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The e-Volving Picturebook: Examining the Impact of New e-Media/Technologies On Its Form, Content and Function (And on the Child Reader)

Stella K. Reinhard
Virginia Commonwealth University

The *e*-Volving Picturebook:
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On Its Form, Content and Function
(And on the Child Reader)

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University.

by

Stella Kaufmann Reinhard
Ph.D. in Media, Art & Text, Virginia Commonwealth University, 2014
M.A. in Children's Literature, Hollins University, 2003
B.A., Greenville College, 1979

Director: Noreen C. Barnes, Ph.D.
Director of Graduate Studies & Associate Professor
Department of Theatre, VCUArts

Virginia Commonwealth University
Richmond, Virginia

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List of Abbreviations

App	Application software
BLOG	Web-Log
CD	Compact Disc for data storage, often used for digital audio files
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
DVD	Digital Video Disc, or digital versatile disc for data storage, often used for digital video files
e-Book	Electronic Book
e-Media	Electronic Media
4G	Fourth Generation mobile telecommunication technology
FTP	Federal Theatre Project, a 1930s federally funded part of President Franklin Roosevelt's second New Deal, one of five sections of Federal Project Number One of the WPA that employed, artists, musicians, actors, writers, and directors in large public arts, drama, media and literacy projects
IMDb	Internet Movie Database is an online database of information about films, television programs, and video games. It contains information about the involved actors, production crew, fictional characters, biographies, plot summaries, and historical and miscellaneous information about the productions
Indie	Independent, as an independent bookstore or independent film
iOS	Formerly *iPhone* OS, or mobile Operating System developed by Apple, Inc.
IUD	Internet Use Disorder, listed in Section Three of the DSM-5
IGD	Internet Gaming Disorder, listed in Section Three of the DSM-5
LED	Light-Emitting Diodes used in flat panel video display screens.

MMO	Massively Multi-player Online game
MMOG	Massively Multi-player Online Game (same as above)
MMORPG	Massively Multi-user On-line Role-Playing Game
MOO	MUD Object Oriented (see MUD)
MP3	MPEG-1 Audio Layer-3; MP3 is a popular compressed audio file format that made musical downloads much easier in the 1990s
MUD	Multi-User Dungeon or Domain
NEA	National Endowment for the Arts
OED	Oxford English Dictionary
PDA	Personal Digital Assistant
RPG	Role-Playing Games
3G	Third Generation of mobile telecommunication technology
UI	Mobile User Interface design, used when designing for mobile devices
USB	Universal Serial Bus interface) connection will dock with almost any computer. USB flash drives are small portable data storage drives with a USB incorporated connection
VLOG	Video-Log
Wi-Fi	Local area Wire-less Fidelity, requires connection through “hot-spot” access point
WPA	Works Progress Administration (later, Works Projects Administration), part of U.S. President Franklin Roosevelt’s New Deal in the 1930s to combat the Great Depression by employing millions of unemployed to complete public works projects

Abstract

THE E-VOLVING PICTUREBOOK: EXAMINING THE IMPACT OF E-MEDIA/TECHNOLOGIES ON THE FORM, CONTENT AND FUNCTION OF [PUBLISHED] CHILDREN'S NARRATIVE AND ON THE CHILD READER

By Stella Kaufmann Reinhard

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

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Major Director: Noreen C. Barnes, Ph.D., Associate Professor, Director of Graduate Studies, Theatre, VCUArts

The technology of the codex book and the habit of reading appear to be under attack currently for a variety of reasons explored in the Introduction of this Dissertation. One natural response to attack is a resulting effort to adapt in a bid to survive. Noël Carroll, leading American philosopher in the contemporary philosophy of art, touches on this concept in his discussion of the evolution of a new medium in his article, "Medium Specificity Arguments and Self-Consciously Invented Arts: Film, Video, and Photography," from his Cambridge University Press 1996 text, Theorizing the Moving Image. Carroll proposes that any new medium undergoes phases of development (and I include new technology under that umbrella)). After examining Carroll's theory this Dissertation attempts to apply it to the Children's Picturebook Field, exploring the hypothesis that the published children's narrative does evolve, has already evolved historically in response to other mediums/technologies, and is currently "*e*-volving" in response to emerging "*e*-media." This discussion examines ways new media (particularly

emerging e-media) affect the published children's narrative form, content, and function (with primary focus on the picturebook form), and includes some examination of the response of the child reader to those changes. Chapter One explores the formation of the question, its value, and reviews available literature. Chapter Two compares the effects of an older sub-genre, the paper-engineered picturebook, with those of emerging e-picturebooks. Chapter Three compares the Twentieth Century Artist's Book to picturebooks created by select past and current picturebook creators. Chapter Four first considers the shifting cultural mindset of Western Culture from a linear, word-based outlook to the non-linear, more visual approach fostered by the World Wide Web and supporting "screen" technologies; then identifies and examines current changes in form, content and function of the designed picturebooks that are developing "on the page" within the constraints of the codex book format. The Dissertation concludes with a review of Leonard Shlain's 1998 text, The Alphabet Versus the Goddess: The Conflict Between Word and Image, using it as a departure point for final observations regarding unique strengths of the children's picturebook as a learning tool for young children.

PART ONE

Gutenberg's Printing Press[1] Gives Way to the Computer Chip[2]: *Introducing the Research*

[NOTE: All hyperlinks are operational as of date of publication. As hyperlink addresses can change frequently for various reasons, if a problem with a link occurs, searching YouTube or the Web by video title could find the video which may still exist under the same title at a different address.]

[1] Figure 1.1. Jost Ammon's 1568 Woodcut of Early Printing Press. (Ammon from Megg 64).

[2] Figure 1.2. Motherboard or Microchip Close-up (http://www.123rf.com/photo_4496568_macro-view-of-computer-circuits--motherboard-or-microchip-closeup.html).

INTRODUCTION

Identifying and Presenting the Discussion

. . . the place of writing is again in turmoil, roiled now not by the invention of print books but the emergence of electronic literature. Just as the history of print literature is deeply bound up with the evolution of book technology as it built on wave after wave of technical innovations, so the history of electronic literature is entwined with the evolution of digital computers . . . .

– Katherine N. Hayles[3] –

Technology shapes the growing mind. The younger the mind, the more malleable it is. The younger the technology, the more unproven it is. We enthusiastically expose our youngsters to new digital teachers and playmates, but we also express concern about the development of their brains, bodies, and spirits. Shouldn't we consider carefully the potential—and irrevocable—effects of this new electronic interface with childhood?

– Jane M. Healy[4]–

Eventually, ***everything*** *connects.*

– Charles Eames –

I.1. Are Books a Technology Under Attack?

The year was 1969 when Pulitzer-Prize winning novelist John Updike traveled to England to address the Bristol Literary Society, making headlines with his now famous pronouncement concerning "the death of the novel" (Gravett GN 8). Four decades have passed since that obituary, and the novel appears to have survived thus far, helped, one might expect, by mega-bookstores like Barnes & Noble with their incorporation of coffee shops and easy chairs into the décor of their stores, in an attempt to make their shops hip and comfortable—a place to linger, a destination, even a date location. Yet despite the enticements of mega-bookstores, ever

[3] (EL 2).

[4] (FTC, 17).

more authors, scholars, teachers, and parents continue to discuss the potentially impending death of the book or of reading. And publishers in the Children's Publishing field are increasingly concerned with the potential "death" of the children's book. One reason for this concern is that, whether picture book or young adult novel, the competition for the child's attention is increasingly fierce, with numerous assorted new media contending for the potential child reader's attention.

Several studies recently have begun to report dramatic declines among both adults and children in reading and reading comprehension levels. Back in 2007, the National Endowment for the Arts released a wake-up call with perhaps the most comprehensive analysis to date (and it remains their most updated study at publication date), *To Read or Not To Read: A Question of National Consequence,* focused on reading levels and patterns in the United States.[5] This analysis differed from a previous 2005 study in that it included children and young adults as well as adults in the study, whereas the previous study tracked only adults. This newer study also tried to recognize and incorporate more types of reading into the data. The analysis gathered statistics from more than 40 studies on the reading habits and skill levels of children, teenagers and adults. "When one assembles data from disparate sources, the results often present contradictions," explained NEA Chairman, David Gioia, "This is not the case with *To Read or Not to Read.* Here the results are startling in their consistency. All of the data combine to tell the same story about American reading the story the data tell is simple, consistent, and alarming "http://arts.gov/sites/default/files/ToRead_ ExecSum.pdf).

[5] To offer an idea of its breadth, and how it was able to assess reading data from such a long period of examined time, in its Preface, NEA Chairman Gioia stated that the study "relies on the most accurate data available, which consists of large, national studies conducted on a regular basis by U.S. federal agencies, supplemented by academic, foundation, and business surveys . . . ," and that such research demands "formidable resources and a commitment from an organization to collect data consistently over many years, which is the only valid way to measure both short and long-term trends. Few organizations outside the federal government can manage such a . . . task.' By comparison,' he explains, "most private-sector or media surveys involve quick and isolated polls conducted with a minimal sample size" (http://arts.gov/sites/default/files/ToRead_ ExecSum.pdf).

Some of the key findings of this study include: **(1) Americans are reading less.** "Although there has been measurable progress in . . . reading ability at the elementary school level," Gioia stated, "all progress appears to halt as children enter their teenage years. There is a general decline in reading among teenage and adult Americans." Less than a third of 13-year-olds read daily, a decline of *fourteen percent* from twenty years earlier. Among 17-year-olds the percentage of non-readers *doubled* from nine to nineteen percent over twenty years. Overall, Americans ages fifteen to 24 watch television about two to two and a half hours daily compared to spending just seven minutes reading for pleasure. "There is a general decline in reading among teenage and adult Americans. Most alarming, both reading ability and the habit of regular reading have greatly declined among college graduates," observes Gioia. **(2) In addition, the statistics demonstrate that Americans are reading less *well***. Reading scores continue to decline, especially among teenagers and young males (In contrast, some pools of younger readers still seem to be improving as readers; i.e., nine-year-olds for example, improved). Reading scores for twelfth-grade readers fell sharply between 1992 and 2005, especially among lower-level readers. The data shows that children and teenagers, as well as adults, are scoring less well on reading comprehension tests.

While there have already been discussions over the details of this study, and whether or not it correctly assesses all types of reading, this study tried hard to fix some of the problems with an earlier 2005 study. Common sense dictates that, if these dramatic trends continue, there could be a huge long-term impact not only on the child readers, but on the children's book industry as well, as children and young adults increasingly fulfill their narrative needs with television, DVDS, cell-phones, *e*-reading devices and computer tablets, as well as other emerging technologies. These results could also have an impact on society at large, as the study

clearly shows that literary readers as opposed to non-readers are more than twice as likely to be civically involved by volunteering or working for charities, while 84% of proficient readers in the study voted in the 2000 presidential election as compared to 53% of below-basic readers. Proficient readers are also significantly more likely to finish high school, much less likely to end up in prison, and are much more likely to hold rewarding jobs, among other indicators. "*To Read or Not To Read* is not an elegy for the bygone days of print culture . . . . If, at the current pace, America continues to lose the habit of regular reading, the nation will suffer substantial economic, social, and civic setbacks" concluded Gioia (http://www.nea.gov/news/news07/TRNR.html, 7-20).

Such a huge percentage drop in readers, using data that, as was indicated in the Study from the National Endowment of the Arts, might be leaving some evidence elsewhere in our society, such as when one examines the state of bookstores today in the United States. Independent bookstores are closing across the country, and, those mega-bookstores and mega-bookstore chains still existing *appear* on the surface to be thriving, that is not the actual case, as will be clarified later, This surface gloss is due, no doubt, to the creative strategies touched on earlier, as well as aggressive marketing strategies such as offering customers the ability to order books on-line; the use of discount cards; selling music, DVDs and other items in addition to books; and bookstores' attempts to tap into the digital book-reader market with devices such as the *Kindle*, or Sony Readers, as well as the growing market for *e*-books. Since the mid-1980s, Barnes & Noble commenced publishing their own editions of classic out-of-copyright books, expanding their publishing capabilities by purchasing how-to publisher, Sterling Publishing in 2003. They publish under the imprints, Barnes & Noble Classics (in hardcover), and the later

Barnes & Noble Library of Essential Reading (mass-market paperback). They also opened up university bookstores across the country. Whatever one's judgment of mega-bookstores, one cannot accuse Barnes & Noble of not making a concerted effort to identify and fill market niches.

Unfortunately for print bookstores like Barnes & Noble, Amazon.com (launched in 1994) as an on-line retailer of books (adding Amazon Marketplace in 2000, a truly innovative business model that allows third-party sellers, including consumers, to market their own merchandise, new or used, alongside merchandise offered by independent merchants through the Amazon business model), grabbed a large share of the on-line book ordering industry[6] before major bookstore Barnes & Noble entered that market with its own on-line store in 1999.[7]

In addition, the emergence of dedicated *e*-readers was challenged the very same year that the first *Kindle* reader was launched by Amazon in 2007 (quickly gaining market dominance of the *e*-reader market);[8] for in late July of 2007 Apple launched the first *iPhone* and in September 05, 2007 released the first *iPod*,[9] that provided yet more major forms of competition for the

[6] Amazon expanded to all types of merchandise, added Amazon Marketplace and added *e*-books as they became available. In 2011, they introduced the *Kindle Fire*, their offering to the computer tablet market, and, in 2011, they launched *Kindle Fire*, their Droid-operated mobile phone (http://phx.corporate-ir.net/phoenix.zhtml?c= 176060&p=irol-corporateTimeline)

[7] Barnes & Noble had tested selling books on-line since the late1980s, according to its own website, "in an early generation venue called *Trintex*, a joint venture between Sears and IBM. In the mid-1990s, it sold books on CompuServe" (http://www.barnesandnobleinc.com/our_company/history/bn_history.html).

[8] The *Kindle* was not the first, but it was the one that tipped the scales in favor of *e*-readers as opposed to print books. *Rocket eBook*, among others, was introduced about 1998, but none of them gained broad market attention. Formation of the E Ink Corporation in 1997 led to the development of electronic paper, allowing screens to appear like paper, with no need for a backlight such as led screens use. The first *e*-reader to incorporate electronic paper was the 2004 release of the Sony *Librie*. However, Amazon's *Kindle* grabbed 55% of the e-reader market by 2012 (http://www.forbes.com/sites/jeremygreenfield/2013/10/30/kindle-most-popular-device-for-ebooks-beating-out-ipad-tablets-on-the-rise/).

[9] The *iPod Touch*, a later version, was released in 2012. It is Apple, Inc.'s touch-screen, multi-purpose pocket computer that can be used to play and store music or video, or be used as an *e*-reader. It also has an in-built camera, and is a PDA (personal digital assistant). Since it connects to the Web via *Wi-Fi*, it is not a smartphone (https://www.apple.com/ipod-touch/).

printed book. Josh Catone noted these new challenges, in his article on *Read Write Web* entitled, "Is the iPhone the Ultimate eBook Reader?" quoted a comment the late Steve Jobs[10] made in 2008, not long after the launch of the *iPhone* and the *iPod:*

> "People don't read anymore," said Steve Jobs . . . . Try telling that to users of his company's iPhone and iPod Touch devices, many of whom seem to be using the device as an eBook reader. Our network blog last100 theorized that what Jobs' really meant was, who needs the Amazon Kindle when you've got an iPhone that does a lot more? ". . . The TextOnPhone app launched last August . . . . (http://www.readwriteweb.com/archives/is_the_iphone_the_ultimate_ebook_reader.php).

Note that the *TextOnPhone* application launched at the same time as the *Kindle*, the *iPhone* and the *iPod touch* were launched. Figure 1.3 shows the *iPhone* displaying an online reading application in horizontal mode (The *iPhone* was the first smart phone to maximize screen size to encompass the entire phone area by exchanging the key pad for a larger multi-touch screen. They also made reading possible using the wider dimension or horizontal orientation of the screen. Reading applications for the *iPhone* allowing other types of reading, such as newspapers

Figure 1.3.

complete with color images and headlines, graphic novels and comic books, and now e-picturebook applications have been introduced as well). Additional competition was launched by Apple, Inc., with their release of the *iPad* in 2010. These three Apple devices, the *iPod*

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[10] Steve Jobs passed away in 2011.

Touch, *iPad*, as well as the *iPhone*, as Catone observed, have been quickly adopted as *e*-reading devices, in addition to all of the other applications they can handle—and this has proven stiff competition for the emerging *e*-readers, that were still in their infancy and striving to gain the public's attention and a significant market share, especially as other competitive brands have subsequently launched their own versions of these products.[11]

Reading on an *iPhone* (and similar touch-screen smart phones) has taken off in recent years, actually, and the viewpoint expressed in the above quote reflects several comments this writer heard while attending the 7th Annual International Conference on the Book held at the University of Edinburgh, in Edinburgh, Scotland in October of 2009, just two years after the *Kindle* reader and the *iPhone* were introduced (http://2009.booksandpublishing.com/). Multiple attendees at that conference revealed that they were *already* using their *Blackberries* or *iPhone*s as digital readers, rather than using *Kindle*s or other larger reading devices, although those also had some users at the conference. What is their reasoning? *iPhone*s are more versatile—they can be used for so much more than a *Kindle* reading device. When questioned about the ease of reading on such miniscule screens, users replied that the *iPhone* (and more recently, *Android* smart phones using similar touch-screen technology) allowed for using the wider horizontal screen as shown in Figure 2 and was the general favorite as a reading device because of that particular feature, as well as because of the fact that one tends to take the small devices everywhere anyway for communication and safety reasons. They always had their "book" with them. This can be a negative factor for *e*-book providers, as Jeremy Greenfield wrote in October of 2013 for Forbes.com, observing, "unlike dedicated ebook reading devices, which are mostly

[11] Manufacturers of *e*-readers have since begun to release multi-use, touch-screen versions that approximate Apple product capabilities, such as Amazon's 2011 *Kindle Fire*, and their maiden Android-like platform phone, the *Kindle Fire OS* launched in June of 2014 (http://thenextweb.com/gadgets/2014/06/18/amazon-revealed-long-awaited-smartphone/).

(if not only) built for ebooks, tablets [and smart phones] are used for myriad other things, mostly media consumption aside from reading" (http://www.forbes.com/ sites/Jeremy greenfield/2013/10/30/kindle-most-popular-device-for-ebooks-beating-out-ipad-tablets-on-the-rise/). This highlights the fact that those who purchase *e*-readers purchase *e*-books as well. Those who purchase smart phones or computer tablets may or may not have done so to be able to use them as reading devices, but they *will* do a multitude of other activities on them as well, and may *never* purchase an *e*-book. This can be a negative for parents as well as *e*-book manufacturers. If one purchases a computer tablet (such as the *iPad* or *Kindle Fire*) as an *e*-reader, hoping to encourage the reading habit with one's children, for example, there is no guarantee that the child will be reading, due to all of the Internet's distractions, as well as the distractions of the fun, quirky applications available for download (and some of these downloadable applications are free of charge or just charge a nominal fee such as 99 cents).

In addition to reading books from online devices, increasing numbers of readers now download their books for their MP3 players to "read" (i.e., listen to) while working out or driving. Websites such as Project Gutenberg and its affiliate sites offer at least 100,000 free, out-of-copyright books as of this editing (October 2013). And Google has entered this scene in a big way. As Sam Kornell reports in his 2009 newspaper article, "The Uncertain Fate of Independent Bookstores," from *The Santa Barbara Independent*, "In 2004, Google began scanning books from libraries all around the world, and making the texts available, for free, on the Internet. It has now scanned more than seven million books. At some point in the relatively near future, Googlebooks.com could become the largest library—and the largest bookstore—in the world" (http://www.independent.com/news/2009/feb/12/uncertain-fate-independent-bookstores/). Then in 2010, Google announced that it planned to scan all of the books in the world before the end of

the decade. Just how many books would such a feat encompass? About "129,864,880, according to Leonid Taycher, a Google software engineer who works on the Google Books project" (http://www.pcworld.com/article/202803/google_129_million_different_books_ have_been_published.html). Many libraries around the world are cooperating on this Google project, but it is the books that are still in copyright that have posed some legal problems for Google. About twenty percent of the world's volumes are in the public domain, and about ten to fifteen percent are in print. The rest are still under copyright, but are not in print according to Google Books engineering manager Jon Orwant at the USENIX Annual Technical Conference in Boston in 2010 (Ibid.). While there are some legal issues with this project, there are also research opportunities. However, ready access to so many free out of copyright books could limit many readers' desire or need to purchase books at full price at a bookstore.

Physical mega-bookstores are put at risk by sites such as Amazon.com that sell new and used books at a discount. It has become incredibly easy to search for any book, new or old, on-line at *Amazon* or *Abe Books* or *Alibris.com*, saving time and gas and trips to the local bookstore, however much one enjoys such forays. And independent bookstores, too, are increasingly at risk from this method of book shopping, as well as from pressure of all the rest of the above factors. As Sam Kornell observes in the same article,

> The prices these online sellers get can be astonishingly cheap: I just typed "Hamlet" into Amazon's book search and came back with a low price of $1.20, plus shipping. How can bookstores compete with $1.20?
>
> The answer appears to be that they can't. For months, iconic bookstores across the country have been shutting down—Dalton's in L.A., Robin's in Philadelphia, Olsson's in Washington, D.C. Even the mighty Powell's, of Portland, Oregon, is in financial trouble. And the chains are faltering as well. Borders may be near bankruptcy, and Barnes & Noble's shares have been plummeting, even as it has lain off hundreds of corporate employees. Among publishing houses, the crisis is even more pronounced. And although some of the bloodletting is ascribable to the recession, the problems in the book business long predate 2008 (http://www. independent.com/news/ 2009/feb/12/uncertain-fate-independent-bookstores/).

Barnes and Noble was one of the companies first threatened by Amazon's on-line book marketing. As Douglas McIntyre and Alexander Hess reported for *USA Today* in March of 2014, "Online retailers, Amazon.com chief among them, accounted for 44% of book sales in 2012 according to Bowker, a bookseller consultancy. Many of these sales came at Barnes & Noble's expense, as the company's own *e*-book business has languished" (http://www.usatoday.com/story/ money/business/2014/03/12/retailers-store-closings/6333865/).

So, to finally address the question about the true state of even the mega-bookstores: In fact, Borders filed for Chapter 11 bankruptcy protection in February of 2011 (http://www.publishersweekly.com/pw/by-topic/industry-news/bookselling/article/57125-borders-bankruptcy-continues-to-cause-pain.html)]. And national bookseller mega-store, Barnes & Noble, early in 2013, "announced plans to shut a third of its stores over the next 10 years . . . . Particularly painful for many book-lovers, the retailer chose to close its one-time flagship store in NewYork City this January. While cost-cutting has helped the company post profits, by some measures the company's prognosis remains bleak. Book retail has increasingly shifted to online and *e*-books, dominated by Amazon.com" (McIntyre and Hess http://www.usatoday.com/story/money/business/2014/03/12 /retailers-store-closings/6333865/>).

