront it on its own terms, forcing a person into an awareness of the self in material relation to the thing (Bernstein, "Dances" 101-02). When a thing remains as an object, Brown notes, "we only catch a glimpse of things. [. . .] We look *through* objects because there are codes by which our interpretative attention makes them meaningful, because there is a discourse of objectivity that allows us to use them as facts" (4; emphasis added). However, Brown continues, "[w]e begin to confront the thingness of objects when they stop working for us: when the drill breaks, when the car stalls, when the windows get filthy, when their flow within the circuits of production and distribution, consumption and exhibition, has been arrested, however momentarily" (4). "The physicality of things," according to Brown, is revealed when one is caught up in things, such as when getting a paper cut, stumbling over a toy, or getting hit by a falling nut (3-4). In "occasions of contingency" like these, "things assert their presence and power" and change their relation to the human subject (3-4).

Bernstein's "scriptive thing" informs how things script performances and how human agency emerges through physical encounter with the material world. It is things, not objects, which script actions, Bernstein claims ("Dances" 69). Things such as pop-up books contain images that are not alive, but can shape human behavior. The "animative power" of things, Bernstein notes, "derives from two aspects: people's psychological investments and a thing itself" (70). Bernstein terms as "scripting" a thing's ability to prompt, inspire, and structure human actions (68). Borrowing the term from the theater, where a play script refers to "an evocative primary substance from which actors, directors, and designers build complex, variable performances that occupy real time and space," Bernstein suggests that the material elements in scripts "combine[] properties of elasticity and resilience so that the play remains recognizable even as it inspires a unique live performance each night" (69). A "scriptive thing," thus, is when a thing, such as a play script, "broadly structures a performance while simultaneously allowing for resistance and unleashing original, live variations that may not be individually predictable" (69). To underline how things script human actions is not to disparage people's agency; rather, agency and intention "co-emerge through [humans'] everyday physical encounters with the material world," Bernstein maintains (68-69).

Susan Stewart, on the other hand, analyzes the ways in which everyday objects such as souvenirs and collections "organize our private and public affection"

(Brown 7). For Susan Stewart, the society we live in is driven by an exchange economy. Within this development of culture, “experience is increasingly mediated and abstracted,” and “the lived relation of the body to the phenomenological world,” the so-called authentic experience, is gradually “replaced by a nostalgic myth of contact and presence” (133). Since “the memory of the body is replaced by the memory of the object” (133) in this distancing process, people purchase souvenirs as a way of memorializing the trips taken or the occasions attended. However, “the experience of the object lies outside the body’s experience,” so the very object that is saturated with meanings “can never be fully revealed to us” (133). It is a memory “standing outside the self” and “representing both a surplus and lack of significance” (133).

Pop-Up Books and Children

Pop-ups fall under the umbrella term “movable books,” which refers to books involving mechanics ranging from volvelles, the earliest device, to flaps, pull-tabs, layers, and folds. Movable books, since their invention, have undergone several major breakthroughs and created at least two golden periods. The time from 1840s to the outset of World War I witnessed the first Golden Age of movable books. Thanks to the engagement of a number of European printing firms, many of them of German origins or with German connections, movable books in the Victorian period were printed in larger quantities with better printing techniques, refined illustrations, and innovative techniques.⁴ The Renaissance of movable books was ushered in in the 1960s—only this time the scene shifted from Europe to America and was revived almost single-handedly by the American entrepreneur Waldo Hunt (1920-2009), also known as the “King of the Pop-Ups,” or “the father of the modern pop-up book industry” (“Waldo Hunt”; Montanaro; Rubin). Hunt founded graphic design firms—first Graphics International, then Intervisual Books, a packaging company—to produce movable and pop-up books. He followed in the steps of the Victorian publishing predecessors to form a team of remarkable artists who were also the pioneering “paper engineers” (Montanaro; Rubin). Because of Hunt, the talent, ingenuity, and effort of paper artists was

⁴ To construct movable books, printing companies such as Dean & Son, Rahael Tuck, and Ernest Nister at that time established a special department of skilled craftsmen to design and assemble the hand-made mechanicals. Lothar Meggendorfer (1847-1925) of Munich, Germany, who is now acclaimed as the “Father” of the pop-up books, also produced in this time. He refined the use of rivets so that with the pull of a single tab, multiple life-like movements occur simultaneously. “The Meggendorfer Prize,” an award instituted by the Movable Book Society of America, is named after him.

finally acknowledged and appreciated.⁵

Though pop-ups and movable books are now prominently associated with children, in the beginning children were not the target users/customers/readers. The history of movable books dates back to the thirteenth century, when revolving-disc or volvelle devices were first invented for scholarly works of astrological, astronomical, anatomical, religious, mathematical, or navigational purposes. It was not until the second half of the eighteenth century that children came to be seen as possessing distinct needs best met by movable devices in children's books for entertainment purposes (Carter and Diaz; Montanaro). Examples can be observed in Robert Sayer's case, as indicated earlier.

Authentic "pop-up" books did not appear until 1929. S. Louis Giraud, the British book publisher, launched a series of movable books and described these books as "living models" because each title contained at least five double-page spreads that erected automatically when the book was opened (Montanaro). The official usage of "pop-up" emerged in the 1930s when the publisher Blue Ribbon applied the term to their movable illustrations (Montanaro). *Jack the Giant Killer*, paper-engineered by Harold Lentz, is the first book to be officially labeled a "pop-up."

How the Book Scripts the Reader's Performance: The Case of *In the Forest*

The English version of *In the Forest* was first issued by Tate Publishing in 2012 and retitled as *Wake Up, Sloth!* for the U.S. market.⁶ This tall, slender, rectangular pop-up book, a third-person narrative, tells of the beauty and fragility of the Amazonian forest in seven spreads. The first spread presents a lively lush green forest populated by colorful birds and other creatures, wherein lies a tiny sloth tucked away in one of the trees. One day, the tranquility of this forest is disrupted when "a metallic noise echoes through the forest" (Boisrobert and Rigaud). A forest harvester erected high above the trees looms threateningly over the forest. "[T]he metal monster," followed by four roaring Timberjacks coming

⁵ Hunt established a team of paper engineers, among whom Tor Lokvig was introduced to Jan Pieńkowski to help with his pop-up book *Haunted House* (1979), an iconic work during the second Golden Age (Boyce 245). Ib Penick (1930-1998) is another artist recruited early on by Hunt. In his pop-up titles created for Random House, he was referred to as the "premier paper engineer," the first person to receive this title ("Ib Penick").

⁶ In this paper, I use for discussion the British edition, in which the text is slightly different from that in the American edition.

in from every side to take away the delimbed trees, scares away the birds, the animals, and the humans, but not the sloth, who still “dreams on and hears nothing” in one of the trees (Boisrobert and Rigaud). The sloth continues to lead its usual life and even “turns with a yawn,” as the forest suffers more severe damage, until only its tree remains (Boisrobert and Rigaud). Then a man arrives to restore this “mas-sacre” by sowing seeds for new trees. As the reader pulls the tab, the small green shoots pop up in the ground. The forest is thus restored and all the creatures, including the sloth, return. The story ends with a lavish and lively forest scene, suggesting hope and optimism.

Among the three pop-up books examined in this paper, *In the Forest* is perhaps the most delicate and elegant in terms of images, design, and color. The contour of the strips which form the layers and the hollowed-out arching design of the first four spreads are beautifully shaped and smoothly carved, elevating the book’s aesthetic level. Unlike UG and Sabuda, Boisrobert and Rigaud work on a much smaller scale, a hallmark of the couple’s works. Diminutive images may result in works that are unimpressive at first sight, but a sense of freshness is always preserved in their original work. In *Forest*, many illustrations are presented in silhouettes. Silhouette images on the one hand match beautifully the form of the book, for pop-ups are after all paper-cutting works; the featureless interior of the silhouettes on the other hand effectively keeps the illustrations clear and simple.