Perhaps not surprisingly, the closing of Borders bookstores nationwide may have encouraged a bounce-back effect for some independent book sellers. Andrew Leonard reports on this effect in his April 4, 2014 article for Salon.com titled "The Independent Bookstore Lives! Why Amazon's Conquest Will Never Be Complete." In the article, Leonard tells readers, "According to the American Booksellers Association, since hitting a nadir in 2009, the number of indie bookstores [i.e., independent bookstores] in the U.S. has grown 19.3 percent, from 1,651 to 1,971. The current total is less than half the 1990s peak of around 4,000." To what does

Leonard attribute this increase? "The collapse of Borders in 2011 is one big piece of the puzzle. (Removing a dominant carnivore from the savannah gives all the other animals a little more breathing room.) The end of the recession also contributed to a more nurturing economic environment." Leonard believes there is more to the story, however. He states that there is increasing evidence that "the same digital transformation that has so dramatically reshaped the publishing industry, and driven millions of consumers online, also paradoxically rewards locally rooted authenticity. Our digital tools are steering us toward brick-and-mortar stores that promise a more satisfactory consumer experience than either chain stores or online emporiums can provide." Orin Teicher, CEO of the American Booksellers Association, is quoted as identifying possible reasons for the newly opening independent bookstores in the last couple of years. "Bookstore owners have become adept at taking advantage of new technology to connect to customers. Publishers are more willing to collaborate in innovative ways with bookstores to boost sales." However, Teicher thinks a more important reason may be the localism movement in the United States: "'The localism movement in America is real,' says Teicher. 'The data is now indisputable: There are millions of American consumers making decisions every day to shop at a locally owned independent business.'" (http://www.salon.com/2014/04/04 /the_independent_bookstore_lives_ why_amazons_conquest_will_never_be_complete/). The *Open Education Database*, in an October 29, 2012 report titled, "12 Stats on the State of American Bookstores Today," offers a couple of other potential reasons that the landscape is not completely bleak for today's bookstores, "Others have . . . found ways to make the service and selection at a small store more desirable, giving customers something that big-box stores and online retailers simply can't. There's also been a significant shift into niche markets. Some have begun to offer classes, cater to specific demographics . . . ." Still, despite this slight upsurge in

the number of independent bookstores, the Database reports that "Over a seven-year period, more than 1,000 bookstores closed down for good. Since 2007, hundreds more have closed, including more than 600 Borders stores" (http://oedb.org/ilibrarian/12-stats-on-the-state-of-bookstores-in-america-today/).

One last applicable factor should be addressed here—the demographics of, and particularly the age of the average book purchaser. The *Open Education Database* reports:

> The largest demographics for book buyers are as follows: aged 45 to 64, high income, married, residing in the western USA, and college graduate. Customers with a college degree make up 57% of the book buying market and spend twice as much as other customers, with those holding a graduate degree spending 156% more than the national average on books. Middle-aged consumers spend the most on books, shelling out 28 to 33% more than other demographics" (http://oedb.org/ ilibrarian/12-stats-on-the-state-of-bookstores-in-america-today/).

So the affluence of those purchasing books is important. This is not surprising, because books could be seen as a luxury item upon which disposable income is spent after one's food, shelter, health and future savings are addressed. Being married matters, and the presence of children could be a strong factor in that demographic. Also, the age of between 45 and 64 is a significant factor. The report goes on to state that those between 18 and 24 and over 65 spend the least amount on books. As to those over 65, it is clear that a person's disposable income diminishes as one lives on a fixed retirement, and that health could be a factor in decreasing readership at that age. But the loss of readers between 18 and 24 could be a notable factor to keep an eye on regarding the future health of books in general, and not just the printed ones. If the generation just emerging from colleges and universities today have not developed to be serious readers, this factor could be a fatal blow from which the publishing industry could have difficulty recovering.

Still, as book sellers learn how to use online resources to market their presence, their books, and their services more effectively, they may learn to survive, and perhaps even thrive, at

least for awhile, despite the combined threats of online markets, virtual books, and a declining number of serious readers. But that does not discount the fact that the ubiquitous skill of reading, as well as the health of the publishing model that Western Culture has developed and depended on for centuries, are weathering serious problems at present For many reasons, some of which have been discussed here and others that will be discussed at a later point, the cultural skill and habit of reading traditional codex books is losing ground: People are reading less due to other media distractions; print book stores being challenged by on-line booksellers, digital books, and emerging *e*-readers; and multi-use smart phones and computer tablets have entered the market and can be used as reading devices, while also enticing with many other applications. While the reasons behind this cultural shift remain somewhat debatable, what is clear is that the printed book *is* currently undergoing a heavy challenge on many fronts that is likely to continue to strengthen.

I.2. CLARIFYING TERMS: Media, Medium, Mediums, and Technology

> *Throughout history, new technologies have altered the existing social order, economy, and power structure. 'Technology' is any tool or medium that helps people accomplish tasks or produce products more efficiently, and computers are only the latest in a long line of innovations—going back to axes and fire—that have changed the way humans interact with the world and each other.*[12]
>
> −Jane M. Healy –

With the previous thought in mind, before going further with the discussion, it is important to clarify the use of several terms. The terms, *media*, *medium*, *mediums* and *technology* will be used frequently throughout this Dissertation. The nuances of their definitions can often be confusing.

[12] (FTC 30, 31).

The word *media* has been used as an (irregular) plural form of this originally Latin term to refer to multiple communication technologies, or the mass communication technologies of television, radio and newspaper. However, for some time now, the term has been used widely to mean "the press," or news reporting agencies that are a part of those communication technologies (Today, one would have to include news web-logs, or blogs, in this group as well as any on-line news websites, and even the news as shared on some search engine home pages—note that all of these involve using online technologies, but are used to communicate news content). In the computer world, *media* is a collective noun that can refer to different types of data storage. In this Dissertation I will use the term *media* as a collective noun when referring to specifically some of the communication types of technologies, and will not be using it to mean either the press, news reporting agencies, or data storage.

Medium is the singular form of the word, media, and one applicable meaning is "An intermediate agency, instrument, or channel; [especially] . . . a means or channel of communication or expression," and, "An intervening substance through which a force acts on objects at a distance or through which impressions are conveyed to the senses; any substance considered with regard to its properties as a vehicle of light or sound," according the Oxford English Dictionary. The term has undeniable art connotations as well. Again, according to the OED, it can mean, ". . . more widely: any raw material or mode of expression used in an artistic or creative activity." This could cover everything from theatre to the picturebook form, and offers a great deal of latitude. Additional connotation includes, "Any physical material (as tape, disk, paper, etc.) used for recording or reproducing data, images, or sound." Notice, once again, this definition's tie-in to the recording industries of music, photography and film—all typically artistic mediums with strong communication capabilities. In agreement with one of its plural

forms it can mean, in one sense, "A channel of mass communication, as newspapers, radio, television, etc.; the reporters, journalists, etc., working for organizations engaged in such communication" (http://www.oed.com/view/Entry/115772? redirectedFrom=medium#eid). Frequently, in this sense, it is used in plural as "the media." In this Dissertation, I use it nearly interchangeably with the word, technology, with latitude in its definition as, "a means or channel of communication or expression." I primarily use both terms in a fluid sense, to mean an innovation, particularly in the communication field, whether used in its artistic sense or its technological sense—but I tend to use the term, medium, to define the artistic process used and/or the artistic form created, and the term, technology, to refer to the practical electronic or digital device that is used to convey the artistic form (such as music is recorded to a CD, while film is shown on television). If you notice, the definitions given above apply in the technological sense refer to its use as a conduit for the music and film recording industry, and, in the artistic sense, would include the theatre, any of the publishing forms, music and film, etc.

While the term can mean an artist material such as oil paint, in this Dissertation it will refer primarily to the processes used in the creation and use of various "forms," and to the forms themselves (i.e., they may refer to different art forms such as theatre, film, or the paper-engineered book). In a way, such art forms can be viewed as technologies as well, for they do act in ways to share information. In many of the discussions here, these terms can be used in an interchangeable manner because the subject being discussed would apply to either term in either the technology or the art form connotation (http://www.oxforddictionaries .com/definition/english/medium).

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I.3. STAGES OF MEDIA: How Do Mediums or Technologies Respond to Attack?

"Experience which is passed on from mouth to mouth is the source from which all storytellers have drawn. And among those who have written down the tales, it is the great ones whose written version differs least from the speech of the many nameless storytellers."
−Walter Benjamin[13]–

"Reading books is boring and it takes too long. Searching the Web is faster and more fun because we can get sound recordings, like of a dolphin's sounds, or a video of the discovery of the bow of the Titanic."
– Eleven-year-old student, Glenview, Illinois[14]–

[13] (TST Part II Pg 1).
[14] (Healy FTC 32).

In the Walter Benjamin quote above from his iconic 1936 essay titled, "The Storyteller," Benjamin judges that the best scribes of narratives are those who have recorded the story's essence without altering its essential meaning, its atmosphere or themes. While Benjamin was referring to the transcription of tales from an oral culture as it transitioned to a print culture, and was discussing his concerns with some of the ramifications of that cultural transition, his words could be applied to today's situation as well in a slightly different context, when print tales are *e*-volving in unique ways, and are now being transcribed onto electronic readers of various sorts (including *e*-book readers, smart phones and mp3 players, laptops and computer tablets). The most effective scribes (or storytellers, which, in this case, refers to the devices on which the stories are read as well as the designers who write the code to relay the print picturebook to a new reading platform) are the ones that are able to reflect the true essence of each picturebook tale.

I would add one caveat, however. With the already recognized enormous power of new *e*-media to affect its users, perhaps another criteria in choosing and creating the most effective publishing media for children's stories is that they first cause no harm to the child reader. Noted Greek philosopher, Socrates, living in a time of transition between the oral culture and the new alphabetic and literate one, showed concern regarding this need for emerging technologies to "first do no harm." In a recording of a conversation between his teacher, Socrates, and Phaedrus in about 370 B.C., Socrates stated one of several reservations he had with a written, alphabetic culture. Written words "preserve a quite solemn silence," stated Socrates, continuing, "If you question them, they simply give the same answer again and again" (http://www.gutenberg.org/files/1636/1636-h/1636-h.htm). Socrates saw that dialogue between two or more humans allowed for discussion and promoted thinking from another's viewpoint, while the printed word

made such interaction more difficult. And now, over two millennia later we are beginning to see not only the good, but also the potential for harm from the alphabetic culture that has dominated Western Society since Socrates' time. The tinted spectacles are beginning to come off of the Gutenberg Generation, thanks to philosophers such as Marshall McLuhan, Leonard Shlain and others. Increasing numbers of people are becoming aware that media does have the potential to change its users in significant ways. Maryanne Wolf, in her text Proust and the Squid: The Story and Science of the Reading Brain, commented on the Socrates/Phaedrus discussion. "In words unerringly prescient today, Socrates described what would be lost to human beings in the transition from oral to written culture," Wolf tells her readers, continuing, "Socrates' protests—and the silent rebellion of Plato as he recorded every word—are notably relevant today as we and our children negotiate our own transition from a written culture to one that is increasingly driven by visual images and massive streams of digital information (Wolf 18, 19). Neil Postman in his text, Amusing Ourselves to Death: Public Discourse in the Age of Show Business, offers a warning on the subject: "To be unaware that a technology comes equipped with a program for social change, to maintain that technology is neutral, to make the assumption that technology is always a friend to culture is, at this late hour, stupidity plain and simple. Moreover, we have seen enough by now to know that technological changes in our modes of communication are even more ideology-laden than changes in our modes of transportation." Postman then qualifies his statement, "Introduce the alphabet to a culture and you change its cognitive habits, its social relations, its notions of community, history and religion. Introduce the printing press with movable type, and you do the same. Introduce speed-of-light transmission of images and you make a cultural revolution. Without a vote . . ." (Postman AOD 81%).

So, today, in a reversal of fortunes from Socrates' time to the present day, the cultural dominance of the written word is now "threatened" by the ubiquitous adoption of the significantly more visual, less text-based language of the Internet (as well as by the lightning speed of that adoption across the globe). And once again, critics on both sides are expressing their viewpoints on both media. The eleven-year old child user of both media whom Dr. Jane Healy quotes (at the beginning of this section) in her text, Failure to Connect, judges that reading is boring and slow, while surfing the Web is fast and fun because it offers audio and visual opportunities. And Maggie Jackson, in her text, Distracted: The Erosion of Attention and the Coming Dark Age, shares these "expert" viewpoints on the written word,

- Books imprison information in rigid unchanging vessels, like wine stoppered in bottles, says John Perry Barlow. Release the nectar! Information wants to be free, trumpets Stewart Brand. Asks classicist James J. O'Donnell: "Is it not strange that we take the spoken word, the most insubstantial of human creations, and try through textuality to freeze it forever, and again, try to give the frozen words of those who are dead and gone, or at least far absent, control over our own experience of the lived here and now?" The word has been on ice, far from the warm pulsing beat of our dynamic lives
- (Jackson D 155, 156).
-

But, from the other side of the issue, Gary Small and Gigi Vorgan, authors of the 2008 text, iBrain: Surviving the Technological Alteration of the Modern Mind, make a factual point, ". . . 20 percent of this younger generation meets the clinical criteria for pathological Internet use—they are online so much that it interferes negatively with almost every other aspect of their lives. Their excessive Web use lowers their academic achievement and interferes with their social lives . . . ." The authors then offer this astute observation, "Whether or not their digital time reaches compulsive levels, the sedentary hours in front of a computer or television screen affect young people's physical health" (Small iBr 13%). It is difficult to argue with facts about the health, both mental and physical, of those who use the new *e*-media. And Neil Postman offers this anecdotal observation, "Twenty years ago, a first-grade teacher who bridged the gap between the

pre-television and the television eras reported: “When I read them a story without showing them pictures, the children always complain “I can’t see.” Their attention flags. They’ll begin to talk or wander off. I have to really work to develop their visualizing skills . . . They get better at [it], with practice. But children never needed to learn how to visualize before television, it seems to me . . .” (Postman AOD 81%). This teacher made a rather insightful judgment about the ability of reading to foster skills involving the imagination because the reader creates a sort of visual story in their minds as they read, whereas screen-based narratives provide the visuals for the viewer, and in so doing prevents the mind from practicing those skills of the imagination.

The battle between print versus visual literacy is just commencing, with the recent advent of so many visually-based, “screen” media. But, whatever the results of the battle between the text-based versus the image-based narrative, or between codex versus computer-based communication, the evidence is clear that our media *are* affecting humans and their cultures in significant ways. And the further question for investigation is, if media can affect their users, then is it not possible that they also affect each other? When a newer medium or technology invades the active space of another medium or technology and threatens viability of its operational model, what happens to the older medium at that point? This brings us to the research question for this Dissertation discussion.

For a variety of reasons then, as has been previously established in the Dissertation Introduction and this Chapter One, the technology of the book and the habit of reading appear to be under attack in our culture. What could be expected to happen as a result of this threat? When anyone or anything is threatened or under attack, one typical response is an effort to adapt in a bid to survive.

American philosopher, Noël Carroll (born 1947), known as a leading figure in contemporary philosopher of art and currently a distinguished professor of philosophy at CUNY Graduate Center, applies this idea to the evolution of a new medium in his article on "Medium Specificity Arguments and Self-Consciously Invented Arts: Film, Video, and Photography" from Theorizing the Moving Image. Carroll argues that any new medium (and this could apply to any technology, although he focuses on those artistic communication mediums, such as photography, film, painting, theatre, etc.) undergoes phases of development.

First, an initial phase occurs where each "attempts to legitimatize itself as art by aping the conventions, forms and effects of pre-existing arts. Film initially imitates theater; photography painting . . ." (3). If the public does not accept a new medium, it dies; but, if it can gain a marketing foothold, and can prove that it is just as useful and versatile as the older, accepted one, then it has a chance to hang in there until it gains enough supporters to survive and thrive.

Carroll then goes on to state that, in a second stage of each new medium's development, the purists begin to specify the range of effects peculiar to it. During this phase, artwork will abound that explores those effects that are unique and possible in that medium that were not easy, or possible, in the previously imitated one.

I would concur with Carroll's discussion regarding the first two phases of emergence, and would call phase one the *justification* of the medium. Phase two could be called the *exploration* of new potentials. With Carroll's stages in mind, there is a logical third phase that occurs as a result of even newer mediums emerging. This third phase could be called the *reinvention* phase. When even newer mediums come to the playing field, so to speak, an existing one may often take a new look at itself and, spurred on by creative impulses as well as the desire to survive, will wonder if it can accomplish the effects that those other mediums are achieving. At this stage it

may begin to imitate these other effects "borrowed" from other newer mediums or inspired by them, such as film adding the sounds that phonograph technology introduced. They may also just incorporate borrowed effects into themselves and begin crossing medium boundaries altogether, or "cross-breeding," so to speak.

As an example of this process of medium or technology evolution, recall that, when film first emerged as a medium, it initially imitated theatre, illustrating Carroll's first stage of medium development. One can still see many early movies that appear very much like stage plays. Rogers and Hammerstein's *Cinderella*, their only musical written *directly for* the then new technology of television was broadcast live and in color by CBS in 1957 and showcased Julie Andrews in the title role.[15] Yet the 1965 film version, produced a full eight years later and starring Lesley Ann Warren, *still* displayed all of the trappings of a staged play (http://www.imdb.com/title/tt0129672/). Also, Broadway's musical version of J. M. Barrie's 1904 play, *Peter Pan,* starring Mary Martin was staged live by NBC for television three times—in 1955, 1956 and then live but videotaped in color in 1960. Not one of these three productions was actually produced on a Broadway stage, but, instead, in NBC's production studio. Yet, both of these examples (one that was written *for* television and one that, while a Broadway hit, was *produced* in a television studio) were filmed with the pattern and appearance of a theatrical play on a stage with identifiable sets (http://www.imdb.com/title/tt0054176/?ref_=fn_al_tt_4). The intent in both of these instances is clearly one of imitating the live theatrical experience for the new television audience. No evidence appears of trying new techniques achievable in the newer medium that were not as easily achievable on a live stage. Both productions attracted record television audiences, of 65 million viewers and 100 million people, respectively—demonstrating

[15] Only a black and white recording remains of this production, as color videotape was not yet used by CBS Studio 72—so the original live color telecast is lost (http://www.imdb.com/title/tt0129672/).

one of the things that television performance can do better than do film and live theatre—reach a massive audience rapidly. This attribute has been bettered finally by the power of the World Wide Web today (http://www.imdb.com/).

Once established as a legitimate and serious new medium, film, and, later, television, began to explore what each could do that theatre could not, illustrating Carroll's second stage of development. Placards were dropped that announced the musical theatre traditions of the overture and intermission (or interval). These were used for special films, even when the film's subject had no theatrical derivation. The idea of the overture evolved into the creation of a music score to accompany the film credits, but no longer remained a spotlighted event in itself. Then, film began to add seamless movement from scene to scene, on-location shooting or more natural sets that create the simulation that the viewer is inside the scene, as well as other effects different than what theater had offered the staged narrative prior to the invention of film technology.

The third stage of medium development could be demonstrated in any perceived potential response by live theatre. Perhaps, for example, theatre began to explore how it could accomplish some of the effects that were more easily achievable in film. Staged plays that began to innovate with set design, speeding up set changes with revolving turntables and the use of scrims or modular scenery, etc., could have been responding to emerging electronic forms such as film.

Recall that, after this third "rethinking itself" phase of medium development, different mediums (and technologies) begin to borrow from each other. As projected film mediums began to permeate Western Culture, Theater began to experiment with incorporating moving image film directly into their theatrical efforts.

Experimental theatre began to incorporate projected images and film not too long after projected films were introduced in a theatrical setting (which occurred in 1896 in the United

States).[16] The *Living Newspaper* type of theatre is a primary example of such experimentation. Living Newspaper theatre in the United States originated in Russia during the Bolshevik Revolution (1917 to 1923). It was called *Shivaya Gazeta* (the Russian words for "living newspaper").[17] Hallie Flanagan, future Director of the Federal Theatre Project in the United States, visited Russia during this period and viewed such productions. The form presented factual information on current events to the general public, often as a wake-up call for social reform; and it tended to reject mainstream theatrical conventions in favor of experimental dramaturgy and stage design, including extensive use of multi-media (that included the use of film).[18] The form became better known a couple of decades later as one arm of the Federal Theatre Project in the United States in the 1930s.[19] A guide produced by the FTP in 1938 titled, "Techniques Available to the Living Newspaper Dramatist," lists many elements that became hallmarks of the Living Newspaper dramaturgy and that sound remarkably like much of what is utilized in modern theatre productions today, including, "rapid scene changes; . . . rolling and hand-carried scenery, scrims to establish a multitude of locations without elaborate constructed sets; projection of settings, statistics, and film . . ." (Cosgrove "Living" 235-244). Congress

[16] Koster and Bial's Music Hall in NewYork City hosted the first public exhibition of projected motion pictures in the United States as presented by Thomas Edison using the Vitascope. The projector actually had been developed by Thomas Armat. Edison's Kinetograph company acquired, manufactured and marketed it by mutual agreement (Ramsaye 171-232).

[17] Living Newspapers in Russia reached their zenith between 1923 and 1928, when workers' groups staged regionalized Living Newspapers (Cosgrove ix-xxv).

[18] The FTP was established by the Works Progress Administration under the direction of Hallie Flannigan, who was, by then, a playwright and professor at Vassar College. One of the FTP Living Newspaper's most successful productions was *One-Third of a Nation*, titled for a phrase used by then President Franklin D. Roosevelt in his second Inaugural address. The play opened in 1938. While this production used more traditional sets to highlight the poverty in urban tenements, it still used the projected sound, film and image of multi-media that typified the form, and this play could be credited with helping pass housing legislation (Cosgrove ix-xxv).

[19] The Federal Theatre Project was an arm of the Works Progress Administration or WPA (later known as the Works Projects Administration) during the Great Depression, intended to give jobs to out-of-work actors, directors, writers, artists, musicians, etc.(Cosgrove ix-xxv).

canceled funding for the Federal Theatre Project in 1939,[20] Because of this defunding, this form of theatre did not get a strong chance of influencing more *mainstream* theatrical traditions particularly in the United States after that historical point (Cosgrove ix-xxv).

Recently, however, as the moving image (and the digital image, that is easier to create, copy, resize and edit) has achieved ubiquity throughout our culture—from the giant moving images on New York City Times Square buildings to the smart phones we carry on our persons—such techniques have begun appearing in more mainstream dramatic and musical theatre finally. *Evita,* which I happened to catch in London's West End before it closed in 1986, was the first production in which I, personally, noticed its presence.[21] This past year (2013) on a trip to New York City, of four theatrical productions I attended—three of them made use of film and projected imagery as scenery in often dramatic ways, including ways that moved the narrative forward, or made the changing of scenes more rapid, etc.(Wollman ThWR 73-119).

Taking a look at this theory when considering the subject of text-based narratives and the development of hypertext narratives: When the World Wide Web appeared around 1993, its early websites looked very similar to the printed word. Inspired by accepted printed text guidelines, websites, when hypertext first emerged as a genre, began by imitating the footnotes and endnotes of printed narratives—just reproducing the appearance of these elements on a screen. This imitation demonstrates stage one of Carroll's theory. Next, however, creators of hypertext began generating new ways to include extraneous information that was previously constrained to foot or endnotes in traditional codex-form books. They created hyperlinks

[20] The Congressional defunding of the FTP was largely attributed to its perceived overly left-wing political tones of less than 10% of its overall productions (Cosgrove xx-xxi).