In terms of pop-up devices, *In the Forest* is also the one that contains the most layers.⁷ In the first four spreads, each two-page layout consists of several long, narrow strips from front to back; while each strip varies in length and height, they combine to form layers. Despite the remaining space between each long narrow layer, when viewed from the horizontal perspective, it looks as if the layers overlap one another, making for a forest that is three-dimensional and luxuriously green. The layers are carefully positioned and printed on both sides so that the trees always face the viewer even from different angles. Each layer, additionally, is folded like an accordion, with only the strip’s two poles glued to the base page; thus when the pages are turned, the forest slightly lifts away from the base page, generating a sense of vitality.⁸

In terms of the book’s materiality, Boisrobert and Rigaud script meaningful actions for the reader in two ways: through a playful puzzle game and the pull-tab device. In *Forest*, a target has been set for readers: to find the tiny sloth hidden among the trees on each spread. The task can be a bit challenging due to the mul-

⁷ The layer device can be traced back to “peep-show books,” which were “viewed through a small hole in the cover” (Montanaro). The peep-show creates a scene with depth, similar to the effect of looking inside a tunnel (Denice and Jean-Paul, “Pop-Up Dictionary”).

⁸ In the pop-up Glossary of Terms that Carter and Diaz compile, “Base Page” refers to the page to which the pop-up is attached.

multiple layers erecting on each opening and the numerous tiny animals on every strip that all bear similar silhouettes. However, the narrator's tempting hailing of "can you see it?" which repeats six times throughout, not only is addressed directly to the reader but also invites him/her to join the search. Following Louis Althusser, W. J. T. Mitchell calls this the "effect of interpellation," "the sense that the image greets or hails or addresses us, that it takes the beholder into the game, enfold[s] the observer as object for the 'gaze' of the picture" (75). Speaking materialistically, Bernstein also invokes Althusser. She describes the reader's act of walking into the text's worlds as "encription": "interpellation through a scriptive thing that combines narrative with materiality to structure behavior" ("Dances" 73). Scriptive things, thus, act like the police that "leap out within a field, address an individual, and demand to be reckoned with" (73).

In *Forest*, the search for the sloth constructs the reader's environmental consciousness. A sloth is not only an endangered mammal of the Amazonian rainforest: the original French word *paresseux*, like the English word *sloth*, also connotes contempt for lazy people. The sloth in this book, hence, represents the idle, nonchalant attitudes of humans in the face of the forest's disappearance (Boisrobert and Rigaud, Interview 57). Through the text's repeated "Can you see it?" readers are not only prompted to search the illustration closely in order to locate the sloth, but through the process they also witness how the rainforest goes from teeming creatures to devastating deforestation. In other words, by encouraging the reader to locate the sloth, the book endows the reader with a positive attitude that is contrary to the passive sloth. Searching for the sloth allows the reader to express their care for the rainforest species.

In *Forest*, a more positive action for readers takes place when they pull the tab at the bottom right-hand corner of the penultimate spread. "Pull-tab" as a movable/pop-up book design refers to a paper extension: an illustration provided with an extension of paper that when pulled, pushed or slid, delivers energy to mechanics (Carter and Diaz, "Pull-Tab"; Denice and Jean-Paul, "Pop-Up Dictionary").⁹ The pull-tab device was invented in 1857 by Dean & Son, a publishing firm in London.¹⁰ Since that time, movable books have leapt into dynamic and animative three-dimensional interaction. In *Forest*, before one pulls the tab, the

⁹ The force that enables a book to open, close, mount, explode, even to possess a life-like quality when the page is turned, is generated by "kinetic energy." According to Carter and Diaz, kinetic energy is the result of motion created by opening a page, pulling a tab, or turning a wheel; it lies "at the center of all pop-ups": "Kinetic energy is the life force of pop-ups and paper engineers. Kinetic energy is our friend" ("Introduction").

¹⁰ They claimed to be the "originator of children's movable books," for the characters in their books "can be made to move and act in accordance with the incidents described in each story" (Montanaro).

illustration on the spread is predominantly white, with only a few tiny branches scattered on the page: “everything is destroyed, everything is lifeless and the sloth has disappeared” (Boisrobert and Rigaud). A man standing at the bottom of a tree-shape object on the right-hand page is spreading seeds. The tree trunk is connected to white shoots whose downward growth suggests impotence. However, the moment the reader pulls down the tab/the trunk, the barren, monotonous scene suddenly gives way to an upbeat picture: rows of green shoots sprout from the slots.