[21] Historical footage of Eva Perron's funeral (with other authentic photographs from her life and that period added in the Broadway production that opened a year later) were projected on screens around the West End and Broadway Stages. The Broadway show received eight Tony Awards and was nominated for several more, including one for Best Scenic Design (Wollman ThWR 73-119).

connected to pop-up screens that included additional information, images or sound clips to accompany their narratives. They included images and maps with "hot spots," or hyperlinks, connected to more information or other websites or pop-up windows. Creators also began experimenting with multiple plot lines and viewer-generated content. Images in narrative can now move, and a whole host of new effects have changed the face of the Web, itself a relatively new technology/medium. This exploration, or stage two of Carroll's theory of medium development, has happened quite rapidly and is still occurring. And stage three is already occurring as well: The printed book is modifying itself in response to these new e-media and their capabilities. These new hypertextual narratives are, in return, spawning new codex printed novels that experiment with multiple plot possibilities, multiple endings, and viewer generated interaction with the narrative that remind the reader of hypertext; such as books that incorporate a treasure hunt into the narrative, while marketing the book with the idea that there is a real treasure to be found in the real world if the readers follow the clues in the narrative. These mediums, one newer and one older, have now begun feeding off of each other, as well as being informed by all other existing technologies and mediums around them. And, while proponents of medium specificity would prefer for practitioners to use one medium at a time only in ways that show off what that medium can do *best*, it does not seem to matter *what* proponents of medium specificity tell practicing artists and authors. In the end, they, as well as certain designers, artists and writers in these new mediums/technologies will not abide by such constraints, and seem, instead, to agree with Noël Carroll's view:

> . . . we should look to . . . the utopian pictures of Fourier and Marx in which the worker of tomorrow, a generalist to the core, pursues diverse activities, hunting in the morning and philosophizing in the afternoon. This picture corresponds better to the various sorts of freedom the arts are thought to enshrine both in their consumption and their production. Applying this metaphor to media, unfettered by the claims of efficiency, one

would envision each medium exploring all available effects, including those achieved in other media (Carroll 17).

I.4. ARRIVING AT THE QUESTION: Has Fear of the "Death" of the Book and Competition from Newer Media Produced Responsive Changes in the Form, Content and Function of the Published Children's Narrative, Particularly on the Picturebook?

Has the published children's narrative, particularly the picturebook, "***e***-volved," adapted or changed in ways meant to allow it to compete with the numerous new mediums and/or *e*-technologies that now fight to grab a potential child reader's attention before they have acquired enough reading time and skills to become lifelong, expert readers? Has the picture book attempted to acquire any features that could be seen as equivalents of the newer *e*-media—features that could be seen as an attempt to compete with these newer, possibly flashier media by becoming more like them? Could any examples of this type of evolution in the book form be found from history or present circumstances to substantiate such a claim of "***e***-volution" to compete and survive? These are questions that will be considered in this Dissertation.

I.5. The Hypothesis

I propose that the published children's narrative does evolve, has already evolved in response to other mediums and technologies, and that it is evolving in response to the new, emerging *e*-media. *This dissertation will examine the ways new "e-media" are affecting the published children's narrative form, content, and function, with special focus on the Picturebook, and some examination of the response of the child reader to those changes.*

I.6. Defining and Refining the Subject and Writing Method

The Picturebook as Discussion Focus, and a Brief Chapter Outline

To limit the scope of this project, this dissertation focuses on emerging changes in the Children's Picturebook form, content and function. The discussion will refer to the other areas of "Children's Narrative" primarily for correlating examples.

After a look at the importance of the research question and a brief introduction of historical examples demonstrating the impact of changing technologies upon the genre's design, form and function, respectively; Chapter One reviews a sampling of the core research literature that is currently available and related to this question.

The Dissertation body discussion in the subsequent three chapters will then examine what is happening, when it is happening and look for its catalysts; while bringing in supporting examples from its own field and from neighboring genres. A brief outline of the chapter discussions, including a listing of the specific genres chosen for comparison and contrast, include the following:

Paper-Engineered Picturebooks, a close cousin of the picturebook, are reviewed and compared to emerging *e*-picturebook applications in Chapter Two;

Artist's Books (a Twentieth Century adult art form) are compared to some picturebooks that are beginning to display similar characteristics. One specific and unusual early historical case study will act as a framework for this exploration in Chapter Three;

Chapter Four includes an examination of changes within the form of the codex picturebook, or "on the pages" of the printed book. The Chapter also includes some mention of those *e*-volving forms happening "off the page" or outside of the traditional codex picturebook format, as it applies to Chapter Four's discussion. There is room for a larger examination of those developing "off-the-page" illustrated narrative formats, but it is outside the scope of this discussion. Chapter Four's discussion examines the children's picturebook particularly for

developments that parallel current uses of emerging *e*-technologies. I draw examples from various related genres into these discussions where applicable. These examples particularly include new emerging *e*-media narratives, but may also include examples from parallel neighboring genres. For example, these may include samples from the fields of: Graphic Novels, Children's Theatre, Children's Animated Feature Films, and Children's Animated or "Illustrated" Television Shows. Each of these utilized forms display parallels to the design of the picture book, including: the picture book cover, the page, the text, and the illustration.

The Conclusion includes a highlighted review of pertinent points from Dr. Leonard Shlain's 1998 text from Viking Penguin, The Alphabet Versus the Goddess. These points speak to the potential effects of two technologies, the codex book and emerging computer technologies, on the development of the human brain, and, more broadly, on culture as a result. This section also include several final observations regarding the children's *e*-volving picturebook form and its importance and applicability in the teaching of children. Finally, there is a summarization of the discussion.

I.6.1. ***Identifying the Primary Areas of Published Children's Narratives***

As the previous section demonstrates, it is useful to this discussion to clarify what the primary areas of published children's narratives are. Until recently, there existed six primary areas. These include:

1. The codex book used for Children's Picturebooks (and Young Adult Novels). It is the children's picturebook form that will be the primary focus of this dissertation.

However, examples and parallels may be drawn from the other five areas. These include:

2. The comic strip, a precursor to comic books, then to the Graphic Novel, an emerging area of YA literature;
3. Children's Theatre;
4. Children's Film;
5. Children's Programming on Television; and,
6. Children's Animated Feature Film.

In addition to these older areas, there also now exists a seventh area, and this is one that can be quite diverse in its content:

7. *e*-Narratives--the emerging "digital" or electronic area.

This area includes a broad range of other new "*e*-media" that offer opportunities for narrative publication. Examples are drawn from this new area because a particular focus of this Dissertation is how these emerging *e*-media are affecting the form, content and function of children's picturebook in particular. Discussion includes the published children's narrative in other forms and genres, including these new *e*-media, as a source of applicable parallels. The possibilities in this emerging *e*-media area include cell phones, social networking sites, self-published web-logs and websites, *Twitter*, and websites that often accompany feature films or television programs (and that sometimes interact with television programs). Possibilities also include both online and offline digital gaming, such as, but not limited to, MMORPGs (standing for "Massively Multiplayer Online Role-Playing Game," and consisting of Avatar representation in a spatial representation of the virtual world and a sandbox to play in that offers persistence for some amount of the data represented within the virtual world) (www.oxfordreference.com). It will be necessary to sift through and examine these possibilities to understand these new forms of electronic media that are already being used, and that might act as catalytic influences on the

creation and form of existing or developing types of children's narratives. Such examples will be drawn in as applicable throughout the Dissertation. While I am presently engaging in a broader study of these emerging, more peripheral *e*-narratives, that area of research is outside of the scope of this Dissertation discussion.

I.6.2. *Writing Method*

During the body discussion of this Dissertation I am frequently required to look at the other media genres that have had or are beginning to have the potential to affect the field of Children's Picturebook Publishing. In my discussions, I first define any forms or terms that require such a definition for reader understanding (i.e., the MUD translates as "Multi User Dungeon/Domain," and refers to multi-user, text-based virtual reality games often based on a fantasy world and played on the Web). Where necessary for understanding, I offer background information (i.e., MUDs have as their predecessor the text-based *Dungeons & Dragons, or D&D,* tabletop role-playing game introduced in 1974—originally designed by Gary Gygax and Dave Ameson, and produced by Tactical Studies Rules, Inc.—today widely considered the beginning of modern role-playing games and the role-playing game industry).

As I examine the picturebook and take primary examples from that genre, I look for correlating examples and comparisons primarily from those other areas (identified in previous sub-section) that include a children's narrative within the framework of a design, that use illustration in some form, and that are "published" in some defined way (i.e., that which is an illustrated page in a picturebook surrounded by typographically arranged text within designed book pages and book jackets is paralleled by the theatrical "scene" with its characters, set

designs and costuming in a Children's Theatre production, which parallels with an illustrated sequence in an Animated Feature Film, with its background setting and its foreground characters, etc.).

For the historical comparables used in my study, I select examples from the formative years of Children's Literature from Gutenberg's invention of the moveable type printing press up to 1945, a period overlapping the Scientific and Industrial Revolutions, offering a breadth of technological change over a significant period comparable, for research purposes, to the even more rapid and exponential explosion of technology and subsequent change in the present computer age beginning approximately with the first satellite photographs of earth in 1968 to the present.

Case studies are occasionally featured—sometimes in depth, sometimes in brief discussion. These case studies are incorporated with the intent of bringing the overview of the general field history down to the individual and more personal level by focusing on select authors, illustrators or designers who, in some significant way, utilized, explored the effects of, or imitated new technology in their production of the children's narrative as a "published" piece.

Throughout the text is woven examination and discussion of the creator-desired-impact of certain innovations and developments, as well as the actual impact on the child "reader" or "viewer." At times, the discussion spotlights certain developments that potentially affect the child and the way the child "reader" absorbs that narrative, although this last point will be the subject of a subsequent research project and is not the primary focus of this study. Still, it does get referenced throughout the paper because it is difficult to discuss changes to children's literature, and not observe the impact of those changes on the children that examine, use and absorb the literature and the technology upon which it is published.

This exploration necessarily touches on related questions that grow out of the examinations and discussions, such as: Are these various forms of publication potentially impacting and interacting with one another, and, if so, in what ways? Are they, perhaps, evolving and merging towards one another as suggested by Noël Carroll with his theory about the stages of a medium's development? How are the designs of publication, the "special effects," so to speak, evolving in response to the bells and whistles offered by new media? Are completely *new* forms of publication of children's narratives emerging as a result of new media or utilizing that new media? Finally, how are children, their minds, their relationships, and their reading process and patterns being affected by and affecting these evolving forms of published children's narratives? Since the area of research is brand new, many of these questions can be raised with some initial and thoughtful discussion, but it is difficult to resolve some of the questions posed. Also, an in-depth look at questions such as the last two raised are outside the parameters of this discussion, but they are touched on throughout the discussion. At this point, the important thing may be to raise the questions to generate further study and discussion.

I.6.3. Considering the Choice and Limitation of Topical Examples

To stay on topic in a broad area, I primarily avoid using examples in the chapter discussions that are from adult genres or technologies that do not pull in the potential child user (i.e., if referencing MMORPGs, or massive multi-player, roll-playing games that utilize user-created avatars and that double as social network sites, I would use the example of *Runescapes* rather than *Second Life*, because the former is geared to children and the latter to adults.).

I also avoid using examples from technologies that do not display the appropriate similarities to the form and function of the children's picturebook (i.e., that do not contain

correlations to the text-based narrative, the modifying images, the "cover page," etc.). So, for example, those small digital games such as Alexey Pajitnov's, TETRIS, the popular tile-matching puzzle video game introduced in 1984, that are downloadable to one's mobile device of choice are not text-based (http://en.wikipedia.org/wiki/Tetris). There is no narrative involved, and, while this game and others are colorful and visual, they are not "illustrated" in any cohesive way that contributes to the narrative whole, so they would not be referenced for comparison, however much children enjoy using them to pass the time. In contrast, *e*-picturebook applications for computer tablets or smart phones demonstrate obvious parallels to children's print picturebooks—being the next, electronic generation of this illustrated literary medium. More peripherally, however, *Improv Everywhere* theatrical videos could also be used as parallels for comparison as well. *Improv Everywhere* is an organization that creates short live theatre events in public spaces. The organization often involves their on-line audience in their events as "actors" or "characters in the "narratives," and they "publish" their performance narratives to *YouTube*, where they have accumulated audiences or "viewer/readers" in the millions. Such theatrical videos could be seen as having parallels with children's picturebooks because they display a plot of sorts, are image-based in a way that supports the "narrative," their length is similarly brief with a narrative beginning, middle and end, and their subject matter appeals strongly to the child audience (http://improveverywhere.com/).

I.7. In Summary

It is my view that emerging "*e*-narratives" are generated at the crossroads of older forms (such as the codex book or theatre, film, television, etc.) and newer *e*-media (including the

Internet, video games, smart phones, etc.). These new *e*-narratives are influenced by both to create something uniquely new.

Just as prior generations debated the effects of book content on the child; so debate focuses today on *e*-media's effects on childhood development, the good and the potentially bad (i.e., instant access to information vs. potential loss of vital skills ranging from spelling, grammar, keyboarding or punctuation to communication skills and social skills, etc.). There is even beginning to be study and debate over whether overuse of computer technologies are harmful to the development of children's brains. D. M. Chirico wrote an article as far back as 1998 that appeared in the *Waldorf Education Research Institute Bulletin* entitled, "Building on Shifting Sand: The Impact of Computer Use on Neural & Cognitive Development." In this article, Ms. Chirico informs her readers that, "it can be demonstrated that external conditions can transform the course of [the brain's] development. This phenomenon, referred to as neural plasticity, is especially potent when exposure occurs at certain vital times. These sensitive, or critical, periods are the windows of opportunity when environmental influences will have their principal bearing. One can just as easily say inopportunity, since the result can often be disastrous" (http://www.waldorflibrary. org/Journal_Articles/RB2103.pdf).

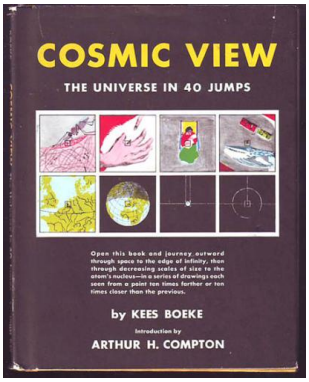
Despite legitimate concerns about children's inappropriate exposure to too much *e*-media or *e*-narratives (particularly at critical developmental periods), hybrid forms of *e*-narrative are frequently exciting, influencing older forms to "***e***-volve," or to reinvent themselves in dynamic ways. This Dissertation will examine the forms these new hybrid narratives and reinvented older forms take, with some consideration of the responses of the children who read them.

CHAPTER ONE

Evolution, Value and Clarification of the Research Question, and
a Review of the Literature

1.1. Evolution of the Research Question: Are Children's Picture Books Changing in Form, Content, and Function, and, if so, why?

The year 1957 saw the publishing of Cosmic View: The Universe in 40 Jumps, a groundbreaking illustrated book by Kees Boeke that explored the universe both on a macro and a micro scale, by viewing a single spot on earth in increasing and decreasing powers of ten, by adding or subtracting an exponential zero one at a time to the zoom factor. The book was first published in black and white. Some of the drawings are extraordinarily realistic precursors to later satellite photographic images of the earth sent back from space [Figure 1.4 shows eight of these drawings in miniature].[22]



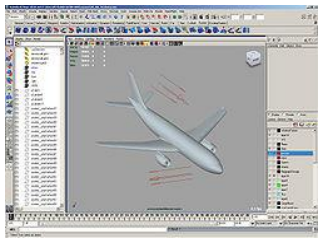


Figure 1.4, 1.5, & 1.6 (top to bottom).

Just over a decade later, in 1968, Ray and her husband Charles Eames, created a short documentary film, *Powers of Ten* [View movie in Video 1.1, List of Videos & Screen Captures, or at http://www.youtube.com/watch?v=38ti9BJiyvs]. Their movie was based on, and inspired by Boeke's book and distributed by IBM. In the years since, numerous movies have been created by

[22] Images from this book may be viewed in their entirety at http://www.vendian.org/mncharity/cosmicview/.

others inspired by Boeke's book and the Eames' movie. *Powers of Ten* was chosen, in 1998, to be preserved by the Library of Congress as a part of the National Film Registry due to its cultural and aesthetic significance.

One year later in May of 1969, the Apollo VIII Lunar mission orbited the moon, laying the groundwork for later moon missions to land on the lunar surface. On that journey, the crew captured the first pictures ever of an Earth rising over the surface of the moon—"Earthrise," as it has come to be called [Figure 1.5] (http://www.nasa.gov/).

Then, in 1998, Alias/Wavefront released the 3-D animation program they called *Maya.* Figure 1.6 shows a screen capture of the open desktop of the program showing a three-dimensional drawing of an airplane. This computer animation program combined features from several pre-existing animation programs, many of which had been developed to fulfill the needs of the Disney Corporation. The program has since become the property of Autodesk and has become the industry standard in CG (computer generated) animation. In 2003 *Maya* was awarded an Academy Award "for scientific and technical achievement," citing its application "on nearly every feature using 3-D computer-generated images" (http://www.oscars.org/press/pressreleases/2003/03.01.06.html). *Maya*, and other emerging 3-D animation programs for the computer, as well as CAD drawing programs used in architecture and engineering, introduced groundbreaking zoom and tumble perspectives to their computer design programs, making previously difficult perspectives easily accessible to the designer [Screen capture of *Maya* perspectives in Video 1.1.2, List of Videos—hyperlink disabled, see note in List of Videos]..

Could each of these events be examples of technological events that impacted a field as distinctly different as is the field of Children's Picturebooks? If so, what is the significance of

their impact? And, could there be other "technological" or new media moments in our history that also had an impact on the form, content and function of the field?

I propose that these events and others like them *have* impacted the field of Children's Literature publication in very specific ways. I have long been interested in Children's Literature—as a vehicle for combining my interests in writing, illustration and design; and as a medium for balanced introduction of thoughtful debate to children so they become more informed, empowered adults. So, recently, when I registered significant changes sweeping through the published design of Picture Books, I found myself wondering, "*Why*?" Innovative perspectives flooded illustrations that had, for centuries, focused almost exclusively on landscapes and close-ups—on human-sized and human-focused perspectives. Typography, that had remained stubbornly traditional in picturebooks through the onslaught of Dada, Futurism and Concrete Poetry movements in the early years of the 20th century, suddenly danced across pages. After researching these and other changes I had observed, I theorized a possible answer: Could it be that perspectives shifted following that first-ever deep space photo of Earth, the afore-mentioned "Earthrise," that launched the era of satellite photos, later reinforced by Computer Animation programs such as Maya emerging in the 1980s that offer the first ever user friendly and easily accessible computer design programs utilizing zoom and tumble views—so that such uncommon perspectives were now becoming commonplace? Humans could not easily view themselves from such perspectives before these technological breakthroughs, were rather unfamiliar with such perspectives. Is typography beginning to dance due to the widespread adoption by the public of computer layout programs that offer easily usable digital typography layout opportunities, programs such as *QuarkXPress*, or Adobe's *InDesign* or *Illustrator*? And, although this is looking at just the tip of the proverbial iceberg—Could it be that the rapid

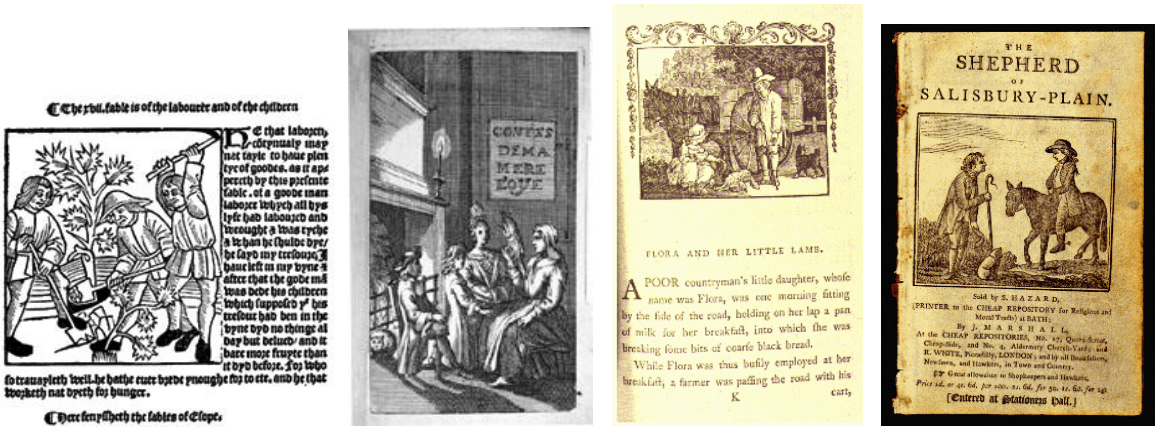
adoption of so much new computer and web-based media is dramatically altering the mindset of book creators, as well as the expectations and perhaps even the minds of child readers? The research question was born, and this Dissertation begins an exploration of at least some of these questions.

1.2. The Value of the Question Lies in the Power of the Medium: Content or Character, They are Both Didactic

. . . it is the medium that shapes and controls the scale and form of human association and action. The content or uses of such media are as diverse as they are ineffectual in shaping the form of human association. Indeed, it is only too typical that the "content" of any medium blinds us to the character of the medium

– Marshall McLuhan[23]–

New media pervades our children's lives, dramatically altering childhood in sometimes troubling ways, while offering them powerful tools, if used wisely. However, books are technology too; and traditional children's narratives in their various published forms, including particularly the picturebook, can be powerful tools as well. They delight children with their art, entertain them, and teach them. They are capable of effectively introducing to children issues that encourage deliberation, eventually leading them to become more informed, open-minded adults better capable of creating a healthy world as the National Endowment for the Arts 2007



Figures 1.7, 1.8, 1.9 & 1.10 (left to right).

[23] (UM 20).

reading study previously cited demonstrated (http://www.nea.gov/research/ToRead.pdf). The possibility of using the children's book or children's narrative as a vehicle for sharing knowledge is not a new one. Children's narratives have been used as teaching platforms since Aesop first told his tales with their originally implied morals from around the fifth century B.C. that have long been a popular subject for the printed book as seen in William Caxton's incunabula[24] version of Aesop, a translation into English, dating from 1500-1501 [Figure 1.7]; or, since Frenchman Charles Perrault's literary version of oral fairytales was first published in 1697 with Perrault's morals added to enhance their acceptability in Louis XIVth's court, as they now taught moral lessons [Figure 1.8, Frontispiece of Perrault's Histoires ou Contes du Temps Passé, or Contes de Ma Mere L'oye (translated, Tales of Mother Goose—as displayed in the image on the wall plaque)]; or since the writings of the Rational Moralists and the Sunday School Moralists in the Eighteenth and Nineteenth Centuries. Of the Rational Moralists, Arnaud Berquin's L'Ami des Enfans, translated as The Looking Glass for the Mind or Intellectual Mirror (1787), featured stories informed by the philosopher Rousseau. In one story entitled "Flora and Her Lamb," Flora saves a nearly dead lamb, rears it and, in several years, ends up with a "capital flock" [Figure 1.9][25] (Demers and Moyles, 121). What is the lesson this text teaches? Providence rewards acts of virtue and you can overcome your circumstances in life with constant use of morality and diligence. The Sunday School Moralists wrote during the same period as the Rational Moralists, but with a sometimes conflicting message. They made religion and the value of the spiritual over the earthly the core of their message. From the work of the Sunday School Moralists,

[24] An early printed book, published before 1501 is called an incunabula.

[25]Figure 1.9 features wood engravings by Thomas Bewick (1753 to 1858), renowned for his use of light and his development of end-grain wood engraving, creating a harder, more durable block allowing greater illustrative detail (http://www.newcastle.gov.uk/collections.nsf/ display?readform&id= C2164BA32C2C7CFF8025 740A004C55CD).

Hannah More's *The Cheap Repository Tracts* (1795) were a Sunday School pamphlet series whose sole purpose was to provide appropriate reading material for children, especially poor children, who were being taught to read, but might be unduly influenced by the baser side of chapbooks or the seditious writings of Thomas Paine and others who favored the French Revolution, a revolution that frightened the establishment throughout Western Europe. In More's "The Shepherd of Salisbury Plain" (1795), "a very worthy, charitable Gentleman" . . . meets a poor but pious shepherd who tells of his love of the Bible and his contentment with his lot, despite the fact that his invalid wife is bringing up eight children on almost no money" [Figure 1.10] (Demers and Moyles, 186). What lesson does such a text offer its child readers? We should accept our place on this earth and not revolt. Our reward is not on earth, but in heaven. While the messages might war with each other—both types of writing were heavily didactic.