The pull-tab device in *Forest* is materialistically significant in two aspects: it dictates the beholder’s reading performance and it initiates the reader’s conservation move. Speaking of things’ scriptive ability, Bernstein notes that things script performance through “orders”—“*determined* actions that are necessary for a thing to function” (“Dances” 71; emphasis in original). For instance, to “use an English-language, printed book as a book, one must open the covers and read words from left to right” (71). Readers are free to take alternative moves, except that the actions thus taken redesignate the book’s function as something else. In the case of *Forest*, the beholder is compelled to pull the tab to both obtain the missing part of the image and to continue the narration; otherwise, the luscious forest popping up on the next spread lacks a logical explanation. In terms of environmental protection, the pull-tab mechanism directs the reader to take an active role that is contrary to the sloth’s indifference. The man and the sloth look similar in terms of the silhouette image and the honey brown color, but their attitudes are opposite: the sloth is inert, whereas the man takes action. When the reader moves the book’s physical figuration, s/he is symbolically assuming the man’s role and carrying out the rehabilitation work.

***Robots: Watch Out, Water About!* A Toy Story and a Story of a Child’s Play**

Robots is a pop-up work by Philippe UG (1958-), originally named Philippe Huger, who has been creating movable/pop-up books since 1992. An experienced and ingenious paper engineer, UG creates works that are graphically distinctive in their clean cuts, angles, geometric shapes, large patches of color, fantasy settings, and variable compositions which convey a sense of liveliness.¹¹ In this short

¹¹ The illustration on the third spread, for instance, shows three robots hopping on three separate vehicles, at such a high velocity that it looks as if they were riding on ambulances. Here Philippe UG meticulously arranges the three cars on a diagonal line, which not only makes the image more powerful and adds variation to the picture’s composition, but also echoes the urgency conveyed in the verbal text.

rhyming story, UG tells the plight of a hapless animated robot who is damaged by rain. Fortunately, the rusty robot manages to find the “iron doctor” in time and rushes to the doctor’s clinic for repairs. After inspection, repairs are quickly made to the robot’s body: the turbine fixed, the hose attached, plugs connected, gears back on track. Afterwards, the robot hops into the cyclotron for a final, quick spin. When the robot walks out of the doctor’s office, he feels “as good as new again,” quite to the robot’s and the child owner’s satisfaction (UG).

In terms of the book format, *Robots* is relatively small—only a half A4 paper size. Graphically, the illustrations are dominated by geometric shapes and large patches of color. Textually, the story is told in language consisting of onomatopoeia, exclamation marks, and conversational short sentences, rather than a sustained narration. The text, in addition, is laid out variously on the pages, often in curving lines. All these features render the book easily accessible, deceptively simple, and spuriously childlike, thus explaining, perhaps, Steven Engelfried’s dismissal of the book as lacking a “real story behind the base idea of robots in need of repair.” The story line may be short and easy, yet I argue that the pop-up *Robots* is at once a toy story and a child’s play. The book addresses the issue of materiality through the geometric shapes, such as circles, squares, triangles, rectangles, and hexagons. Unlike organic shapes that imitate the curves of the natural world, these shapes are artificial and thus underscore the robot’s materiality. The book also depicts a child’s play through the change of narrative perspective and the illness trope.

The plot of this story is framed in a story-within-the-story structure and progresses briskly. The verbal text of the frame story begins with a voice-over narrator noting the rain outside and how robots find such a rainy day disagreeable. On the second spread, a robot is already damaged by the water. The narrative perspective changes on the third spread, where the fantasy story-within-the-story begins. Here the text, “Hello Iron Doctor? We need your help without delay” pertains to a Mayday sort of phone call (UG). While the addressee is undoubtedly the iron doctor, the caller’s identity is left to the reader’s guess: it could be one of the robots or the robot’s owner. On this same spread, the narrative of the next line is taken over by a first-person narrator who refers to the automaton as “*My* robot” (UG; emphasis added), suggesting that the narrator is the robot’s owner—very likely a boy. But once the page is turned, the narrative perspective shifts again. Now the narration is dominated by the child narrator’s robot who imparts in the first-person narrative his malfunctions to the doctor and requires examination. The next two spreads introduce the reader to inspection scenes, where the narrative resumes the third-person narration, presumably told by the robot’s child owner. Here the narrator reports the robot’s inspection process by describing the noises produced. After the robot has been repaired, the narrator expresses joy over the toy’s recovery:

“We’re both delighted he’s back on” (UG; emphasis added).