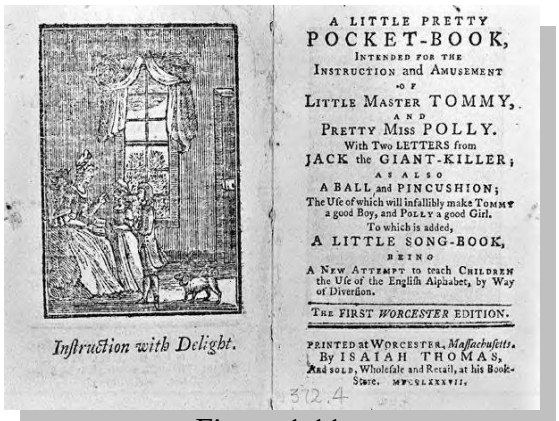


Figure 1.11.

Debate has raged for centuries over how *much* learning is appropriate in Children's Literature. Views range from those supporting the solely didactic to those supporting reading for pleasure alone. John Newbery settled for happy compromise, "*Delectando monemus*" or "*Instruction with Delight,"* as printed on the frontispiece of his seminal 1744 chapbook for children, A Pretty Little Pocketbook [Figure 1.11].

However, narratives may teach in ways other than the message from the narrative or pictures alone. The technology or medium used to create, publish or ingest a narrative may teach or affect young minds in ways that are just beginning to be recognized. In a recent study, one of the first of its kind, 317 children aged eleven to fourteen were studied, comparing their use of

text messaging on cell phones with their scores on a range of tests. According to this study, states Adriana Barton in her article, "Texting may Rewire Young Brains,' that appeared in the *Globe and Mail* out of Vancouver on August 17, 2009, texting may be a brain-altering habit. Researchers are finding that text messaging trains the young mind to be speedy but sloppy. Why? Because of a mobile-phone technology called predictive text messaging (that also occurs in many word processing programs as well). This technology predicts what word the user is beginning to type and completes the word for them. It also corrects misspelled words as they are typed. While creating fast typists, it also seems to be increasing inaccuracy, and damaging spelling skills. With frequent use, scientists are saying, this sort of texting may rewire a child's developing brain to be more careless. "Young people who are heavy cell phone users make more mistakes in tasks involving memory, attention span and learning, according to Michael Abramson, an epidemiologist who carried out the publicly funded research. "We suspect it's a learned pattern of behaviour," he states (http://www.theglobe andmail.com/life/texting-may-rewire-young-brains/article1254218/). This study would seem to confirm that the teaching in children's narratives may not come from the text alone, but also from the technology used to produce or present that text to the child reader; or, to quote Marshall McLean's now-iconic phrase coined in his 1964 text, Understanding Media: The Extensions of Man, "The medium is the message" (17).

So, while the lessons may have changed over time, the use of children's narratives as a teaching tool has been a dominant feature of the Children's Literature field since its inception (until recently when many current children's book editors have begun to look askance at too much didacticism; and, despite this, a large body of didactic texts are still published and the debate continues).

As ever newer forms of *e*-narratives and hybrid narratives emerge, it is important that society understands their potential power over and their messages to our children, both overt and implied, through their text, images, design and technology. Changing media and the narratives in which they are created and published may change the children who ingest them. If children's narratives in their published form are changing, then we, as consumers of those narratives, need to understand these changes and consider their potential impacts, both good and bad, on the child "reader;" remembering that the child becomes the adult contributing member of society and that it is to everyone's advantage that adults in any society be intelligent, competent, and well-educated. These are our future leaders. Using just one medium as an example, recall the National Endowment for the Arts Study mentioned earlier that not only showed that good readers are more civically involved, they vote at significantly higher percentages than do non-readers (http://www.nea.gov/news/ news07/TRNR.html 7-20).

1.3. A Brief Look at Children's Picturebook History to Demonstrate Correlative Examples of Changing Design, Content and Function as Affected by Technology

A few examples are presented here that exemplify where technology affected or may have affected children's narratives. This sampling will demonstrate the distinction among these three possible areas of change: Changes in the design, in the content, and in the function of children's picturebook narratives.

In Perrault's c.1697 *Cendrillon*, or *Cinderella*, for example, it is curious that, at the time this definitive version of this ancient oral tale was published with its first ever mention of glass slippers, the furor over exquisite glass-manufacturing was being fed in Western European countries by several developments, including: 1) the introduction of lead crystal glass in the 1600s; 2) a book that finally revealed the much-guarded secrets of the glass makers in Murano,

Italy that had been protected for centuries, was finally published, called "L'Arte Vetraria (The Art of Glass), written by Antonio Neri; and, 3) the kings of Europe were battling to find the formula for white porcelain, finally discovered in 1709, and were filling entire rooms with white porcelain creations—making this a possible example of technology potentially affecting the *content* of that now-famous fairytale (http://www.thehouse ofglassinc.com/glasshistory.htm).

Or, when half-tone photography was invented in the late 1800s, the most successful book illustrators were those who could adapt to illustrating with that new technology in mind. An example of one of those early adaptors would be American illustrator Peter Newell who more easily adopted an illustrative style that utilized continuous tone shading rather than the previously prevalent line art or etching styles—an example of technology affecting *form,* as will be discussed in Chapter Three, with comparison images available in that discussion (Hearn, Clark & Clark 17).

And, for the examples of the changing *function* of picturebooks due to effects of emerging technologies, when Steve Jobs introduced the *iPad* in 2010, one of the first available *e*-picturebook applications developed for the *iPad* was created by Former CNET, *The Telegraph* (of the U.K.), and *The Times* (of London) journalist Chris Stevens and Ben Roberts from Atomic Antelope (their digital book publishing company founded in 2009). It was titled, Alice for the iPad, and utilized colorized versions of John Tenniel's classic ink drawings. On the surface it appeared to be imitating the iconic book written by Charles Dodgson (more commonly known as Lewis Carroll, Dodgson's pseudonym) in 1865. However, this incarnation of the tale only displayed one page at a time; and there was no turning of the pages—page advances happened when the reader's finger touched and swiped the reading screen to move from page to page. The "book" contained an interactive surprise in its design, however. When the *iPad* was moved from

side to side, the accelerometer within the device (that causes the device's screen to reorient from vertical to horizontal depending upon how it is held) caused objects within the illustrations to appear to tumble and fall about in a realistic manner. Alice for the iPad rapidly became the number one selling application in Apple's app store. In a sequel available in 2011 from the same developers, titled Alice in New York, even more things happened by touching the screen, and sometimes multiple things happened with simultaneous multi-touching of the *iPad* screen. As to the tale's inspiration, Lisa Caplan writes in her review of the application for the App Advice Website, "This story, while clearly inspired by Through the Looking-Glass, and What Alice Found There is not so much a sequel to Wonderland as it is a mash-up"[26] (http://appadvice.com/ appnn/2011/03/alice-york-big-apple-glass). Still, much of Carroll's original 1871 text is used, although adapted by Stevens to present New York as Wonderland. In addition, the artwork is inspired by and even based on Tenniel's illustrations, with clear correlations between the old and the new [See Figure 1.12.1 from Carroll's Through the Looking-Glass; and Figure 1.12.2 from Alice in New York to compare Tenniel's version of the "knitting sheep" as adapted by Alice in New York illustrator.[27] Many elements are the same,

[26] The derivative nature of this book—based on another published book, using altered images based on the originals, altered text based on the original, and changing the setting, while adding other elements not present in the original book—reflects a theme of much emerging new material being created by children and digital natives. Fan fiction, fan movies, movies made from pre-existing game animation—all of these could be considered derivative projects. There are important questions being raised here. How important is it for creative projects to be wholly creative, and not derived from the efforts of others? Is it important to leave classic material alone, or, in this post-modern era, is it all right to borrow and alter? After all, as Picasso arguably said, "Good artists copy, great artists steal" (http://www.pablopicasso.org/quotes.jsp). There may be some room for comparison with the early years after Gutenberg's printing press was introduced and before copyright laws protected the printed piece, when printers "borrowed" rampantly, as with the early chapbooks that were reprinted in America without permission in slightly different form than their European counterparts (Demers & Moyles 79-212).

[27] I have tried, thus far without success, to identify the illustrator for Alice in New York. I have had this sort of trouble before with *e*-picturebooks and other *e*-creations. These sorts of credits can be difficult to find even on professional websites such as the Apple App Store. With such a new industry it is unstructured at the moment, and this situation reminds me of the trouble I have had finding author and illustrator credits for chapbooks such as John Newbery's 1744 A Little Pretty Pocketbook. In the early days of publishing, especially of small, inexpensive texts

including the unicorn and purses hanging in the window, and some of the elements on the table. Note, however, the baseball cap on the sheep instead of the mob cap, the chess game in the window (a reference to the chess board as a plot and setting element in Carroll's book) and the hanging "I ♥ NY" t-shirts.]. In addition to the reworked classic text and illustrations, the lack of a narration option keeps this application in the realm of an actual book.[28] The application still only allows viewing one page at a time. However, the child reader can actually affect the images in important ways upon occasion. For example, by touching the image on the screen, illustrated elevator doors in the Empire State Building will open or close; or, by touching the screen and moving an illustrated lightbulb or chandelier within a darkened image, that virtual light will light up and reveal various corners of the illustration. The reader can try to save Humpty Dumpty from falling off of a steel girder, or can make the image in an illustrated mirror appear to change. According to Steven Heller's March 17, 2011 review for *The Atlantic* Magazine Online, the "book" has 130 "pages," and it "uses water simulations, particle physics, regular physics, light effects, and sound."[29] This description alone makes this *e*-picturebook application sound more like a science project than a picturebook, or, in the narrative realm, perhaps more like a movie, with the addition of sound and lighting effects (http://www.theatlantic.com/entertainment/archive/2011/03/the-most-technologically-advanced-book-for-the-ipad/72610/). The pages in this storybook application do appear to turn. Still, there is no opening

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for children, there did not seem to be a standard of crediting the authors and illustrators as there is today—an intriguing parallel (Demers & Moyles 79-119).

[28] This requires that child readers read the text to themselves or ask for the help of a family member, leading to adult support for their reading practice, thus preserving the "need to read it" function of the printed picturebook. This is as opposed to a movie, for example, where the screen talks at the viewer, requiring neither the reading of a narrative (requiring decoding text), nor any interaction and support from a family member or other mentor. Many emerging *e*-picturebook applications do provide narration options, and even allow the turning off of the text.

[29] Chris Stevens also composed the musical theme used for Alice in New York (http://www.theatlantic.com/entertainment/archive/2011/03/the-most-technologically-advanced-book-for-the-ipad/72610/).

and closing of a physical book. There are no double-page spreads. The entire book only has a virtual existence on a screen; and yet the child can affect the illustrations in ways that would not be possible in a physical picturebook.[30] Both of these picturebook applications are clear examples of where technology affects the *function* of the "picturebook."[31] [To see the described special effects, view preview Videos 1.2.1 and 1.2.2 of these *e*-picturebook applications hyperlinked in the List of Videos, or view at http://www.youtube.com/watch?v=gew68Qj5kxw (Alice for the iPad) and http://www.youtube.com/watch?v=1GVPOCCnAfc (Alice in New York)].

These four examples are just an initial taste of the correlative illustrations one can find when examining the history of the field alongside a timeline of technological development. More will be cited throughout the Dissertation as they are applicable to the discussion.

Figure 1.12.1 & 1.12.2 (left to right).

[30] The closest printed example including such behaviors would occur in paper-engineered picturebooks, as discussed in Chapter Two. In fact, co-creator, Chris Stevens, of Atomic Antelope tells readers in an interview with Lydia Dishman for the Fast Company Windstream Website, "The medium I looked to for inspiration was the traditional paper pop-up book" (http://www.fastcompany. com/1694027/alice-ipad-co-creator-chris-stevens-risk-and-rabbit-holes).

[31] I included both applications, since Lewis Carroll's books are often published together. Also, both of these *iPad* applications were published within a year of each other in honor of the 140th Anniversary of Carroll's *Alice* books. In addition, Alice in New York is more touch-screen interactive than is Alice for the iPad, and I judged this evolution pertinent to the topic of a changing "function" of a picturebook. The technology and form used to create *e*-picturebooks are brand new, and rapid experimentation and evolution are to be expected within a very short period of time—in this case just a year—and will probably continue to evolve rapidly for some time. I provide an image comparison for Alice in New York because this *e*-picturebook is not reviewed or discussed elsewhere. All of the other examples have images and a fuller discussion in another chapter (http://www.theatlantic. com/entertainment/archive/2011/03/the-most-technologically-advanced-book-for-the-ipad/72610/).

1.4. Availability of Texts on the Subject, Brief Descriptions, Subject Applications, and Author Qualifications

That which seems the height of absurdity in one generation
often becomes the height of wisdom in another.

– Adlai Stevenson –

Even a positive thing casts a shadow . . . . its unique excellence is
at the same time its tragic flaw.

– William Irwin Thompson –

I began my Ph.D. program in Media, Art and Text at Virginia Commonwealth University in Richmond, Virginia in 2006, part of the very first class of this quite unique and ground-breaking interdisciplinary program (that is, I believe, one of the first programs of its kind). Keep in mind that the Internet, as most of the using public know it, was not launched until 1993 with the development of the MOSAIC World Wide Web browser developed at the University of Illinois by a team at the National Center for Supercomputing Applications under the direction of Marc Andreessen, funded following (and with the help of) the passing of the Federal Government's *High Performance Computing and Communication Act* of 1991. I will introduce a few of the texts useful to the discussions in my Dissertation here (with the full list of those consulted, of course, available in my Bibliography), however, I mention these dates regarding the emergence of an early "new media" Ph.D. Program, as well as regarding the launching of the World Wide Web, so that readers may appreciate just how many texts in my working bibliography specific to my subject are of extremely recent origin (many of them published certainly in the 1990s, often after the year 2000, and a large number within the last few, or even couple, of years). While some "internet" technologies were developing in the 1970s and 1980s (such as *e*-mail), it is only for the last two decades that the World Wide Web has been viable, and only within the last decade that many popular technologies such as *e*-readers, tablets like the *iPad*, smart phones, etc., as well as the use of such new developing technology applications as

social networks, aviator-based world-wide virtual internet worlds, text-messaging, twittering, web-logs (blogs) and video-logs (vlogs) have swept the planet. Meanwhile, existing technologies such as television and satellite television, DVD players, and video games have continued to evolve as ubiquitous and powerful entertainment tools of children (http://www.computerhistory.org/internet_history/).

When I first began my Dissertation Bibliography, it was quite difficult and sometimes nearly impossible to find texts covering important aspects of my subject—particularly those exploring the effect of new media on older media, or the effect of new *e*-media on children, their brain and behaviors, and on society as a whole. I have continued to research and add texts to my Bibliography as they have been published as I work my way through the writing process of this project, to ensure that I have the latest information available for reference.

Studies pertinent to the subject, particularly looking at how these new *e*-technologies are affecting our society and our children, are, for the most part, still rare. If they exist at all, they are often just getting underway. Some educational studies and several scientific ones are cited in a selection of the texts I utilized, a few were found through research or just as they were reported in news sources; and one major 2007 study from the National Endowment for the Arts, titled, *To Read or Not to Read: A Question of National Consequence* showed some quite startling results that are referenced in this Dissertation. A few other studies of individual technologies (such as text-messaging and what it does to the brain) have emerged recently, but many of these often look at fairly small groups for testing and statistics. There is a real need for a broad-based approach to undergo the necessary fact-finding. If these *e*-media were *slowly* infiltrating our society, merely percolating on the periphery of our daily activities, we might have time to hesitate and take things slowly—but they have swept over us like a Tsunami, and addicted us in

the blink of an eye—we have no choice but to act with intelligence and act fast to understand the good and bad of what is happening.

Most of our population may still be unaware of any potential problems that accompany the early, long-term, and widespread use of these new technologies. More information will continue to emerge in the coming decade, especially as information reaches school administrators, teachers, doctors, parents, news media and governing bodies concerning some of the potential impacts of overuse of such *e*-media. The importance of the topic is paramount as evidence mounts that these new *e*-technologies *do* contribute to the rewiring of children's brains in significant ways that may not be reversible or that are difficult to reverse; that the overwhelming speed with which these new *e*-media have pervaded cultures worldwide is unprecedented; and that *e*-media addictions *are* affecting our children's behavior and growth (such as babies becoming addicted to *iPads,* referred to later in the Dissertation).

While we await the necessary studies, the text books are beginning to roll off of the presses (both in hard copy and for the *e*-reader. I will introduce below a small number from my working Bibliography, along with information about the authors, subject classifications and occasional explanations as to how they apply to my project.

Just a few overviews of Children's Literature exist beyond F. J. Harvey Darton's classic, Children's Books in England: Five Centuries of Social Life (1932). Darton, (1878-1936) was a fourth generation member of the Darton Publishing business and its Director from 1904 until 1928 when it was sold. He was an historian, biographer and critic, particularly of Children's Literature, and published several children's magazines (*The Prize* and *Chatterbox* from 1901 to 1931), and this seminal text reflects the breadth of his experience and knowledge of his subject. Mary Jackson (at publication, Associate Professor of English and Director of the Women's

Studies Program at the City College of CUNY, also published widely in scholarly journals) produced an excellent text in 1989 about the beginnings of the field, titled Engines of Instruction, Mischief, and Magic: Children's Literature in England from Its Beginnings to 1839. Patricia Demers and Gordon Moyles (at the time of publication, Assistant Professor of English, and Professor of English and Assistant Dean of Arts, respectively, at the University of Alberta) edited a comprehensive volume titled, From Instruction to Delight: An Anthology of Children's Literature to 1850, published by Oxford University Press in 1982, that also covers the emerging Children's Book field insightfully and completely. From a more modern perspective, Kimberly Reynolds, at the time of publication a Professor of Children's Literature in the School of English at Newcastle University in the United Kingdom, published, in 2007 from Palgrave Macmillan, Radical Children's Literature: Future Visions and Aesthetic Transformations in Juvenile Fiction. Her work received the 2007 Book Award from the Children's Literature Association. Chapters in her text pertinent to my discussions in this Dissertation include: *Chapter One: Breaking Bounds: The Transformative Energy of Children's Literature*; *Chapter Two: Breaking the Frame: Picturebooks, Modernism, and New Media*; *Chapter Three: And None of It Was Nonsense*; and *Chapter Eight: Back to the Future? New Forms and Formats in Juvenile Fiction*; and, lastly, the *Conclusion: The Foundations of Future Fictions*.

Several books concentrate on the illustration and design part of the Children's Book Field's history. Michael Patrick Hearn, Trinkett Clark and H. Nichols P. Cark published an exquisite volume in 1996, a proud member of my personal library, titled Myth, Magic & Mystery: One Hundred Years of American Children's Book Illustration. This volume is a perceptive review of American picture book *illustration* in particular and includes insights into the technology that was developing alongside the art of the children's book. Hearn is an expert

in children's literature and its illustration. His many books include the now classic The Annotated Wizard of Oz. Trinkett Clark was formerly the Curator of Twentieth Century Art at The Chrysler Museum of Art in Norfolk, Virginia. H. Nichols B. Clark, at the time of publication, served as Curator of American Art at the Chrysler. Both have written widely and coordinated exhibitions at a number of institutions. The Pierpont Morgan Library's Early Children's Books and Their Illustration, published in 1975 is an excellent anthology with a multitude of large illustrations that focus on the treasures of The Pierpont Morgan Library's large collection of early children's books, one of the most important worldwide collections. Some of the selections covered in this text have never been presented to the public before while others are favorite classics. In this book, Gerald Gottlieb, Curator of Early Children's Books at the Library, has assembled 225 outstanding samples of books and manuscripts primarily written, designed and illustrated for the child audience. Richard Dalby, author, editor, bibliographer and antiquarian bookseller specializing in fantasy literature, wrote his book, The Golden Age of Children's Book Illustration that was published by Chartwell in 1991. This text presents illustrators and their illustrations during a very important central time in the Children's Book Field. Julie Cummins has been Coordinator of Children's Services for The New York Public Library since 1987. A long-recognized expert on children's literature, she has served as past chair of the Newbery Award Committee that bestows the prestigious *John Newbery Medal* for excellence in children's literature. Cummins edited two books in my bibliography covering a more modern selection of picturebooks. These are her 1992 text, Children's Book Illustration & Design, and her 1997 text, Children's Book Illustration & Design II from PBC International. One final text in this area contains several chapters pertaining to the Dissertation subject. Blair Whitton (long-time Curator of Toys at the Margaret Woodbury Strong Museum in Rochester,

New York) published Paper Toys of the World through Hobby House Press in 1986. A fine selection of images accompanies Chapters such as the particularly pertinent Chapter VI: Toy Books With Movement. What has been listed here are all comprehensive, informative texts on their subjects. However, this last text, for example, was published in 1986. There has occurred an explosion of new work over the last decade in particular, as technologies have begun changing the publishing of this field, so there is a real need for new works that brings this history and its changes up to date.

For help with critical thinking about the field of Children's Literature, as well as about the interaction of image, text and book form, I depended upon Roderick McGillis' 1996 The Nimble Reader: Literary Theory and Children's Literature from Simon & Schuster. At the time of publication of his text, Roderick McGillis was a professor of English at the University of Calgary. He served on the Editorial Board of the Journal *Children's Literature in Education* and is a former editor of the *Children's Literature Association Quarterly*. Perry Nodelman is professor of English at the University of Winnipeg (at the time of the publication of his texts) and edited Volumes I, II, and III of *Touchstones: Reflections on the Best in Children's Literature*. Nodelman's text, The Pleasures of Children's Literature, 3rd Ed., was published by Allyn & Bacon in 2002; and his Words About Pictures: The Narrative Art of Children's Picture Books hailed from the University of Georgia Press in 1990.

Understanding that the picturebook is the primary subject focus of this Dissertation, it was helpful in comprehending the big picture to look to peripheral, neighboring fields for background material on the development of children's published narratives, as well as parallel illustrative examples. There exists even less, much less, however, that focuses specifically on the much younger fields of Children's Theatre or Children's Animated Film—in part, due to the

brevity of their histories and the fact that they are still establishing themselves as serious disciplines. This is no doubt also due to the often overlooked importance of their audience base—the child—in the political and social strata of society. Nellie McCaslin (1915 to 2005), was a professor of educational theater at New York University. A leading authority on children's theatre, she continued to teach at New York University's Steinhardt School of Education until 2002. Dr. McCaslin was a past president of the Children's Theater Association of America and in 1996 received the lifetime achievement award from the American Alliance for Theater in Education. She may be alone in publishing a two volume set titled, Theatre for Children in the United States, A History. These were published in 1971 and 1987, respectively, so there is an obvious need for updated histories in that field. Turning to Children's Animation, the few existing texts that focus on the history of animation tend to examine the general field of animation rather than those selections that were created specifically for a child audience. This is the case with Leonard Maltin's Of Mice and Magic: A History of American Animated Cartoons, published in 1980 from McGraw-Hill. Leonard Maltin (born in 1950) is a much respected film critic and author and, since 1973, has taught the history of animated cartoons at the New School for Social Research in New York City and currently teaches in the School of Cinematic Arts at the University of Southern California. Another expert in the field, Charles Solomon, lectures in animation at the UCLA School of Theater, Film and Television. An internationally respected historian and critic in these fields, Solomon has written on these subjects for the *New York Times*, *TV Guide* and *Newsweek*, among others. Solomon's comprehensive text, Enchanted Drawings: The History of Animation, was published by Knopf in 1989 and reprinted by Wings in 1994. These three books are all excellent and detailed texts. They do, however, tend to focus on the people and organizations involved as well as on the subjects represented and art created,

more than about the details of the techniques and technologies (particularly in McCaslin's text on children's theatre). Both texts on animation represent a detailed historical overview and mention the developing technology as it appears in history, but there is often little or no exploration of how such technologies work, the techniques involved, or their impact on the field. I also explored other texts that focus on introducing specific educational skills in theatre and/or film, or that share essays and perspectives from notables in each field; and there are others available with a tight focus on a particular subject—some of these are represented in my Bibliography, but I have shared the more comprehensive anthological selections here.