Robots is a toy story. Like other toy narratives, the book depicts the close companionship between the child owner and his/her playthings; in addition, it also tells how a robot toy object asserts himself as a thing. In this story, before the robot is stained with water, it functions only as a child’s toy, a mere object. It is at the moment when the robot gets rusty—“His bolts grind and clink. His lights flicker and blink” (UG)—that the robot/toy begins to assert himself as a thing, thus changing his relation to the human child. The material elements of things elaborated by Brown offer an opportunity to reassess our existing understanding of the child-book relation. When a book as a thing declares its presence in front of the child, such as when part of a page suddenly pops up at the reader or produces a noise to reveal its materiality, the boundary between person and thing is upset.

The ambiguous identity of the narrator and the interchange of perspective between I/we in *Robots* further implicates the child’s relationship with his/her toy/plaything. Lois Rostow Kuznets in discussing the form of toy narratives notices “the nature of verbal play in toy dialogue” (2): “it frequently depends on ‘naïve’ punning or literal misreadings of figurative language, significant in calling into question conventional notions of the relation between language and ‘reality,’ signifier and signified” (2). In *Robots*, when the narrative perspective moves between the robot and the child owner, it suggests that the robot is the character with whom the human child identifies, which in turn raises two issues. Firstly, when the child considers the toy/plaything part of him or her, the boundaries that separate self/other, subject/object, and humanity/materiality are called into question. Readers, while reading through the book, are required to contemplate these blurred dividing lines. Secondly, as Kuznets notes, “toys play out anxieties about violent mutilation, deformity, and rejection by loved ones and reveal the anger and depression that pervades the survivors of such suffering” (2). In the story, the robot’s dreadful vulnerability embodies the human child’s anxiety over existential concerns. The illness-related settings that expand into four consecutive spreads (more than half of the book’s length)—from car racing, the clinic scene, to the inspection room—further display the child’s unarticulated deep worry. In terms of the verbal text, interjections interspersed among the sentences such as “Too late! He’s starting to rust!” “Hop!” and “My robot’s as good as new again!” (UG), reflect the narrator’s emotions. Short sentences that dominate the text also convey a sense of emergency and urgency.

Robots, in addition to being a toy story, can be read as a child’s playing with the toys. Speaking of child’s play in the context of material culture, Bernstein points out that “[c]hildren’s play is simultaneously compliant and unruly. It is not sim-

plistically resistant; rather, it is creative, symptomatic, anarchic, ritualistic, reiterative, and most of all, culturally productive" ("Toys" 460). Seeing *Robots* this way further highlights the scriptive nature of the book because, while it broadly structures a performance, it simultaneously allows for the unleashing of live variation that is not predictable. To expose the toys to rain is never a socially sanctioned way of playing with robots, but the child owner in the book recklessly does it anyway. This "adaptive" play initiates, nevertheless, the extensive "robot seeing doctor" plot in the book. The car-racing scene in the third spread resembles the ambulance running through the streets in real life. The iron doctor scene in the fourth spread mimics the human clinic. In this spread, the white background and the red-cross sign shown on the top right corner of the page, on the one hand, suggest that the reader is entering a clinic/operating room; different-sized hexagons and various types of wrenches scattered around the space, on the other hand, remind the reader of a human surgeon's scalpels. The inspection scenes on the next two spreads imitate the operating room of the hospital. These illness-related plots all imply that the invisible child narrator might be playing the seeing doctor game, using the pop-up book as the material to act out his or her anxieties and fear.