There exists a dearth of texts that study emerging hybrid forms of children's narratives or the effect of new media on older forms. A few, ever-growing number of books discuss television, film, or computers' impact on children from an education standpoint, such as several content-rich texts written by Jane M. Healy, Ph.D. These include her 1998 text from Simon & Schuster titled, Failure to Connect— How Computers Affect Our Children's Minds for Better and Worse; her 1990 text also from Simon & Schuster titled, Endangered Minds: Why Our Children Don't Think—and What We Can Do About It; and her 2004 offering from Broadway Books titled, Your Child's Growing Mind: Brain Development and Learning from Birth to Adolescence, Third Edition (first edition was printed in 1987). I also utilized Marie Winn's now landmark book regarding how children get hooked on television, the twenty-fifth anniversary edition (revised and updated) of her The Plug-In Drug: Television, Computers, and Family Life, published in 2002 from Penguin Putnam. The author offers this proviso to readers in the Preface to this anniversary edition, ". . . when the word 'television' appears in the pages that follow, it can almost always be expanded into the phrase "television and other electronic media" (xii) (and I would include the body of what I call, "screen technologies" that pervade our society and are

beginning to dominate our daily, and night time, hours. These include everything from the television to the computer, lap tops and computer tablets, *e*-readers, smart phones and cell phones, video game monitors, etc. And the Conclusion Chapter Six explores the idea that, while some screens offer more interaction than others which may be better for both brain and body, the overall impact of time spent on all of them together could cause enormous impacts on children as they develop, as well as on the larger society).

This is such a new topic that, as I write this text, ever more texts keep appearing that deal with some part of the subject or peripheral subjects. Several now available look at of the history of reading or the brain development behind reading. Some of these focus on the book, or the history of reading. These include Steven Fischer's comprehensive text published in 2003 from Reaktion Books titled, The History of Reading, and the third in a series on the history of language, writing and reading. Fischer is the Director of Polynesian Languages and Literatures in Auckland, New Zealand, and he is author or editor of over one hundred books and articles, including the other two accompanying books to this one: A History of Language (1999) and A History of Writing (2001). Also, Robert Darnton (born 1939), former professor of European history at Princeton University and currently the Carl H. Pforzheimer University Professor and director of the Harvard University Library. He is the recipient of the MacArthur Fellowship, among others, and in 2011 he received the National Humanities Medal presented by President Barack Obama for his "determination to make knowledge accessible to everyone" (http://en.wikipedia.org/wiki/ Robert_Darnton). The founder of the Gutenberg-e program,[32] Darnton's The Case for Books: Past, Present, and Future, was published by Public Affairs in

[32] This is a program of the American Historical Association (AHA) and Columbia University Press (with some grant funding from Carnegie Mellon) that publishes revisions of prize-winning dissertations as electronic books. While these selections can be printed out and read, the electronic versions offer elements that cannot be conveyed in print such as hyperlinks to supplementary literature, images, music, video, and links to related web sites, etc (http://www.gutenberg-e.org/aboutframe.html).

2009 (http://www.gutenberg-e.org/aboutframe.html). Another text is a particular favorite of mine that draws together a lot of information, discussions, essays and primary texts about language and the many forms of the "book"—both those common in Western society, such as the codex, the artist book, or the paper-engineered book, as well as those prevalent in non-Western cultures, such as the Peruvian "quipu" or knot "books." This text, edited by Jerome Rothemberg and Steven Clay, is titled A Book of the Book: Some Works and Projections about the Book and Writing, published in 2000 by Granary Books. Rothenberg (born 1931) is an American poet, translator and anthologist known for his work in ethnopoetics and performance poetry. He has taught at both State University of New York in Binghamton and as professor of visual arts and literature at the University of California, San Diego. Steven Clay, also a contributor to this book, has published several volumes through Granary Books, often anthologies of poetry and artist's books.

Several texts in my Bibliography share a broad spectrum of information about what is known of the science and process of reading, and/or the evolution of reading and the brain. Two of these are reputable Neuroscientist Stanislas DeHaene's 2009 content-rich Reading in the Brain: The Science and Evolution of a Human Invention from Viking; and Maryanne Wolf's 2008 reprint from Harper Perennial of Proust and the Squid: The Story and Science of the Reading Brain. Wolf (at the time of her book's publication) is a professor of child development at Tufts University where she holds the John DiBioggio Chair of Citizenship and Public Service and is the director of the Center for Reading and Language Research. Additional texts in this area include the writings of Sven Birkerts. Born in 1951, Birkerts is an American essayist, author and critic, is the Director of the Bennington College Writing Seminars; has taught writing at Harvard University, and Emerson, Amherst and Mount Holyoke Colleges; and is an award

recipient of the Guggenheim Fellowship for Creative Arts. He is perhaps best known for his 1994 text, The Gutenberg elegies: The Fate of Reading in an Electronic Age (2006 edition is from Faber and Faber). Gary Small and Gigi Vorgan's iBrain: Surviving the Technological Alteration of the Modern Mind, published in 2008 by HarperCollins, takes a look at what technology is doing to brains and cultures that are currently wired for reading, but that are changing all too rapidly with widespread and early exposure to a multitude of *e*-technology. And I include one book that takes a look at illustration or "illumination" from a different perspective, that of the marginal art of the Middle Ages. Especially pertinent, for my purposes, were the author's explorations into the art of the illuminated manuscript, for its correlations to both early "greats" in children's book illustration such as William Blake and Walter Crane, as well as for its application to this post-modern era with all of its many types of "marginal" or derivative creations that comment on what has gone before (i.e., fan art, fan fiction, post-modern, deconstructed fairy tales in picture books, etc.). Michael Camille's Image on the Edge: The Margins of Medieval Art, was published in 1992 by Reaktion Books out of Hampshire, England and has a great deal to say about the importance of marginalia to the core ideas of a society. In the Preface to his book Camille writes, "Things written or drawn in the margins add an extra dimension, a supplement, that is able to gloss, parody, modernize and problematize the text's authority while never totally undermining it. The centre is, I shall argue, dependent upon the margins for its continued existence" (10). Camille's work is useful for the discussions in this Dissertation because, while Camille was focusing on art of the Middle Ages, the same ideas could be argued to hold true today—understanding the importance of the marginal "art" of a society (in all of its many forms) can be vital to that society's continued health and we cannot ignore its power; but I will also argue in this Dissertation that, in a post-modern era where much

that has gone before is "marginalized" and "deconstructed," as new forms take hold of our society's imagination and attention, those deconstructions, or new forms, can also depend for meaning upon society's knowledge of those ideas that have been formerly central to that society. If knowledge of those ideas and narratives is lost, much of the meaning of the marginalia and forms derivative to that societal center is lost as well.

Several texts have emerged that are beginning to examine the effect of different technologies on society. Let me begin with Marshall McLuhan (1911-1980), Canadian philosopher of Communication Theory, whose work is viewed as a foundation stone of the Field of Media Theory. His prescient and now classic text, originally published in 1964, is titled Understanding Media: The Extensions of Man (Critical Edition 2003). This book contains many groundbreaking ideas and perspectives on humanities relationship with its technologies, including ideas such as "The new electronic interdependence recreates the world in the image of a global village" and "The medium is the message" (xi). While Canadian political economist, Harold Innis' influence on McLuhan's philosophy is apparent in that Innis taught that "a medium of communication exerts a powerful influence on the spread of knowledge over space and time," and he focused on the need for society to study "the features of the medium to assess that influence on the social and cultural milieu where it operates" (xi). McLuhan appropriated Innis' idea and then redefined technology to apply to "any and all technological extensions of body and mind," using the redefinition for the basis of this book. How much more apt do these statements and the rest of his exploration seem in today's still electronic, but now also digital and Internet-based, culture? The next included book is written by Neil Postman. Associated with New York University for more than forty years, media theorist, cultural critic and author, Neil Postman's 2006 25th anniversary edition of Amusing Ourselves to Death: Public Discourse in the Age of

Show Business was originally published in the United States by Viking Penguin in 1985. While Postman passed away in 2003, his perceptions seem, if anything, even more pertinent to a society of young reader/viewers (as well as adults) that seems to spend a great deal of time watching television, playing video games, texting friends, posting to *Facebook* and other social networks, and trawling the Internet for amusing *YouTube* videos to share with others, etc. And Postman's discussion on the showmanship utilized in news broadcasts from the 1980s, for example, with their standardized music soundtrack and their "Now . . . Then" approach that trivializes the meaning of important events, appears even more relevant to cable television's 24-hour "news-type" programs of today. I include one more text by Postman: Technopoly: The Surrender of Culture to Technology, published by Vintage, a division of Random House, in 1993 (a previous edition by Knopf came out in 1992). In this volume, Postman first defines a technopoly as a culture that "seeks its authorization in technology, finds its satisfactions in technology, and takes its orders from technology" (72, 73). He continues to describe the technopoly as characterized by a surplus of information generated by technology, with which technological tools are then used to deal in order to provide direction and purpose for the society and its individuals (72, 73). His text provides useful perspective on the effects of new *e*-technologies, which certainly have created an overwhelming overload of information on our society and its citizens. Let us now turn to another landmark text: The classic 1977 text, The Plug-In Drug: Television, Computers, and Family Life, has now appeared in a 25th Anniversary Edition, completely revised and updated to include more information about computers, and was published by Penguin Putnam in 2002. This landmark text is written by Marie Winn, journalist and author.[33] The portions of this

[33] Winn is known for her books on the birds of Central Park, and for an ornithology column in the *Wall Street Journal.* Born in 1936 in Czechoslovakia, Winn is now a United States citizen. Much earlier in her life, in 1958, she was also involved in the Dotto television quiz show (shown on CBS television and hosted by Jack Narz) and the scandals that erupted around fixing quiz shows in the 1950s. Later television programming has focused both on her

anniversary edition that are particularly relevant to this Dissertation's topic are Winn's chapters on the addictive power of television (*Chapter 1: It's Not What You Watch*, and *Chapter 3: The Power of the Medium*, with its subsection, "Why Is It So Hard to Stop Watching?"). Her *Chapter Two: A Changed State of Consciousness* discusses the medium's power to change our consciousness, make us passive, and shut down certain brain functions (turning us into "television zombies"). Winn also writes several pertinent chapters on television for infants, television's effects on the brain, on play and on school performance; she includes a chapter that is a defense of reading and on what childhood was like before television. So, while written first in 1977, this text remains pertinent today as this "passive" screen technology remains dominant, in part because it has continued to evolve to become ever-more fascinating (with many more cable stations, twenty-four hour television, and ever more options to watch favorite shows and movies repeatedly enabled by built-in, easy-to-use, recording options, as well as instant movie and television-series ordering capabilities). In addition, interactive television, and other screen technologies invite similar discussions about these technologies' power on the growth of children, the development of their brains, and on the quality of their lives and that of their family's in a rapidly-changing society impacted by such technologies. Now turn to Friedrich A. Kittler who is Professor of Aesthetics and Media Studies at the Institute for Aesthetics and Cultural Studies at Humboldt University, Berlin. His 1999 text from Stanford University Press, Gramophone, Film, Typewriter, is a marvelous exploration discussing the development of technology from "Edison's phonograph and ends with Turing's COLOSSUS . . . . Shifting from tinfoil and paraffin paper to charge-coupled devices, surface-wave filters, and digital signal processors, the book moves away from 'technological media' such as the gramophone and

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work to write about and protect birds and their urban habitats and about the quiz show incident (http://www.mariewinn.com/bio.htm).

kinetoscope to the computer," while repeatedly emphasizing, in his discussions of the effects of such technologies on society, Nietzsche's view that, "Our writing tools are also working on our thoughts" (xxx, xxxi). His text is to be valued for its historical chronology of technological development in the late nineteenth century, but also for his theoretical discussion of cultural catalysts and responses to that technological explosion. Kittler includes the words of Rilke, Kafka, and Heidegger as well as those of creators such as Edison, Bell, Turing, etc. Kittler analyzes momentous societal shifts, as well as reactions to these new technologies and media, using the insights of Foucault, McLuhan and Lacan. Moving on, one of the core premises of my Dissertation conversation is inspired by Noël Carroll's discussion of the stages of a medium's development, that he outlined in his essay, "Medium Specificity Arguments and the Self-Consciously Invented Arts: Film, Video, Photography," from his text, Theorizing the Moving Image, out of Cambridge University Press in 1996. Carroll, born in 1946, and, as of 2012, a distinguished professor of philosophy at the CUNY Graduate Center, is a journalist, and a leading figure in the philosophy of art. He also works in the philosophy of film, the theory of media, and is the author of several documentaries. And a final text for this section comes from Dr. Leonard Shlain (1937-2009), American surgeon, author and inventor. In his 1998 book from Viking/Penguin, The Alphabet Versus the Goddess: The Conflict Between Word and Image (that became a Distinguished Lecture Series event at Pepperdine University in 2006), Shlain goes on a *tour de force* to demonstrate that alphabetic and reading cultures have increasingly, over the course of history, created left-brain dominant, text-heavy societies; and that it is only recently, with the advent of image-based new *e*-technologies, that the out-of-balance human brain and out-of-balance, text-heavy, patriarchal societies created by left-brain dominant humans have begun swinging back into balance. Shlain's view of the effects of new technologies on the human brain

offered a marked contrast to several other texts described previously that write on similar subjects and that viewed the changing state of the human brain and new technologies' effects on it with alarm. Certainly the alternate points-of-view on this subject with all of their accompanying supporting details generate an important conversation about the potential for good and harm of emerging technologies, and the need to examine carefully what we as humans potentially lose as well as gain in adopting these new technologies so heavily and so rapidly as a main-stay in our daily lives and as support networks for society as a whole. Recall the quotes at the beginning of this section. In the words of William Irwin Thompson (born 1938), social philosopher and cultural critic, "Even a positive thing casts a shadow . . . . its unique excellence is at the same time its tragic flaw" (http://www.alphabetvsgoddess.com/chapter_1_page1.html). These new *e*-media work at alarming speeds, and the great change they have created in our culture has happened at an unprecedented rate that seems to reflect the character of the technologies themselves. When cultural shifts happen that quickly, it is difficult to cope with the changes, let alone understand those changes and know how to deal with their potentially negative effects. It is only logical that there should commence immediate debate and study over the positive and negative affects of these technologies to both culture as a whole and to its persons individually, particularly to the growing child who is perhaps at the greatest potential risk due to possible harmful effects to the growing body and mind. Dr. Shlain's text helps formulate such a debate. After all, recalling the second quote at the beginning of the section, in the words of John Stuart Mill, English economist and philosopher of the 1800s, "That which seems the height of absurdity in one generation often becomes the height of wisdom in another." There is room to change our minds as a culture, to take a different path and encourage different ways of thinking, creating, learning and living—but we must do so knowing all of the facts and potential

ramifications of certain paths, and not go forward blindly accepting all of the consequences as unavoidable and right without question or thought. This discussion is touched on throughout the Dissertation, as well as in the concluding conversation. There is a need for a more complete discussion outside the parameters of this work's focus.

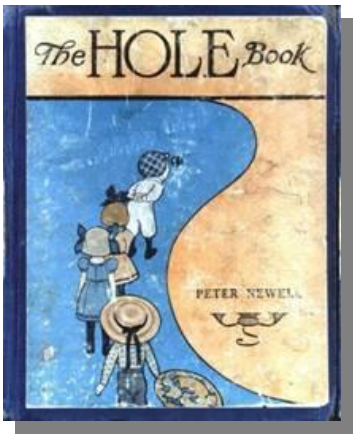
I conclude this list of texts with a few very current offerings in the same general area as those just described, but that explore electronic and digital new media and the Internet and their effects on society, people and/or children, particularly regarding potentially effects to their ability to think in certain widely accepted ways (i.e., ability to pay attention, to problem solve, to stay on task, or to think deeply, etc.). These include: Maggie Jackson's text, Distracted: The Erosion of Attention and the Coming Dark Age appeared in 2008 from Prometheus. Jackson is an award-winning author and journalist who writes a column for the *Boston Globe*; and whose work has appeared on National Public Radio, and in the *New York Times*. Nicholas Carr's 2010, The Shallows: What the Internet is Doing to Our Brains, was published by W. W. Norton. This book iterates points and information shared in an article of his that appeared as the cover article of the July 1, 2013 issue of *The Atlantic* that generated a lot of critical and public discussion, titled "Is Google Making Us Stoopid?" (http://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/). And, finally, John Palfrey (born 1971) and Urs Gasser teamed up to produce Born Digital: Understanding the First Generation of Digital Natives, published by the Perseus Group in 2008. John Palfrey is a law professor, a noted expert on new media, and a proponent for Internet freedom and child safety when using new media. He served as Director of Harvard's Berkman Center for Internet & Society from 2002 to 2008 (http://en.wikipedia.org/wiki/John_Palfrey). Urs Gasser is the current Executive Director of the Berkman Center and a Professor of Practice at Harvard Law School, among other positions

(http://cyber.law.harvard.edu/people/ugasser). [Note: Information in this section, unless otherwise cited, came from text covers, publisher's information pages, and Tables of Contents of the books described.]

This list is by no means comprehensive, but it does represent a strong selection of what is presently available in texts pertinent to my subject. New texts on the subject are finally beginning to rapidly appear (during the writing of this project), but the subject is of such immediacy (for example, the *iPad* was only introduced in 2010, with tablet models from other companies appearing later, so, despite the immediate popularity of such tablets, it is difficult to include computer tablets in recently published books' discussions at all) that it is only logical that what is already published in this area is often dated, with little or nothing about the newest technologies such as cell-phones, MP3s or other hybrid forms, or more peripheral forms and applications emerging from Web technology. Some of the previously published texts studying technologies such as film or television have republished with updated editions attempting to include computers and other computer technologies. And new texts focusing on these new e-technologies are finally appearing—but the *quality* of what is coming off of the presses can be uneven, and texts have to be carefully perused to judge whether they are content rich and thoughtfully discussed, or light and emotive, catching a wave and trying to fill a niche too rapidly. And, while several histories of Children's Literature have been published, none exist that examine the emerging and "*e*-volving" children's narrative forms, or the genre's history, from the technology perspective proposed here.

PART TWO

Two Case Studies: *A Pair of Pairs*[34]



[34] The "pair of pairs" pictured here include (left to right, top to bottom): Figure 2.1.1, Robert Sabuda's 2003 Alice's Adventure in Wonderland pop-up book showing the "You're just a pack of cards!" scene, paired with Figure 2.1.2, *Alice for the iPad* *e*-picturebook application introduced with the *iPad* in 2010, showing the same scene. Then, in Figure 2.2.1, Peter Newell's 1908 The Hole Book front cover is paired with Figure 2.2.2, Hervé Tullet's 2011 The Book with a Hole, displaying an opened front cover with large die-cut hole straddling the spine (Photo Credit: Paris Reinhard; Photographic Model: 10 year-old Bella Farate).

CHAPTER TWO

Old and New Mediums Attempting Similar Goals:
Moveable, Paper-Engineered Picturebooks, Precursors to the Emerging e-Picturebook

2.1. Introduction

This chapter discussion will begin with an introduction of several of the very first *e*-picturebook applications to be introduced to the market.[35] These *e*-picturebooks are part of a newly emerging and still developing genre. These three examples were designed in time for Apple Computer's debut of their new touch screen computer, the *iPad*.

The first of these examples is Lewis Carroll's Alice in Wonderland for the *iPad* nicknamed Alice for the iPad [Figure 2.1.2], introduced in Chapter One. This *e*-picturebook features John Tenniel's iconic images, with tastefully added color, since the original illustrations were black and white line art. In this example, picture elements move and tumble according to the orientation of the computer, aided by the computer's internal accelerometer [You may preview this *e*-book and its special effects at http://www.youtube.com/watch?v=gew68Qj5kxw

[3535] Electronic picturebooks, or *e-picturebooks*, are computer applications that recreate already existing picturebooks or newly created ones for a computer device such as a tablet or *e*-reader. Currently such applications frequently do not have double-page spreads (although they sometimes may); and often the page-turn will be a page slide or a page lift (but sometimes it looks like a page-turn). The identifying characteristic of such books thus far, when read on a touch-screen device, is that things move and change when the screen is touched or moved in certain ways (i.e., when shaken, or the orientation of the screen is shifted). The most creative of these *e*-picturebook applications use computer tablet capabilities (such as the camera or audio microphone, or the accelerometer that orients the device) to create unique interactive features (i.e., the tablet camera might be used to enable readers to see themselves in a mirror or pond in an - *e* book's illustrations). They were designed for, initially, Apple's *iPad*, then the *iPhone* and *iPod-Touch*. They are now also designed for other Android-platform devices. While they are also designed for black-and-white *e*-ink *e*-readers such as the *Kindle Paperwhite*, picturebooks without color and limited design-flexibility lessen the quality of the reading experience dramatically.

or on the (previously introduced)Video 1.2.1, hyperlinked in the List of Videos]. Although its original incarnation only offers views of one page at a time that slide sideways from page to page without the typical codex "page turn" effect, subsequent versions are planned that will also showcase a double-page spread option for viewing the book's layout. Still, in this version, when a child tilts the screen they will feel they are causing events to happen: pills fall out of bottles, cards fly, Alice's neck grows and shrinks, and the Queen's crown topples, among other possibilities—and these illustrations change simply and only because the child reader moves and tilts the

computer screen (with its sequel *e*-picturebook for the *iPad*, Alice in New York, also introduced and described in Chapter One, offering added multi-touch-screen effects as well).

Theodore Gray's The Elements: A Visual Exploration of Every Known Atom in the Universe, a 2010 *e*-picturebook showcasing stunning photography by Nick Mann, is one of the earliest showstopper *e*-books for the *iPad.* The book is actually more of a non-fiction coffee-table book for all ages rather than a picturebook—what I would call a family-oriented book. Its excellent presentation ensures that it would be difficult for anyone not to be impressed and interested in this book. In fact, a print coffee-table version of this book has also been available since 2009 from Black Dog & Levanthal Publishers. A paperback version has been released in 2012, plus a card deck version, and a version that actually includes samples of the Periodic Table elements—obviously the growing options show a desire on the part of the publisher to capitalize on the interest generated by the *e*-picturebook and the coffee-table book which are now best-sellers, as well as to produce print versions that offer special features that can compete with the *e*-picturebook's special effects. This *e*-picturebook turns the somewhat dry topic of the scientific Periodic Table into an enthralling subject with vivid photographic images that become 360

degree revolving, three-dimensional images at the mere touch of a viewer/reader's finger. It can also be viewed with special 3-D glasses (sold separately) to see the special three-dimensional effects in the book. The *e*-book contains embedded links to the WolframAlpha Computational Knowledge Engine, so some information on the elements can be continuously updated and accessed. More special effects are expected for future editions of this *e*-book [A video preview of this *e*-book may be seen in the Video 2.1.1 hyperlinked in the List of Videos; or at http://www.youtube.com/watch?v=kdiIaIUTBEc&feature=related]. While this particular *e*-book features 360-degree revolution of images, this effect is present but has been downgraded to *imitation* 3-D effects in *most e*-picturebook efforts (where the reader can shift the image one way or the other just a bit, but with no true 3-dimensional element). The Elements also includes a playful extra feature—the singing of "The Elements" song with accompanying visuals is an added feature within the book, as can be viewed in Video 2.1.2 [List of Videos] or at http://www.youtube.com/watch?v=uPUWbVLzVZI&feature=related.