In terms of the pop-up devices, UG employs a number of creative designs that address the robot's materiality. The first of these is the "noise maker" appearing in the first inspection scene. In this spread, when the pop-up moves, it ensues the gears' spinning, and a noise is then heard. Speaking of the noise, it is interesting to note that the sound does not come from the gears per se, but the gray tube on the right page. According to Carter and Diaz, the concept behind the noise maker is similar to the situation in which one runs the fingernail along the teeth of a comb ("Figure 14"). In *Robots*, when the purple strap attached to the right bottom of the tube grates against a slot in the tube through which it protrudes, the rasping noise is produced.¹² Another pop-up design that creates the robots' sturdy materialistic image concerns the "180° Tube Post Armature," which can be observed in the first two-page opening where eight colorful robots of different heights standing in three parallel rows are erected high above the pages when the pop-up is moved. All of the robots look strong, rigid, even somewhat formidable, a visual sensation that is achieved through the usage of the tube concept. As Carter and Diaz indicate, this design "adds structural strength and transfers kinetic energy from the center fold to the extremities of the pop-up" ("Figure 6"). A more daunting robot image

¹² "Tube" in pop-up design refers to "a folded structure with a hollow center that creates *strength and rigidity*" (Carter and Diaz, "Glossary of Terms"; emphases added). Acoustic mechanisms of this sort, according to Boyce, are "an old favourite with paper-engineers who have found the combination of creating form with sound very rewarding" (253).

appears on the last spread, where the reinvigorated robot mounts on the page. Though the story ends with a happy note, suggesting that the child and the automaton are inseparable, a close measurement of the robot's size on this spread reveals that this automaton now has a height one and a half times the book's length, and is taller and materialistically more solid and stronger. Seeing such a robust robot, one cannot help but wonder whether the child and his robot toy have combined into a new entity and new species, or whether there could be one day when automata take on a life that outlasts human life!

Book as a Collectible Thing: *The Wonderful Wizard of Oz: A Commemorative Pop-Up*

To commemorate the 100th anniversary of the publication of L. Frank Baum's *The Wonderful Wizard of Oz* (1900), America's leading and critically acclaimed paper engineer, Robert Sabuda (1956-), in 2000 created a pop-up version of Dorothy's adventures in Oz, with pictorial depictions imitating the style of W. W. Denslow's original art. In this commemorative pop-up, Sabuda presents the story over seven elaborate, ambitious, and well-engineered pop-up spreads. Each large pop-up spread features one essential and memorable scene from the novel, including the whirling cyclone that carries Dorothy and Toto to the Land of Oz, the fall of Dorothy's house that kills the Wicked Witch of the East, the seductive poppy field that hypnotizes Dorothy's travelling members made of flesh, the grandiose Emerald City beaming in green, the castle where the Wicked Witch of the West dwells, the big green balloon that takes the humbug wizard out of the country, and Glinda's chamber where Dorothy's wish of going back home is granted. The colorful holographic foil, selectively touched on certain images in each spread, such as the yellow brick road, the silver shoes, the emerald city, and the green balloon, further raises the contrast and vibrancy. In addition to the centerpiece artwork, there are also miniature booklets, transformed from the "gatefold" design, attached to the spreads. These mini-books, each composed of various numbers of smaller pages and arranged with different reading directions, contain not only text but also one or more pop-ups on nearly every smaller spread that make the story more complete. Although L. Frank Baum's *The Wonderful Wizard of Oz* was considered by some scholars as an "imperfect masterpiece" (Hastings 227), the "paper magician" of our time (Denice and Jean-Paul, "Robert Sabuda") has transformed the work into a paper craft masterpiece.

To claim that Sabuda's *Oz* is the most dazzling work among the pop-up books examined in this paper is by no means an exaggeration. Because of its resplendent

pop-up presentation, this three-dimensional and movable *Oz* is, as the book's back cover sales pitch indicates, "a classic collectable." The fact that the book is still in print, a longevity few other pop-up books enjoy, speaks of its popularity and desirability. A random survey of Amazon.com also shows that many adults purchase the pop-up *Oz* for a personal collection or a gift, rather than a book for a child to read. When a sense of longing is attached to the pop-up *Oz* either due to the novel's classic status or to Sabuda's spectacular paper engineering, the book ceases to remain a mere book, but becomes a thing that "has the capacity to symbolize the deepest human anxieties and aspirations" (I. Woodward vi). Things, according to Brown, are imagined as "what is excessive in objects, as what exceeds their mere materialization as objects or their mere utilization as objects—their force as a sensuous presence or as a metaphysical presence, the magic by which objects become values, fetishes, idols, and totems" (5). Seeing the pop-up *Oz* from this perspective, one can't help but wonder: what magic, what excessive values does Sabuda's *Oz* as a "thing" manifest?