A preview of Disney Digital Books' *e*-picturebook, Toy Story, for the *iPad* can be viewed in Video 2.2 in the List of Videos; or the video preview may be viewed at http://www.youtube.com/watch?v=etr35QW9uco&feature=relmfu. While this digital "book" does feature page turns that look like real book pages turning, there are no book gutters apparent on the pages as there would be with a real book, so the double-page illustrations look like they are presented on a single television or movie screen and the page turns look more like loose pages of a stack of art paper being peeled off the top of the stack, one after the other. Such a design inconsistency could confuse the young reader, especially with all of the other non-book-like special features that are included. Other features of this particular *e*-picturebook example include a highlighter that follows the words as the text is narrated, a useful feature that supports

the improvement of reading skills when the child reader is reading alone. Narration features in Disney Digital Books *e*-picturebooks also help with pronunciations of words, as well as defining words that are highlighted by the reader.

The narration feature of this *e*-picturebook, while at first consideration gauged an asset, could also *encourage* reading alone, as opposed to reading with a family member, since the narrator's voice could be seen as filling the role of the family member. Yet a computer-generated narrator's voice does not interact with or respond to a young reader's questions as would a real person. And the support of reading *with* family members is an important catalyst for future reading strength according to a study that appeared in the *British Medical Journal* in 2008, as reported in *Science Daily*:

> Young children whose parents read aloud to them have better language and literacy skills when they go to school, according to a review published online ahead of print in the Archives of Disease in Childhood. Children who have been read aloud to are also more likely to develop a love of reading. . . . And the advantages they gain persist . . . . (http://www.sciencedaily.com/ releases/2008/05/080512191126.htm).

And, as a 2010 study out of the University of Alberta reports, this reading support at home becomes more important with languages, such as English, that are orthographically inconsistent, meaning that alphabet letters and combinations of letters have more than one sound (http://www.sciencedaily.com/releases/2010/02/100216142334.htm). So this narration feature that is appearing in many emerging *e*-picturebooks is one that may have ramifications for potential populations of future readers, depending upon how such a feature is used.

To continue reviewing the Toy Story *e*-picturebook application, readers of this selection can also turn the book into a coloring book, listen to songs with accompanying textual lyrics displayed on-screen, or watch sections of the story as digital movie clips. Even a couple of age-appropriate computer games are included. Readers navigate from one feature to another by means of a pop-up navigation bar at the bottom of the screen that works with visual icons that are

easily interpreted by the young reader. In a similar manner, readers navigate from one double-page spread of the picturebook to another by means of a pop-up time-line-like bar at the bottom of the screen that displays miniature visuals of the book's double-page spreads that link to those spreads when finger-tapped and that disappears when not in use.

Emerging *e*-picturebooks, such as these three examples of excellent first-generation books, are being designed for use on the *iPad* and other electronic devices such as *e*-book readers, laptop computers, smart phones like the *iPhone*, and even for use on the *iPod* music playing devices, depending upon the book creators. This different potential platform aspect of *e*-books, in itself, is an intriguing example of the differences between printed picturebooks and *e*-picturebooks. Printed picturebooks need no technology to be read. As long as the reader knows the language, the book can be read. The new *e*-picturebooks must have been designed for the correct electronic platform in order to be read. Printed picturebooks have a physical form that can exist for centuries, takes up a certain space and has weight; while *e*-picturebooks are virtual in form, can be downloaded anywhere on earth onto the appropriate reading device in just a few moments, but could be lost just as easily when technology changes, as it happens to do to an ever-faster timeline.

With the advent of *e*-picturebooks such as these, the creators of this emerging type of published children's narrative could be seen as moving such picturebooks "off-the-page" of the traditional codex book form. Certainly, thoughtfully-designed examples, such as the ones just described, *feel* innovative and different. They almost feel like a *new* genre, full of interactive page elements, moving images or parts of images, three-dimensional illustration elements, embedded digital video clips, game-like elements, and other special effects.

Yet these were not the *first* picturebooks to take such a leap or to attempt comparable special effects. Folklorists, anthologists, and critics of Children's Literature, Iona & Peter Opie suggested, in "Books That Come to Life," from *The Saturday Book,* "Mechanical books should look like ordinary books. Their success is to be measured by the ingenuity with which their bookish format conceals unbookish characteristics" (http://www.libraries. rutgers.edu/rul/libs/ scua/montanar/p-intro.htm). Books that look like books but do not act like books, books that break the boundaries of what is considered traditional for the book form to accomplish—these types of mechanical, or paper-engineered, books have actually been around for centuries, well before development of the newly emerging *e*-picturebook applications for smart phones and computers such as the *iPad* began shaking up the traditional codex book form.

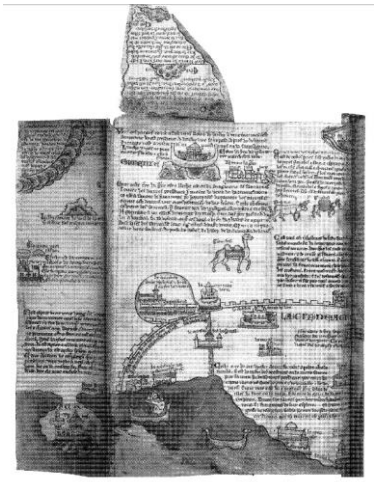
Chapter Two's discussion first presents a historical overview of paper-engineered picturebooks for children; considers examples of their various achievable forms and how these might relate to effects achieved in emerging *e*-picturebooks; and offers final discussion on similarities and differences between these two book forms.

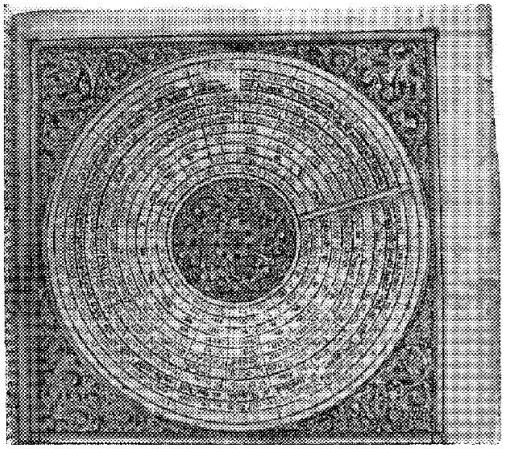
2.2. The History of Paper-Engineered, Pop-Up, Mechanical, Moveable, Toy or Living Picturebooks—Varying Terminology, One History

German opera composer Richard Wagner used the term, "Gesamtkunstwerk," or "total work of art," to refer to an operatic performance that encompassed music, theater, and the visual arts as a total art form. However, the term may also be translated as "synthesis of the arts," and is often used to describe any integration of multiple art forms (Makhanlall).

Picturebooks for children are an example of an art form that, in its most basic form, already combines several other art forms (art in the illustrations, media in the layout and publication as a book, and text in the narrative) into one grander combined work that, at its best,

can be better than the sum of its parts—so one could argue that a picturebook in its most basic form could already be viewed as a synthesis of several art forms, or as a miniature *gesamtkunstwerk*. The Children's Picturebook Genre, however, has continually developed multiple methods to attempt to stretch or break the typical boundaries for codex-formatted picturebooks. One of the oldest strategic forms designed to attempt to break those traditional book boundaries has been the paper-engineered book with moveable parts, a form that has been developing for centuries. Paper-engineered books attempt to imitate and incorporate some of the technologies emerging around them. Such paper-engineered picturebooks explore a variety of methods to achieve life-like movement, three-dimensional effects, hypertextual effects,





Figures 2.3.1, 2.3.2 (left to right).

pageantry, interaction with the reader, and even computational informational results. If a picturebook with its combining of multiple media can be viewed as a small *gesamtkunstwerk*, then how much more could the best of the paper-engineered picturebooks, and now, perhaps, the emerging *e*-picturebooks, also be judged as such?

The terminology for the paper-engineered picturebook genre (including candidate phrases to call the genre of picturebooks), will emerge as its history is examined. The timeline for

moveable books begins in the 1200s with Matthew Paris, (c. 1200 to 1259), an English historian, artist and Benedictine monk who is today considered to be the first known paper-engineer. Paris was perhaps the first to create *gatefolds*, or expanding pages using paper folds within the page itself. Using this technique, double-sized pages can be folded down to fit within the confines of a codex book, and pages can fold out to reveal extra information or to reveal new images or parts of an image. Paris used this device to map pilgrimage routes from England to the Holy Land and Jerusalem that appear in his book, *Chronica Majora* (published c. 1236 to 1253 C.E.) [Figure 2.3.1]. In Daniel K. Connelly's 1999 article for *The Art Bulletin* entitled, "Imagined Pilgrimage in the Itinerary Maps of Matthew Paris," Connolly observed, "These pages . . . strike the modern viewer as somehow familiar in their dynamic and participatory design. Turning the itinerary pages leads the viewer toward Jerusalem, and folding or unfolding the flaps that Matthew appended to the pages depicting Italy transforms the route and adds to the meanings of those spaces . . . . This interactive quality has been completely overlooked by modern scholarship" (Connolly 598). Connolly is referring to today's audience's familiarity with this

Figures 2.4.1, 2.4.2, 2.4.3 & 2.4.4 (top to bottom, left to right).

technique in centerfolds for magazines and paper-engineered books, among other examples. Paris also devised *volvelles* to determine the dates of Easter and other Holy Days, also as seen in his *Chronica Majora* [Figure 2.3.2]. While circles of information had been used prior to Paris' creation of *volvelles*, information from such circles had to be read by physically revolving the book. Paris' devising of volvelles allowed the reader of the volvelle to move layered circles containing information and align them with each other to create new meaning or discover further information while the book itself retained its upright orientation (Connolly 604-611).

In the mid-1400s, Johannes Gutenberg of Mainz Germany, who lived from about 1400 to 1468 C.E., created an entire moveable type printing system, including moveable metal type, special inks and metal alloys, and a printing press probably inspired by wooden corkscrew-type wine presses of that era [Figure 2.4.2]. Although his was not the first moveable type system (the Chinese and Korean's were using clay, wood and metal moveable type printing experimentally

Figure 2.5.

starting from several centuries earlier[36]), Gutenberg's system was adopted immediately and ubiquitously throughout Western Cultures, as opposed to the limited diffusion or saturation of the Asian systems in Eastern societies. This disparity occurred, in large part, due to the difference between the small size of any Western language's alphabet (ranging from between 21 (for Roman alphabet-based Italian) to 33 characters (for Cyrillic alphabet-based Russian); versus the thousands of characters used in various Asian languages. Assembling a printed book using moveable type is a much simpler task with any alphabet of 33 characters or less; whereas thousands of characters of moveable type creates a vastly more costly and time-consuming set-up, and raises the question of practicality and economy for the Asian printers. The winepress in Figure 2.4.2 dates from about 1700 C.E., and Figure 2.4.3 shows a strikingly similar-looking printing press from about 1576 C.E. that could print around 240 sheets an hour. Thereafter, Gutenberg printed his now-iconic Gutenberg 42-line blackletter *Bible*. The ability to mass-produce books, and cheaply disseminate texts and pamphlets forever changed the field of publishing and the speed of cultural, and even cross-cultural communication, as demonstrated in Figure 2.4.4 showing a copy of Martin Luther's printed *95 Theses*, the circa 1522 edition. Within just two years, 300,000 copies of this tract were spread throughout Western Europe, sparking the Reformation. So the technology was now in place to support the publication of codex books in multiple numbers to be marketed at affordable costs to the general population (Duchesne 69-91).

[36] About 1040 C.E., Bi Sheng of China developed the first known moveable type printing system using clay/ceramic type (http://www.uh.edu/engines/epi894.htm). He experimented with wooden moveable type as well, but preferred the results of porcelain.

The technology spread to Korea around 1234, where it was adapted into a metal moveable type printing system using a bronze casting technique to cast the type. In 1377, the earliest extant moveable metal type printed book was printed—the Kikji , or, "Anthology of Great Buddhist Priests' Zen Teachings" shown in Figure 14.1 (Zhou He 153-173).

In 1543, Andreas Vesalius published his book, De corporis humani fabrica libri septem, using devices called flaps or fugitive sheets [Figure 2.5]. The book was printed with woodcut illustrations of muscles and viscera in layered order. As each illustrated flap is lifted, the layer beneath is revealed. One of the book's illustrations reveals the human anatomy in *seven* superimposed layers. At the time this book was printed, pages showcasing flaps often had flaps that were not bound into the codex book, so were frequently lost. This, then, is the origin of the term, *fugitive* sheets (http://www.library. unt.edu/rarebooks/exhibits/popup2/introduction.htm).

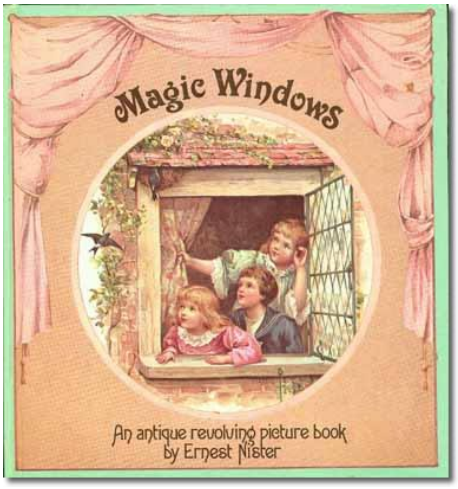
About 1765, Robert Sayer, English printer and bookseller, began producing the first true moveable books for children. This new type of picturebook was initially termed a *harlequinade*, named after a popular character of the stage pantomimes of that time that typically featured

Figures 2.6, 2.7 (left to right).

characters being changed or transformed into other characters (Harlequin, the character, often starred in harlequinade books—which were sometimes created to accompany current London theatrical shows). As shown in Figure 2.6, within this opened form paper flaps fold up or down (and, later, side to side) to change the illustrations (or scenes) of the story into other illustrations (or scenes), characters into other characters, or character's costumes into other costumes, thereby moving the narrative forward (http://www.popuplady.com/about01-history.shtml).

The 1800s began what is now considered the first Golden Age of Pop-ups. Beginning with paper doll books from about 1810, such as The History of Little Fanny Told in Verse shown in Figure 2.7, the use of moveable paper elements began emerging within the codex book form in England, France and Germany. With this high-fashion paper-doll book, the doll is only a head that is slotted into the cardboard costumes as can be viewed in Figure 2.7. Fanny's head is shown, located in the upper left corner (http://www.stellabooks.com/articles/moveables.php).

Several historical events contributed to the nurturing environment necessary for the emergence and popularity of this new genre. Advances in medicine and inoculations better



Figures 2.8.1, 2.8.2 & 2.8.3 (left to right).

protected children's health so they survived to adulthood in greater numbers than had previously occurred, and children require books and toys with which to learn and play. The Industrial Revolution helped create a leisure class and middle class that, for the first time, had disposable income to spend on non-essential items such as books for their children. With all of its labor and time-saving inventions and with its factory-produced products rolling off of the assembly-line, the Industrial Revolution also created the leisure time for parents to read books to their children. Factories could produce items with such speed that they needed to create markets that the public would revisit on a repeat basis, and books were such a market. The price of books dropped dramatically from the exorbitant cost of producing the illuminated manuscripts, as books were now mechanically mass produced; and customers would inevitably need more new narratives to read for pleasure on a regular basis, so books created a reliably profitable niche for publishing companies to fill. Also, in 1870, the Elementary Education Acts in England and Wales provided for compulsory elementary education. This Act inevitably produced more literate societies that would be able to read more readily available books (Shaw HofE 4).

Several well-known moveable book publishers emerged throughout the Victorian Age. The first, Ernest Nister, produced work in England and Germany. Between 1891 and 1900, his company produced multitudes of moveable books that were sold in Germany, London, and in the United States through Dutton Publishers. Nister developed the circular form of the Venetian blind dissolve as shown in his book, In Wonderland, published in 1895, later republished as Magic Windows, the cover of which is shown in Figure 2.8.1. The way this circular dissolve transformation works is demonstrated in Figures 2.8.2 and 2.8.3. Figure 2.8.2 shows what occurs when an angled tab is slid from one side of the angled slit to the other. This action pulls a second picture into place over the first picture by means of slits in the outer page—a

transformation that would have appeared magical to children in the late 1800s, and remains surprisingly effective today [View the transition of this dissolving action of this type of moveable in Video 2.3].

Before Nister's innovations, moveables were manual affairs, with the viewer having to pull the assemblage into position by pulling a ribbon after the page was turned. In Nister's books, a tab from the moveable is attached to its page. When the page is opened, it pulls the three-dimensional image into position automatically—a significant technological improvement in paper-engineering, with the book doing the work rather than the reader. Nister asserted that he had created the first "moveable books," a term for the genre that is still in use today.

Figures 2.9.1, 2.9.2, 2.9.3; & 2.10.1, 2.10.2, 2.10.3 (top to bottom, left to right).

Dean & Sons produced work exclusively in England. Thomas Dean founded his publishing firm pre-1800, and it was one of the first such companies to take full advantage of the new printing process of chromolithography, invented in Germany in 1798. Dean began publishing "toy books" as he called them, in the early nineteenth century. His son, George, joined him in 1847 and their business dominated the paper-engineered picture book market from the 1840s to the 1880s. Their scenes were crafted in "peep show" style with layers of die-cut windowed scenes set one in front of the other. With Dean's innovations in paper-engineering, when the reader lifts a flap, the three-dimensional scene actually stands up rather than having to be set up into position. During the 1860s, Dean invented the pull tab to mechanize moveables, and advertised his artwork that incorporated his new mechanisms as "living pictures." The picture book Royal Punch & Judy as Played before the Queen at Windsor Castle & the Crystal Palace, published in 1861, showcases this development. Figure 2.9.1 shows the front cover of the book. Figures 2.9.2 and 2.9.3 show the two positions of the Punch and Judy characters in a single-page layout as they switch from character position to character position at the moving of the page tab. By looking back and forth continuously at Figures 2.9.2 and 2.9.3, one gets an idea of the movement created by moving the tabs on this page. When the characters switch back and forth between two different positions, the illusion of life-like puppet movement would have been quite dramatic for those first readers introduced to books such as these, offering an effect similar to simple .gif format computer animations found on many websites currently. Beauty and the Beast is a second example of Dean's work [Figure 2.10.1, front cover]. Published around 1873, an interior double-page spread is shown in Figures 2.10.2 and 2.10.3. In this example, if the reader pulls the tab in and out, the characters in the paper-engineered scene change positions at each tab movement. In this case, Beauty moves her head and hand positions, and the Beast

dramatically appears and disappears. Figure 2.10.2 shows the first position and Figure 2.10.3 shows the second position. These first moveables must have created quite a stir with the children who read them. They must have appeared almost magical. Vintage paper-engineered picturebooks such as these examples remain quite popular today for their representation of early attempts to create "video within book covers" as such an attempt would be called today; or to create "living pictures," as Dean termed them, that incorporated "living" movement by the book's characters.

Note that, in both of these examples, the narratives are being presented in a setting that would be familiar to readers of that time period, and that both of these settings are theatrical—in these two cases, the street theatre and the stage theatre. However, the street theatre example was for a performance "as played before the Queen," and special books were often produced to be available for sale concurrently with various theatrical productions. We market products similarly today. While this choice of setting could have been subconscious on Dean's part, perhaps Dean considered theatre to be the most up-to-date technology to use as a background for these narratives in order to legitimize the books as a serious art form; or perhaps he wished to stress the connection of this form of moving "paper theatre" to the living theatre. It is my view that it was his intention to stress to the reading audience that the picturebook form could produce its own version of moving theatre or "living" theatre. After all, Dean did coin the term "living pictures" for his paper-engineered scenes. It would appear natural for the puppet characters, Punch and Judy, to be presented in such a setting—after all, street theatre is the location where many children would remember seeing these characters—so it is a recognizable setting for them. *Beauty and the Beast*, however, is a fairytale, a story that had been around as an oral tale (with roots at least as old as the myth of Cupid and Psyche that dates back in literary text to a Second

Century A.D. Latin novel by Apuleius called *Metamorphoses* also known as *The Golden Ass)*, and appeared centuries earlier in Greek art. A European version of the tale was first recorded by

Figures 2.11.1, 2.11.2, & 2.11.3 (left to right, top to bottom).

Gabrielle-Suzanne Barbot de Villeneuve in 1740 (although a more famous, simplified version based on Villenneuve's story was published by Madame le Prince de Beaumont in 1756 that was translated to English in the following year). Realizing their long-term ubiquitous nature across

the globe, it is not surprising that myths and fairytales provided an early popular subject for theatre. This story was quickly and widely adapted for various theatrical and operatic settings. In fact, a play entitled *Amour Pour Amour*, by Nivelle de la Chaussée, based on Villeneuve's version was published as early as 1742, so the theatrical setting for this picturebook is not surprising. It may have been only natural for Dean to try to legitimize and promote the purchase of his moveable books by imitating this older medium of Theatre with a recognizable theatrical play narrated within their covers (http://www.surlalunefairytales. com/beautybeast/ index.html).

Figures 2.12.1, 2.12.2 & 2.13.1, 2.13.2, 2.13.3 (left to right, top to bottom).

Dean & Sons dominated the paper-engineered picturebook field for decades to the 1880s, when other pop-up publishers began joining the field. The first German publisher to do so was

Raphael Tuck & Sons. Raphael Tuck started out as a furniture maker, but opened a publishing house in 1870. When Tuck retired in 1882, he had become a naturalized British citizen and become the official publisher for Queen Victoria. In Figures 2,11.2 and 2.11.3 from the 1892 edition of Fun at the Circus [Figure 2.11.1, front cover], a *harlequinade* is operated by readers flipping parts of the illustration up and down to change the images. View the moveable in motion in Video 2.4, List of Videos [hyperlink disabled—see note in List of Videos]. The hinge runs horizontally through the center of the layouts. Notice that there are small images on the right of each page demonstrating how a reader could create stretchable marionettes from the paper body parts pictured on the book's pages. Marionettes, once again, are a connection to a form of theatre—to puppetry—an existing medium of the period in which the book was published, with which Tuck's potential readership would already be familiar. Tuck is creating yet another way his audience could experience moving characters—by creating marionettes with the book images, if readers chose to do this over enjoying the changing images as presented in the picturebook (because, without a form of easy reproduction, the book would be destroyed to create the marionettes). So, even the earliest of moveable picturebook creators were already enamored with creating illustrations that include realistic movement, something close to what viewers experience in video today.

McLoughlin Brothers began publishing pop-up books in the United States in the 1880s. They began by pirating pretty heavily from Dean & Sons' material, then moved on to producing their own work. Their best-known series, perhaps, is the *Little Showman's Series*. This series featured pull-*downs* that consisted of two boards that hinged downward creating a three-dimensional scene, often focusing on such things as animals in circus cages as shown in The

Lion's Den, 1886, in Figure 2.12.1 [front cover] and 2.12.2 showing an interior page with the three-dimensional scene lowered into place.