Even though Sabuda's *Oz* is not a homomaterial replica of the childhood experience, many adult customers still purchase it as a souvenir. A souvenir, as Stewart contends, is by definition incomplete, and works merely as a sample "metonymic to the scene of its original appropriation" (136). The pop-up *Oz* is without a doubt partial, for it is a massively abridged edition. To the *Oz* novice, the information provided in the mini-booklets of this pop-up paves the road to visit the original; to fans of the Ozians, the three-dimensional cyclone that spirals up when unfolding the first spread elicits both surprise and old memories related to the fictional Land of Oz, be they the original novel, the 1939 MGM movie, or other *Oz* media. In regards to the supplementary narrative discourse that the souvenir generates, Stewart notes that "[t]he souvenir speaks to a context of origin through a language of longing" (135). But she also quickly points out that this narrative of origins, "narrative of interiority and authenticity," is about not the object but the possessor (136). For the readers who purchase Sabuda's pop-up *Oz* as a souvenir, the nostalgia concerns the possessor's individual experiences, but I argue that people's desire for this particular object may have something to do with Americans' collective memory. L. Frank Baum's *The Wonderful Wizard of Oz* is significant in several ways: many enthusiasts still embrace the view that it is the work "that introduced fantasy to American children's writing" (Hastings 227); for others, it is a "quintessential American fairy tale" (Hearn ci), "an idyllic, utopian vision of an idealized America," even "an intricate and unlikely allegory" (Hastings 227). So, with the concretization of the scenes in the Land of Oz and the materialization of the silver shoes that carry Dorothy back to her Kansas home, Sabuda's pop-up *Oz* helps readers articulate a narrative that "reconcil[e]s the disparity between interiority and exteriority,

subject and object, signifier and signified” (Stewart 136-37).

The pop-up *Oz*, in addition to serving as a souvenir, functions also as a collection. As Stewart observes, “the collection represents the total aestheticization of use value. The collection is a form of art, a form involving the reframing of objects within a world of attention and manipulation of context” (151). In the case of the pop-up *Oz*, the spinning devices and the paper engineering accomplished by Sabuda in this work all contribute to the work’s collectability. Sabuda made his debut in the pop-up world in 1994 with his first pop-up book, *The Christmas Alphabet*. Since then, this “King of Pops,” the “Prince of Pop-Up,” or “Mr. Pop-Up,” has raised the bar of paper-engineering techniques at every level (Denice and Jean-Paul, “Robert Sabuda”). Thanks to his constant innovation and high standard of paper construction, Sabuda is considered a successor to Lothar Meggendorfer and Ernest Nister, both of whom belong to a highly select band of children’s book makers in the nineteenth century (Sabuda 11). Among the various kinds of paper mechanisms, Sabuda has stated his personal fascination with “rotating and spinning paper,” (Denice and Jean-Paul, “Robert Sabuda”), a technique also manifested in the pop-up *Oz*. The first such design appears in the first spread, where a high-erecting tornado consisting of two carved-out planes that cross each other, a cotton string attached to the house, and a plastic rod that supports the planes, spins on its axis and tears across the grey Kansas prairie. The scene depicting the Wizard of Oz floating in a balloon highlights another rotating technique. Here a glamorous and radiant giant green balloon bulges, spins, and even slightly rises up when the pages are widely spread out. The spinning device, or “diabolo” as it was originally called, is a diversion of the “turn” technique, one of the five major movable mechanisms.¹³ The earliest example of the diabolo device appeared in the *Daily Express Children’s Annual No. 2* published in 1930 by The Lane Publications in London. By making the paper rotate and spin, Sabuda in his 2000 *Oz* not only revives an old technique but also continues its legacy.

Conclusion

By foregrounding the material aspects of pop-up books, this paper is a response to Bernstein’s call to reconsider children’s literature through the integration of material culture and play (Bernstein, “Toys” 459). As Bernstein states, only when

¹³ Turning devices, such as illustrated volvelles or wheels that are superimposed on the surface of a page, are of the earliest movable mechanisms. Four other devices—lip, layer, pull, and fold, listed in chronological order of their invention—were developed later.

material culture and play are taken seriously by children's literature scholars do "we align our understanding of children's literature with historical reality"—the historical fact that the union of literature and material culture has defined children's literature since the beginning—and highlight the uniqueness of children's literature (460). But even if this characteristic of children's literature persists, its content has nevertheless changed over time. Calvert points out that, "[a]s basic cultural assumptions change over time, the artifacts associated with those assumptions lose their usefulness and disappear or undergo modification, and new forms are introduced to meet new needs" (6). Besides, "[t]he different intentions suggest very different attitudes toward the needs and best interests of the child" (7). When John Newbery sold his first children's book *A Little Pretty Pocket-Book* as an "ensemble with balls and pincushions," the playthings enclosed were meant for instruction (Bernstein, "Toys" 458-59). Though it is unclear whether Robert Sayer's pamphlet-like movable books, with their split-page illustrations designed specifically for children, targeted ends similar to those of Newbery, there is no doubt that the material aspects of the three contemporary pop-up books examined in this paper have broadened to include other functions, such as promoting the child's agency, expressing the child's relation with toys, and reconnecting a person with his/her childhood.

Pop-up books are worth studying not simply because they are critically neglected, nor out of the need to make children's literature conceptions more flexible and inclusive, but because their materiality helps us theorize in more nuanced ways about how children can exercise agency. The fact that pop-up books are not only played with and adored by children but also cherished and collected by adults further connects the concept of child to other categorizations such as "adult" or "elderly." "[T]he kinship model of childhood," Marah Gubar proposes, is premised on the idea that "children and adults are akin to one another," that "they are separated by differences of degree, not of kind" (453). By featuring "relatedness, connection, and similarity" between children and adults, this model also helps to acknowledge that children, like adults, have agency, as the pop-up books discussed in this paper have manifested.

For too long, pop-up books have been seen as mere novelties. As Bernstein reminds us, the material aspects of children's literature should not be reductively understood as mere mass-produced commodities, and hence denigrated and abandoned ("Toys" 460). It is thus a form that deserves more critical attention. The ingenuity and efforts of paper engineers demand, likewise, more recognition and appreciation.

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從立體書看兒童文學與物質文化

摘要

本文透過立體書探討兒童文學與物質文化的關係，所探究問題包括立體書的文與圖，如何結合書本的物質特性—亦即可動裝置—指示兒童讀者展開閱讀？每本立體書各自特有的物質元素，又如何形塑與建構讀者對於環境、玩具等不同議題的認識，甚至變成可供收藏的紀念品？本文認為立體書乃探索物質文化之絕佳類型，因立體書相較其他書種，更能展現其物質性。立體書每一處彈起或可動裝置，目的都在吸引讀者，引發讀者回應。本文檢視三本立體書：《樹懶的森林》（英文版於2012年發行）、《機器人不喜歡下雨天》（英文版於2014年發行）、及《綠野仙蹤：立體書紀念版》（2000）。三本立體書均凸顯童書與物質文化的連結，但各書於主題、美學技巧、閱眾接受方式之不同，又使每本立體書展現的物質面向大異其趣。本文分成三部分，首先爬梳當代相關物質理論，接著簡述可動書/立體書之發展歷史，尤其與兒童之連結；第三部分逐本討論所選立體書，析論每本書的可動裝置、美學表現、物質元素。本文總結立體書應當受到更多學術關注，不僅因為其物質性可深化吾人對於兒童如何透過閱讀展現主體動能之討論，也因為紙藝師透過可動裝置展現的巧思與才華，值得更多掌聲與肯定。

關鍵字：兒童文學、立體書、物質文化、路易斯·里戈與阿努克·博伊斯羅伯特、菲利普UG、羅伯·薩布達