French publishers began producing paper doll books and moveable books in the 1800s. Some French moveable books were similar to the McLoughlin's *Little Showman's* series, published in the United States. Others were pull-the-tab books such as Le Chaperon Rouge (Red Riding Hood), circa 1890, shown in Figures 2.13.1, 2.13.2 and 2.13.3. Upon pulling the tab in Figures 2.13.2 and 2.13.3, a simple back and forth movement is enacted by both Red Riding Hood and the Wolf's arms and body as he tries to grasp the girl character—movement that is demonstrated in these two figures. View a .gif formatted animation video of the movement in Video 2.5, List of Videos [hyperlink disabled—see note in List of Videos]. It is surprising how easily the human eye is fooled. With this skeletal, two-frame image blend, whether it is accomplished with paper movables or computer .gif animations such as in this example, the eye attempts to interpolate the intermediate images necessary to give the jerky, back-and-forth movement a certain realism—with surprising effectiveness, considering the simplicity of the animation sequence.

The printing technology used to print these early paper-engineered picturebooks was a new technique called chromolithography. Many of these early paper-engineered picturebooks are printed in multiple colors. This is extraordinary for that era because full-color picturebooks were not common until the mid-Twentieth Century in the United States, when off-set printing became viable in the 1960s to 1980s. The printing for the majority of the moveable picturebooks from this period were executed in Germany where chromolithography had been invented and was considered of the highest quality. In addition, printers in Germany were most familiar with this new process and best able to utilize its assets in their printed books. Louis Prang (1824-

1909), German immigrant to Boston, Massachusetts, who became a publisher and printer who popularized the use of chromolithography through the production of fine art prints in the United States, defined *chromolithography* as "printing in colors from drawings on stone . . . " (Gaffney http://www.pbs.org/wgbh/roadshow/tips/chromolithography.html). Prang was describing this early, rather intensive color printing process that produced impressive results, used no half-tones, and that used stone plates, one for each color. *Chromolithography* (and lithography) is a *planographic*, or *flat* (as opposed to relief or intaglio), *printing process*. The process could be quite time-consuming and complex, with frequently as many as dozens of passes through the press to create complicated additive color mixes. Registration of so many printing passes was a major issue in this process—making this method not only time-consuming and labor intensive, but also quite expensive. A high-quality illustration could take months and the effort of many skilled workers to complete, during a time period when many children's books were still printed in black-and-white and when, if color was added, it was accomplished frequently by hand after printing using watercolor washes (http://www.lib.udel.edu/ud/spec/exhibits/color/litho gr.htm).

Standing out from the crowd during this period was German printer/publisher Lothar Meggendorfer (1847 to 1925). Similar to Web-loggers today, Meggendorfer entered the publishing business in 1866 by self-publishing. First, he wrote and published the humorous magazine, *Flying Pages* (similar to *Punch).* In the 1880s, he launched another long running paper called *The Meggendorfer Pages*. His first moveable, Living Pictures, published in 1878, was a Christmas present for his son, and was the first of two hundred such books that Meggendorfer published.

Meggendorfer's moveables are ranked among the most complex ever created. He is remembered for inventing rivets that allow multiple engineered actions with one tab, as well as for the lifelike movements in his books that could mimic real movements of people and animals. View some of his lifelike moveable creations from his picture book, Always Jolly [at http://www.youtube.com/watch?v=yWzrGpp7DGo, or in Video 2.6.1, hyperlinked in the List of Videos as well]. Notice, for example, the multiple movements incorporated into the moveable of the cello player from that picturebook. The remarkably realistic movement in this paper-engineered creation involves the cellist's moving head, one arm/hand running up and down the neck of the cello apparently pressing the cello strings, while the other hand/arm moves a bow back and forth across the strings. The combination of movements in just this one example of Meggendorfer's work demonstrates that his pull tabs often activate a complex collection of many levers. It is precisely to help facilitate multiple-action, paper-engineered moveables that Meggendorfer instituted the use of rivets to help control the moveable actions; and these are visible in a screen capture of a moveable of monkey's having a food fight at a table, in Video

Figure 2.14.1.

2.6.2, List of Videos [hyperlink disabled—see note, List of Videos] from his The Monkey Theatre from 1894. Figure 2.14.1 shows the book's front cover (http://www.popuplady.com/mm01-lotharanimalsavant.shtml).

With the extreme complexity of Meggendorfer's moveables, it is not surprising that they are also extremely fragile. In fact, Meggendorfer actually wrote cautionary poems to accompany several of his books to warn children to treat the books with care. A couplet excerpt from one poem such from his book, Always Jolly, urges:

> *". . . But, still, they are of paper made,*
> *And, therefore, I advise*
> *That care and caution*
> *should be paid . . ."* (unpaged).

Considered to be the paper-engineer genius of his time period, even today it is difficult for paper-engineered picturebook creators to match the complexity and vision of Meggendorfer's creations. The book considered to be Meggendorfer's panoramic masterpiece was published in 1888 and entitled, Internationaler Zirkus (or, International Circus). It opens out in zigzag fashion so the book can be viewed in its entirety at one time, and each page features a drop down three-dimensional scene. The assembled, three-dimensional book is shown in Figure 2.14.2, and

Figure 2.14.2.

shows the many acts in the circus, yet another theatrical medium utilized in these sorts of picturebooks, surrounded by the crowd seated on stadium seating within the circus tent, the circus orchestra located up high over a doorway, and the fact that horse acts dominated the Victorian circus. The scene set by this picturebook reminds me very much of my own visits to The Big Apple Circus, which tours under a big top tent with the intentionally traditional trappings and layout of the Victorian tented circus. This picturebook can be set up in a circle or a half-circle as shown in the Figure to mimic the rings under the big top, which, in all likelihood, is why Meggendorfer designed the book so it opens out in zigzag format, allowing the entire staged piece to be set up to imitate the real event (Whitton PTW color section unpaged). In addition, Meggendorfer takes pains in this and many of his other paper-engineered picturebook creations to follow the rules of children's picturebooks and enclose a narrative inside the book's covers. In this case, the sections of text are presented on the bottom of each fold-out scene on each separate page of the book, visible before the scene is pulled into place. Readers can read the text and then pull the pop-out scene down to view it. So, while expanding what the paper-engineered picturebook can accomplish, Meggendorfer and other creators of his era often continued to fulfill the child's expectations for a traditional book, in which front and back covers enclose an illustrated narrative.

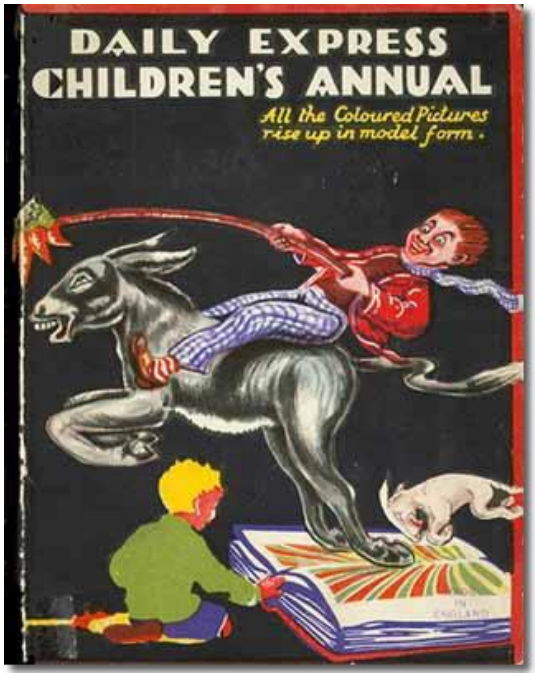


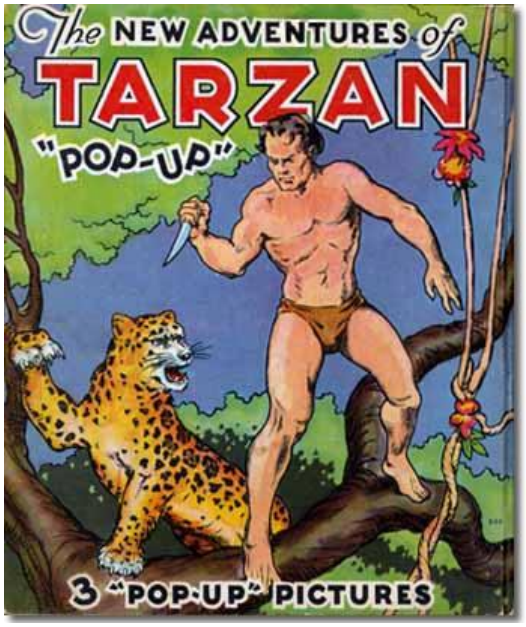
Figure 2.15.

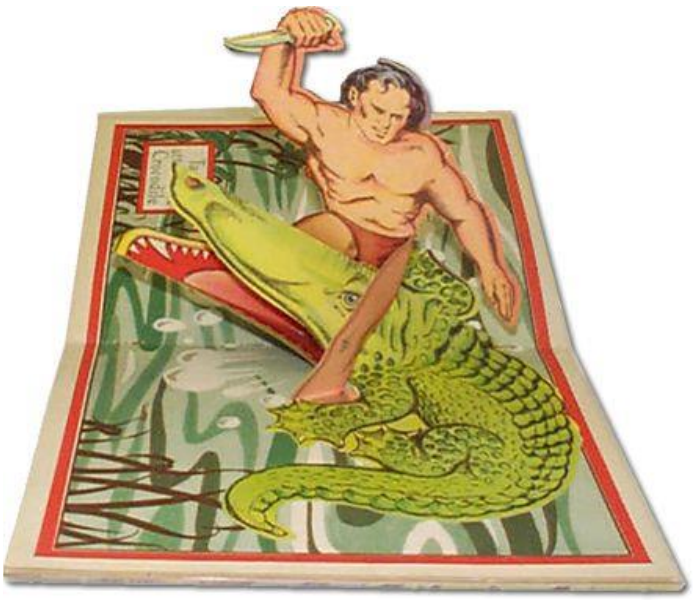
When World War I happened from 1914 to 1918 the production of moveable books understandably slumped and nearly stopped for several reasons. There was suddenly a scarcity of hand labor for such tasks, as men went off to war and women helped with the war effort. There was also a scarcity of paper, as all products were put toward the war effort first. There was lack of access to the much-used German printing industry where the necessary printing technology, chromolithography, had been developed, since Germany was on the opposite side of the war from the main producers of paper-engineered books: England, the United States and France (http://www.lib.udel.edu/ud/spec/exhibits/ color/litho gr.htm).

Despite this slump in production of such books, in 1929 S. Louis Giraud from England began publishing books with the first pop-ups activated by simply turning the pages of the book. Therefore there is reason to argue that Giraud could be considered the originator of the first true pop-up books. Each time this claim is asserted, it is asserted for a different reason, with a different nuance. Giraud's innovation began a renaissance in the moveable book industry. The series in which these were first represented was titled, *The Daily Express*, and the front cover of one of these is displayed in Figure 2.15. Notice the line on the cover that states, "All the Coloured Pictures rise-up in model form." One notable point about the design is that the boy on the donkey rising out of the book (the paper-engineered form) is modeled with shading and details, where the "real" boy reading the book in the illustration is modeled in simple flat colors with no detail. So, the imitation paper-engineered characters in a virtual paper world are presented as though more "real" or exciting than the supposedly living child, who is presented as though a flat illustration.[37] *The Daily Express* was followed by Giraud's *Bookano Books* series

[37] This early attempt to market the three-dimensional paper virtual reality as a more enticing world than the real one calls to mind the realities of today's video games that present such a mesmerizing virtual reality that children can become addicted to their play, leading the APA to include Internet Gaming Disorder and Internet Use Disorder (IGD

that features pages whose movements continue after the page is opened (demonstrating parallels with a short video clip activated by a touched hyperlink in an *e*-book), as shown in a screen capture of a paper clown spinning around a string trapeze, activated by the opening page, from one of Giraud's books in Video 2.7 [List of Videos] or view the video at http://www.library.unt.edu/rarebooks/exhibits/popup2/video/popup.rm]. Theodore Brown is





Figures 2.16.1 & 2.16.2 (left to right).

believed to be the actual inventor of the type of moveable that opens with the turning of the page, and shares the patent with Giraud. The self-rising structures were referred to at that time as "spring-ups." The last edition of these books was published as late as 1949.

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and IUD) in Section III of the DSM-5 (http://dsmfacts.org/issue-accuracy/apa-corrects-new-york-times-article-on-changes-to-dsm-5s-substance-use-disorders/>).

In 1932, Chicago-based Blue Ribbon Press copyrighted the term "pop-ups" and produced a series of books based on popular cultural icons. These icons included Mickey Mouse, Flash Gordon and Dick Tracy. Note this movement into the arena of literary created icons and licensed characters in addition to those from the oral tradition. Blue Ribbon Press also published pop-up versions of classic fairy tales. Figures 2.16.1 and 2.16.2 show the front cover and an open page spread from The New Adventures of Tarzan "Pop-Up" that was published in 1935.

Figure 2.17.1, 2.17.2 & 2.17.3 (left to right).

During the 1940s, Julian Wehr "animated" books for several publishers. Note the term, *animate*, which is one that is quoted from the books themselves as shown on the cover in Figure 2.17.1, where it states "animations by Julian Wehr." So Wehr understood the implications of creating three-dimensional paper sculptures that move—that moving paper sculptures within books can behave as a sort of animation. Wehr's tabbed designs showcased more flexible tabs than many designers had used up until that time and these often could be tabbed from the side as

well as the bottom of the page. Some would slide along a slit in the page offering a greater variety of movement. That sort of angled sliding tab is visible in Figure 2.17.2 and 2.17.3 from pages out of his 1944 edition of *The Wizard of Oz.* Figure 2.17.1 shows front cover. To view this tabbed image movement, see Video 2.8, List of Videos [hyperlink disabled—see note].

Voitech Kubasta (1914-1992) began creating pop-up books and other ephemera in the 1950s in Prague, Czechoslovakia. His work often included one grand pop-up at the end of the book [example shown later in chapter]. He also created unusual books with moveable parts on their covers as shown on the two book covers in Figures 2.18.1 and 2.18.2. Figure 2.18.1 shows a trunk that opens and closes on Der Fliegende Koffer (or, The Flying Trunk), published by Artia in 1960, and Figure 2.18.2, from his How Columbus Discovered America (1954), features a ship's wheel that reveals a map of Columbus' voyage as the wheel is turned. To view these picturebook covers in action, watch the screen capture in 2.9, List of Videos & Screen Captures [hyperlink disabled—see note in List of Videos] (http://www.library.unt.edu/rarebooks/exhibits/popup2/kubasta.htm).

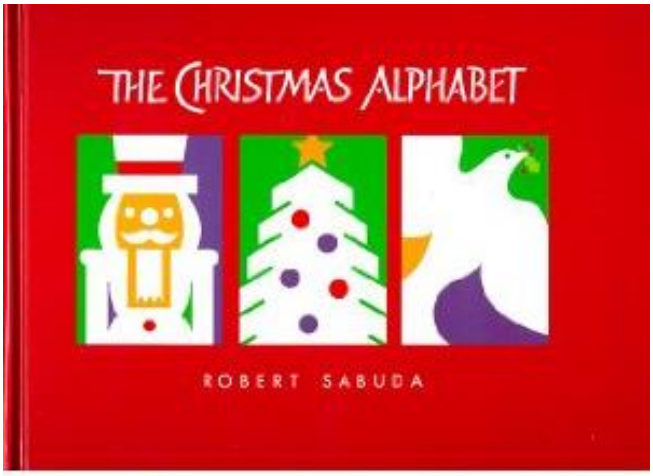
The second Golden Age of Pop-ups began around 1965. Waldo 'Wally' Hunt, born in 1921, was exposed to the work of Prague-based Kubasta, and formed Graphics International to use pop-ups for advertising purposes. Bennett Cerf's *Pop-up Riddle Book* was used as a sales premium for Maxwell House Coffee. Cerf, who later worked as an editor for Random House Books, then began to use the pop-up format for children's picture books. Hallmark Cards eventually bought out Graphics International and began to produce its own series of children's pop-up books. Then, in 1975, Hunt formed another company, Intervisual, which became the largest packager of pop-up books in the United States.

Ann Montanaro (born 1942) formed the Movable Book Society for collectors, artists, librarians and packagers in 1994. She also began publishing a quarterly newsletter, *Movable Stationery*. Since that time, she has published two bibliographies of moveable books. Both of the bibliographies are entitled Pop-up and Movable Books and were published by Scarecrow Press in 1993 and 2000.

Figures 2.18.1 & 2.18.2 (left to right).

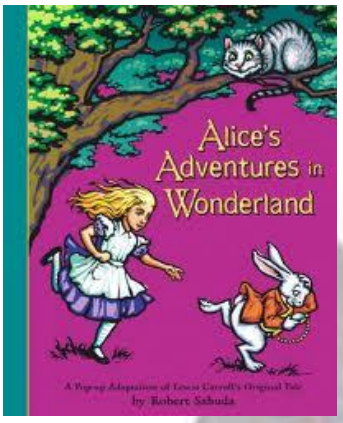
In 1998, Robert Sabuda (born 1966) won the Movable Book Society's first Meggendorfer Award for his The Christmas Alphabet [Figure 2.19.1, front cover]. This alphabet pop-up book was published by Orchard Books in 1994. In this book, Sabuda established his signature style. Though he varies from this style now, and has begun to add color to his book designs, his earlier paper-engineered books focused on the engineering and die-cut pop-up images, but not through the aid of any sort of drawing or color. His pop-ups in The Christmas Alphabet, as well as several others he has continued to design throughout his career, are accomplished with primarily

white paper-engineered sculpture [Figure 2.19.2]. What is intriguing about this is that all paper-engineered books begin with a pattern book executed in white cardstock. Sabuda saw the strength and possibilities in this simpler design and focused on it as his signature style. In The Christmas Alphabet, Sabuda adds pastel colors in the paper used for the smaller alphabet letter booklets within the larger picturebook, but every sculpture is executed with white cardstock and the text is dropped out in white—adding continuity and understated



Figures 2.19.1 & 2.19.2 (top to bottom).

elegance to the book design. Even this early picturebook success of Sabuda's demonstrates his love of complex, interwoven designs, with its booklets within the larger book—yet it displays a regularity and conciseness in its design that prevents the complexity from overwhelming the book. Sabuda manages to continue this pattern of careful organization, keeping complex designs



Figures 2.19.3, 2.19.4 & Figure 2.1.1(from top left, top to bottom; last Figure introduced on this Section Page).

manageable for the reader, in many of his subsequent creations. Creating paper-engineered books in white allows readers to focus on the moveable illustrations, on their shapes and transformations, and helps create a truly original and artistic aesthetic despite their identity as mass-published books (and, though moveable books are mass-*printed*, they are not solely *mechanically* produced. Every paper-engineered picturebook requires hand-assembly)

Figures 2.19.3, 2.19.4 & 2.19.5 feature a classic example of Sabuda's work that is *not* executed in his signature white style (these paper-engineered illustrations are first printed in color and then assembled), as Sabuda, in addition to his continuing additions to his "white" collection of paper-engineered creations, has begun to also create already iconic paper-engineered books in full-color. The book example exhibited here demonstrates his strengths in this area as well, and is an incredibly complex and impeccably-designed example of pop-up design. His Alice's Adventures in Wonderland: A Pop-up Adaptation of Lewis Carroll's Original Tale, [Figure 2.19.3, front cover], published by Simon & Schuster in 2003, showcases well-designed large pop-ups on every page as demonstrated in Figures 2.19.4 and 2.19.5. These show, first, a giant Alice trapped in a house; and, secondly, an Alice with playing cards flying. Each page, in addition to the large dramatic pop-ups, also features a smaller codex booklet affixed to the page- spread. These smaller booklets consist of multiple pages and contain the text of the novel. Incredibly, each double-spread of these smaller booklets also features exquisite moveables, as can be observed in both Figures 2.19.4 and 2.19.5. This book is a masterpiece of engineering, using everything from a tunnel section showing Alice falling down the rabbit hole [shown in next section], to an expansive Mad Hatter's tea table set with three-dimensional "silver" foil tea cups and a fuzzy Dormouse, to an exploding deck of 52 cards in the final scene

shown in Figure 2.19.5. Sabuda's work consistently demonstrates innovative design and, often, dramatic perspectives for his moveables.

Of all the paper-engineer picturebook designers today, Sabuda arguably creates the most complex and innovative books, yet his designs are so well refined and fold so compactly that the spines of his books are nearly always the tightest on the market. His smaller books within the larger book have corner tabs to help them tuck corners in and close as flat as possible (since they also contain moveables on every page spread, so want to stay open), and to help protect them from damage. It is no small feat to create a paper-engineered book with a narrow spine, when that book is filled with numerous card-stock-weight pop-ups. An important point regarding Sabuda's work, as well as the work of many of the best paper-engineers, is that many of the paper-engineered illustrations throughout this book and many other paper-engineered picturebooks, and especially recently published ones, actually create movement *within* the pop-up image as it moves into place that often acts out part of the plot or directs the narrative forward, similar to a small video movie clip. For example, in Sabuda's Alice's Adventures in Wonderland, Alice's neck actually appears to grow in one paper-engineered image; one of the card characters waves his arm to paint the roses red as the page is opened; Alice hits at a hedgehog croquet ball with her flamingo mallet as the page is turned; and, on the spread that is pictured in Figure 2.19.5, an entire pack of cards explodes as the page is opened [A video of this book that demonstrates these examples of paper-engineered movements that contribute to and participate in the narrative action can be viewed in Figure 2.10, List of Videos; or at http://www.youtube.com/watch?v=egXg0gkKvwM] (Rubin http://popuplady.com/mov-timeline.htm).

Today's pop-up books have being designed to ever more complicated and innovative blue-prints. It is impressive that, not only have paper-engineers figured out how to build incredibly intricate paper-sculptures that are able to open into three-dimensional space as a page is turned; but, even more impressive is that fact that they are frequently able to also utilize the movement created by the opening sculpture to support the narrative and move it forward. In addition, over the last century or more, many new movements have been developed to offer an ever increasing array of possible actions. From flip out tabs that create a movement similar to a somersault as the pop-up opens out; to slide out drawers with pieces inside that pop into place as the drawer opens; to correspondence that opens so readers can read the letter inside the envelope; to paper-sculptures that unfold into position far above the paper plane of the book page; to picturebooks that are finally beginning to compete with and possibly surpass Lothar Meggendorfer's creations more than a century after he first set the standards so high—pop-up artists continue to stretch the boundaries of their medium.

2.3. Paper-Engineered Book Terminology and their Technological Parallels

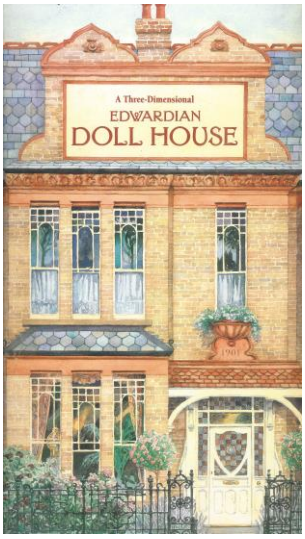
To understand paper-engineered picturebooks, it is important to view them as more than just toy books or play things for children (which is not even a sensible attitude, given the fragility of such books). These creations are frequently thoughtfully designed and remarkably complex. They require a certain understanding of both structural design and engineering. In fact, pages from within paper-engineered picturebooks sometimes remind one of miniature set design models used in theatre, or of the type of building models used in architecture—except that paper-engineers have devised ways to create paper structures that rise, flip, flap or slide into position

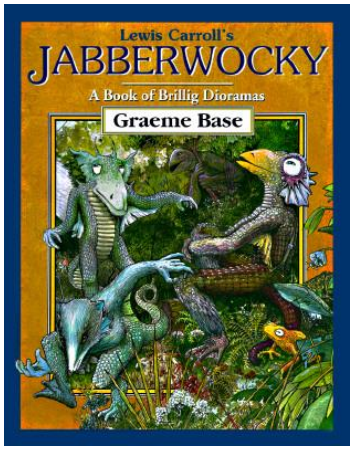
(theatre sometimes does this as well in set design); and they have begun to utilize that movement to support the narrative wherever possible and appropriate.

Since the genre's inception, paper-engineer designers have attempted to replicate the activities and movements of *real* life with paper sculptures within the covers of the pint-sized codex picturebook. In addition, when the picturebooks contain subject matter such as fairytales and other stories that include magical happenings, the paper-engineer picturebook designers have also attempted to recreate that magic with paper and make that magic appear plausible to the young reader, as with a giant Alice trapped within a house in the previous example by Robert Sabuda [Figure 2.19.4]. In attempting to achieve these goals, paper-engineers create ever-expanding types of individual moveables of a variety of designs that open, pop-up and slide in surprising and delightful ways that often add to the narrative—for example, a paper-engineered frog that moves into three-dimensional position with a leap "off the page" conceptually. While creating life-like movement or magic for the child reader, the paper-engineer is also using each one of these types of individual moveables to achieve goals similar to goals achieved in other media and by other technologies. A flap that opens in a paper-engineered picturebook to reveal more information through word or picture for the young reader has a similar purpose as the hyperlink in on-line text that offers extra information. Such similarities could be similarities of purpose, as in the previous example, or the similarity could be more of a visual similarity as, for example, between the first term in this section to be discussed, the *carousel* book, and the turntable used in theatre—both are round and turning them typically reveals several scenes.

2.3.1. *This Section's Focus: Defining Terms, Comparing Old to New in Purpose and Structure*

This section is about defining a sampling of terms frequently used in paper-engineering picturebooks, but it is also about comparing an older print and paper medium with new *e*-media and technologies, while experimentally thinking about the similarities among the various media in both intent and structure. There can be a tendency to judge newer technologies as completely new and innovative; but it is also possible that older technologies worked to achieve similar results; and parallels may be revealed by means of thoughtful comparison.





Figures 2.20.1, 2.20.2, 2.20.3 & 2.20.4 (top to bottom, left to right).

If one considers the individual paper-engineered moveables used within paper-engineered picturebook design (moveable forms have come to be considered standard enough to merit specific terms or titles to describe them) with the special features and designs within the growing *e*-picturebook market, it might be possible to identify similarities and common goals between the two genres. However, since the *e*-picturebook genre is brand new, still emerging as this chapter is being written, still in the stage of rapid experimentation with few standards to consider, it might be prudent to broaden the scope of any such examination to include comparison with aspects of other media and *e*-technologies to identify areas of similarity and contrast. The point of comparison here is not for an in-depth study, but merely to consider the purpose and intent behind a sampling of individual paper-engineered moveables, in order to consider how different media have attempted to achieve similar goals.

So, in this section, an examination of a sampling of the terminology for the specific creations within the paper-engineered picturebook genre will be first identified and defined, with appropriate examples presented. Following each definition, some possible comparisons will be offered as to how the effect created by this paper-engineered device might presently be used to create comparable effects in newly emerging *e*-picturebooks, in other hypertextual *e*-media and in neighboring media that share characteristics as discussed in this Dissertation.

Paper-engineered, or pop-up, books have created a terminology list all their own. It is useful to have a conception of what at least a sampling of these terms mean:

The *carousel* or *star* format refers to books that open into a circle or star format, with front and back covers meeting when fully opened. Such books may contain ribbons to secure the books in the carousel position. This allows a picturebook to take a completely circular 360-degree format that is usually divided into several sectional pop-up "scenes" that often contain

text as well. Brian Sanders is the author of The Edwardian Doll House, published by Viking Press in 1996 and shown in Figures 2.20.1 and 2.20.2. When closed, it appears to be a typical codex picturebook displaying the front and back facades of a period home on its respective covers. However, when the book is opened, this particular example makes no attempt to provide a text-based narrative, but, instead, opens to create the interior rooms of a completely three-dimensional dollhouse with working doors and three-dimensional stairs, tubs, fireplaces, tables, and chairs. The book also includes an entire set of stand-up paper dolls and pets with which the child "reader" can play and use to interact with the home's interior. This particular example is a clear attempt to recreate life in miniature, a sort of virtual reality, for a child. Users of such books can practice and pretend life more easily with three-dimensional stairs and bathtubs. There is also an element of spectacle about this book. It is a book that surprises the reader when it opens into a house, because when it is closed the book looks like a normal picturebook—and any child would be impressed with the effort. After all, such a format shows the inner workings of the outer cover. In this case, the cover of the book looked like a house—opening the book created a three-dimensional working house. But similar carousel books could be used to set up the various scenes in the book in a three-dimensional diorama-like setting. Slowly revolving such a book would show the entire story to the child reader in visual, three-dimensional scenes similar to theatrical scenes set up in sequence on a turntable of a theatrical stage and turning from one to another in sequence. Graeme Base's pop-up book of Lewis Carroll's Jabbberwocky: A Book of Brillig Dioramas, published by Abrams in 1996 [Figure 2.20.3, front cover], creates exactly this effect, taking advantage of the circular (or, in this case, star-like) format to tell the story in sequence in three-dimensions. This effect, as well as the star shape of such books, may

be viewed in Figure 2.20.4. The dioramas are best viewed when the two pages between which a diorama is connected are stretched tautly away from each other.

Three-dimensionality is enjoying a resurgence in popularity recently. There are an abundance of new children's movies that are being released with a 3-D version in which the viewer must wear 3-D glasses to enjoy the special effects of the movie. Several *e*-picturebooks also appear to focus on three-dimensionality. These *e*-books, in contrast to the two-dimensional pages of the traditional printed picturebook, are not even two-dimensional. For all their pizzazz and special effects, they exist in the world of virtual reality. To some readers, there is resistance to purchasing a book that could be wiped out in a simple malfunction of an electronic tablet. So, it might be understandable that creators of such books might attempt, however subconsciously, to legitimize the existence of this new *e*-book form by lending them virtual weight and substance, to make them appear real in three-dimensions. You may recall that the print version of Theodore Gray's The Elements has three-dimensional images that can be seen only by donning 3-D glasses, as introduced at the beginning of this Chapter and as previewed in Video 2.1.1 [List of Videos] or at http://www.youtube.com/watch?v=kdiIaIUTBEc&feature=related. It is important to remember that *e*-picturebooks are a screen technology, so whatever is possible in a feature movie presentation is also possible for the *e*-picturebook format. If it is possible to manufacture 3-D stereoscopic movies for the theater (and now such shows are even infiltrating television and television advertisements), then it is also possible to create 3-D features in *e*-picturebooks. In addition to this particular type of three-dimensionality, termed *stereoscopy*, that offers the eye two different images that require 3-D glasses to view cohesively as one image; *e*-picturebook creators also seem to be focusing on creating a three-dimensional *look* in other ways—a sort of "faux" three-dimensionality. Examples of these are described later in this

chapter discussion. In addition to three-dimensionality, other comparable effects now being achieved in other media and technology might include holographic imagery. Also, theater-in-the-round, as well as such features as turntable-revolving scenery in the theatrical field would qualify as attempting to achieve the same effects as the carousel in paper-engineered picturebooks—allowing viewers to see several sides of a scene, several scenes quickly or in sequence, or a 360-degree view of a scene. Video 2.11 is a presentation video from a United Kingdom Company, The Revolving Stage Company, demonstrating theatrical turntables, with one segment in the middle of the video that shows several theatrical sets set up simultaneously on the same turntable revolving one after the other (and looking very much like The Edwardian Doll House book when opened) [in the List of Videos; or you may view the video at http://www.youtube.com/watch?v=s2yKEZORjxw]. With theatrical turntables, there is always the element of trying to change scenery efficiently and quickly, naturally—but, as a child, I recall a stage adaptation of *Snow White and the Seven Dwarves* in the outdoor amphitheatre that used a

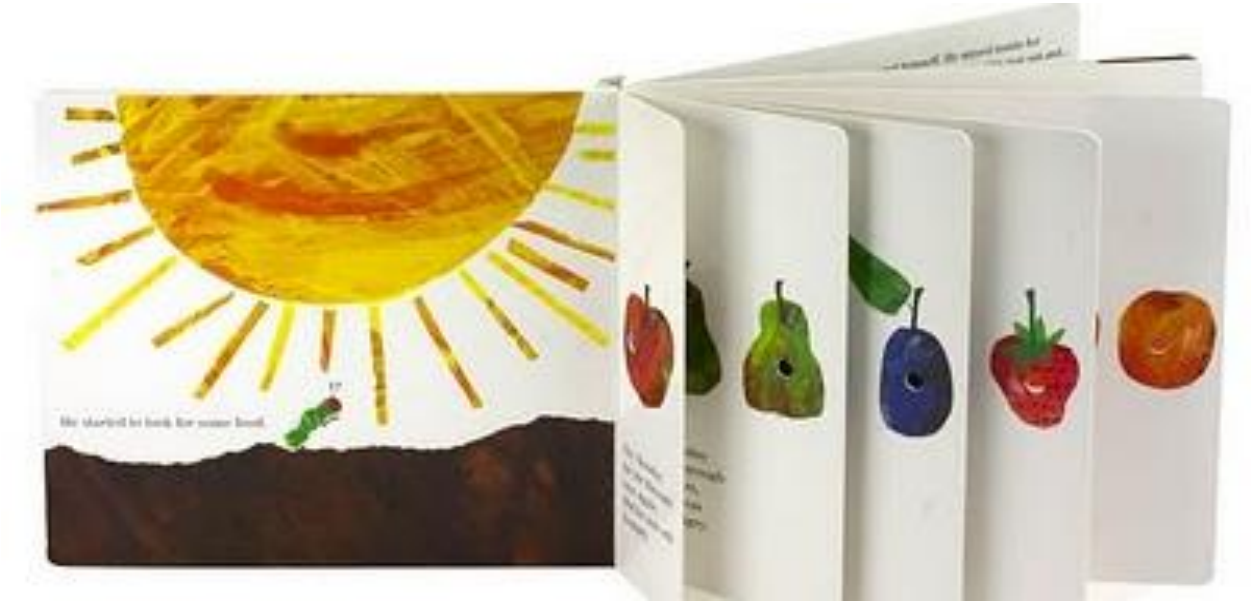


Figure 2.21.1.

turntable to show the audience the outside of a full-sized thatched Dwarves' cottage; and, after the turntable revolved, the cottage's quaint beamed inside view. In this case, the turn was used to connect the two sets in the viewers' minds. First the audience views the outside, and then their minds turn with the set and understand that they are now viewing the inside of the same place. All of these features in various media are attempting to show audiences that what they are viewing is three-dimensional, as are things in real life, and not flat "imitations," as are the illustrations painted for the pages in normal picturebooks, or sets as painted on theatrical scenery flats—and the virtual reality offered in some *e*-picturebooks read on an *iPad,* such as Gray's The Elements, is attempting to achieve a believable virtual reality as well. Designers could also make use of the revolving aspect of this feature to create meaning in the rapid changing of ordered scenes—creating a sequential connected narrative. All of these could be viewed as comparable efforts to achieve a similar effect.

To move on to the next term: a *die-cut* is a term used in the process of cutting paper into a particular shape by means of using a wooden block or die which holds hand-pounded steel in the shape of the desired pattern. Dies may be used to stamp raised impressions in paper or cut specific shapes into the paper. Dies can sometimes be used to actually shape the book pages and book cover itself, such as a book about teddy bears being shaped like a teddy bear. Dies can also cut peep holes of various shapes, sometimes simple ones and sometimes incredibly complex ones, into a page. Award-winning picturebook creator, Eric Carle, used this technique to great effect in The Very Hungry Caterpillar, where the title character of the book eats holes through images of increasingly large pieces of food, all the way through the week (in the narrative) and all the way to the end of the book, as shown in Figure 2.21.1 showing an unusual interior spread in the picturebook in which several very narrow pages begin a sequence and grow in width as the

caterpillar eats and grows. The holes the caterpillar creates by eating are actually die-cut out of each page in the center of Carle's illustrations of pieces of fruit. These holes invite small fingers to become caterpillars and poke and wiggle their way through the food appearing in the book images that the story's caterpillar is devouring as the book is being read and explored. Creative uses of die-cut shapes, such as this example, can add a great deal of verisimilitude to stories such as this one. To the child reader, real holes in fruit not only make the picturebook intriguing and something their small hands itch to explore, but it makes the story more authentic to the young reader. Die-cuts that are peep-holes to the visual delights waiting on further pages become windows to greater knowledge at opportune moments. Recall Vesalius' 1543 book, De corporis humani fabrica libri septem [Figure 2.5, interior spread], that used devices called flaps or fugitive sheets, that showed the interior layers of a human body by means of

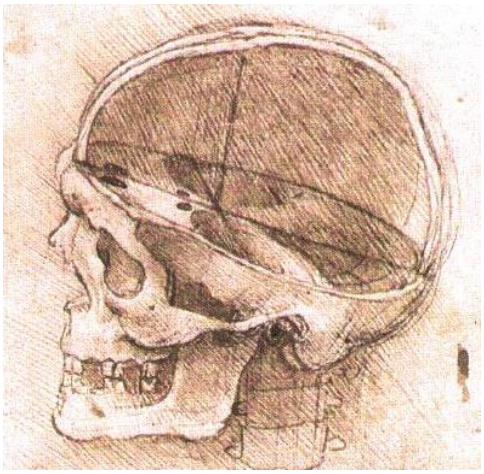


Figure 2.21.2, 2.21.3 & 2.21.4
(top to bottom).

several pages with die-cut lift-the-flap shapes—such designs reveal knowledge to the reader. Die-cuts that shape pages can help those pages transform into objects—a book shaped like a teddy bear can bring teddy bears to life for the young reader. This effect can lend magic to the picturebook in young readers' minds, and can encourage them to use their imagination and enter that secondary world of the narrative.

Comparable effects might be achieved in *cutaway* illustrations or models that show, for example, part of the outside and part of the inside of a subject. This is actually a rather ancient form of illustration used by the likes of Leonardo da Vinci as shown in Figure 2.21.2 in which the viewer sees part of the outside of a skull and part of its inside at the same time (http://aegeancenter. wordpress.com/ category/drawing/). Theatrical sets that first show the outside and then turn to show the inside of a scene, or theatrical windows and doors strategically placed to reveal the set beyond could be viewed as similar in intent. For example, the upright large clock-face shape at the back of the stage, utilized in the award-winning set designs of for the Broadway show, *Wicked*, is used as a die-cut shape in that it becomes a shaped hole that frames all of the scenery settings so that the audience sees different backgrounds through the large semi-circle-shaped hole in different scenes—and throughout the production the audience sees many things through that large round shape, such as a clock-shaped window [Figure 2.21.3] or a view of the City of Oz [Figures 2.21.4] (http://www.beyondtherainbow2oz.com/wicked-a-new-musical-in-pictures.html /; http://chicagotheaterbeat.com/tag/cadillac-palace-theatre/). Any *e*-technology that reveals what is hidden beneath or behind in a purposefully designed manner could be seen as a comparable technique.

A *dissolving disc* is also termed a *metamorphosis* or *transformation*. Convention uses these terms interchangeably, albeit for two different mechanisms that achieve similar results.

With the first mechanism, two circular illustrations share one center axis and have pie-shaped cuts which allow them to intersect when moved in circular fashion, usually by a string or tab. This movement causes the top illustration to rotate over the bottom illustration as a secondary image emerges. The top illustration "transforms" into the bottom one. Dissolving disc transformations utilizing the circular format were fashioned by Ernest Nister of Nuremberg, Germany. Magic Windows, published in 1890, shows just such a transformation and was discussed earlier in this Chapter. A transformation using the circular dissolving disc was previously shown in Figures 2.8.2 and 2.8.3 [Review the screen capture of the transformation in Video/Screen Capture 2.3, List of Videos]. In these figures just mentioned, the tab in the lower right corner pulls around the circle clockwise to catalyze the transformation.

This disc type of transformation is comparable to some types of slide-show programs, such as PowerPoint, that feature dissolve effects from one slide to another. It also reminds one of the theatrical turntable because, just as with the turntable, the audience sees part of one scene as it circles away from them and part of another scene as it circles toward them. With this disc transformation, then, there is a middle stage where parts of both the previous illustration and the next illustration share the stage. It might also be worthwhile to consider the nature of the newer virtual *e*-media. For example, with on-line jumps from web-site to web-site, computers frequently leave parts of a screen in place as other parts of the screen begin to load the forthcoming website. And with the multi-screen technology that is now emerging, once again, some of the screens may keep previous images showing for awhile, while elsewhere on the screen, new images begin to appear. All of these demonstrate the particular quality of the transformation in which multiple images are mixed together in a middle stage of the change.

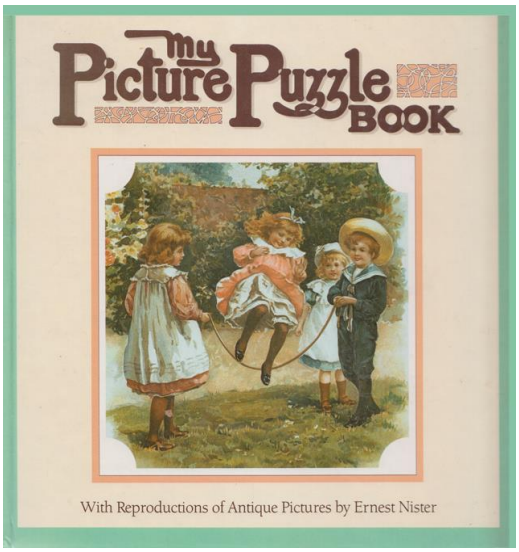
A second and related technique uses two illustrations that are slit similarly into the appearance of *Venetian blinds*, either vertically or horizontally. When pulled by a tab or ribbon

Figures 2.22.1, 2.22.2 & 2.22.3 (top to bottom).

one illustration slides over the other and transforms into the other illustrations. Figures 2.22.1, 2.22.2 and 2.22.3 show a Venetian blinds type of dissolve as shown in Lothar Meggendorfer's picturebook, Surprise! Surprise!, published in 1899 by J. F. Schreiber of Esslingen, Germany. In this transformation, an image of a group of people enjoying a stroll on a nice day holding sun-parasols is transformed into an illustration of that same group of people running from a rainstorm. Figure 2.22.2 shows the transition view where horizontal strips of both pictures alternate half-way through the transition, operated by pulling the tab visible at the middle bottom of the page [Watch a screen capture in Video/Screen Capture 2.12.1, List of Videos].

The effect of this dissolve transformation in the paper-engineered picturebook is similar to that of dissolving transitions in slide-show style presentations using programs such as *PowerPoint*, or films in which one slide or film scene fades or dissolves into the next. These sorts of soft scene transitions are also used in many variations in screen advertisements. Scrims in theaters can also be used to help "dissolve" scenes from one to another in a more gradual way as shown in a video that films and explains a scrim transition in Video 2.12.2 [List of Videos & Screen Captures], or view at https://www.youtube.com/watch?v=HQHLOJh_5pg. The video demonstrates a background subject appearing and reappearing, facilitated and softened by the scrim veil (lighting manipulations can change the effect and soften the transition even more and in various ways). Such transitions are not used heavily in this first wave of *e*-picturebooks that has been made available on the market thus far, probably because creators of such books are still in the phase of trying to imitate printed book page turns, or are using the slide from page to page made popular by the *iPhone* and touch-screen technology that favors wrist flicks and finger pinches to cause things to happen on the screen. In all probability, once imitation has run its course, there should be more experimentation in this area; and it is very possible that narratives

that are about magical transformations will use dissolve type transformations to indicate that just such a transformation has occurred within illustrations—i.e., in scenes such as the transformation scene in *Cinderella* in which Cinderella's gown and the pumpkin are transformed by magic into a ball gown and carriage. In addition, the tabs in this and other moveables act in ways similar to the hyperlinks in *e*-picturebooks, hypertext or web pages. Page-turn activated moveables foreshadow similarities to the newer virtual "page-turn" activated videos in *e*-picturebooks and on web-pages. The cardboard mechanisms have evolved into hypertext coding, but the intent is the same.

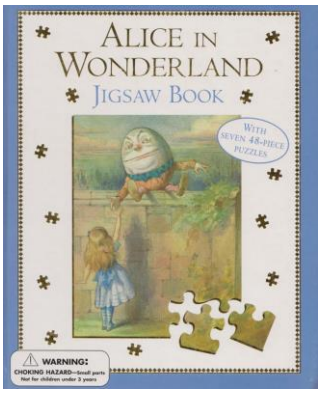


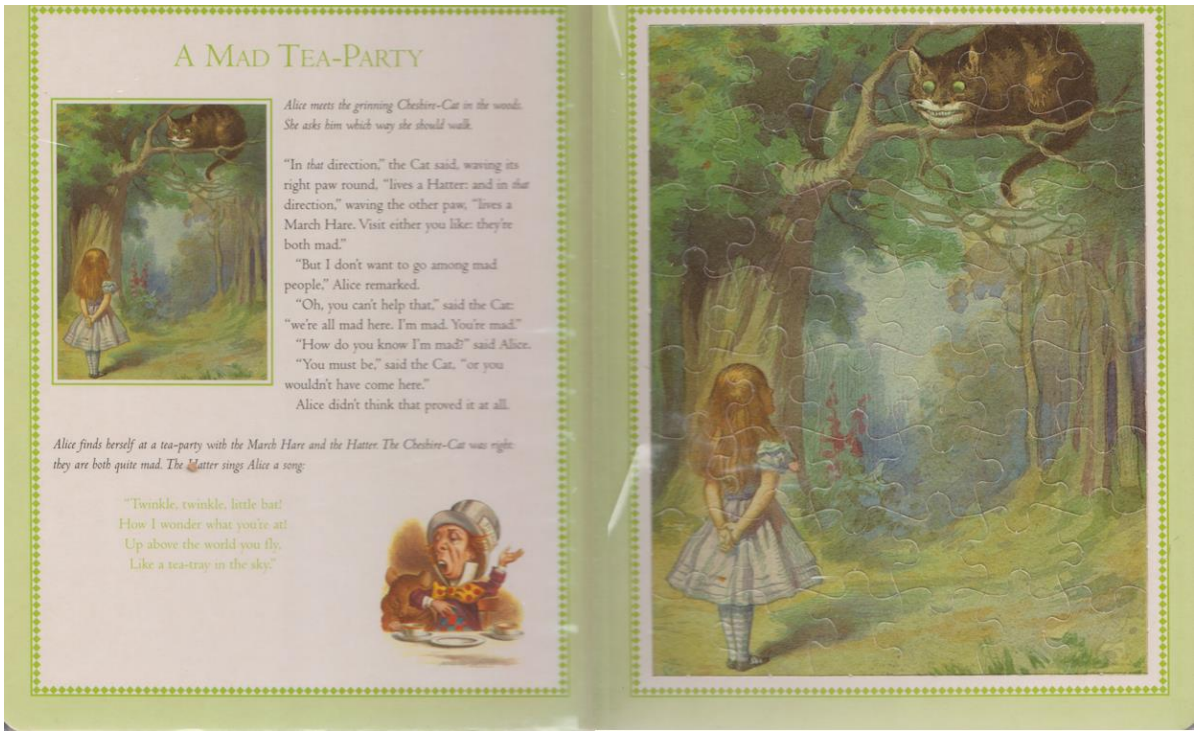
One other rare type of transformation or dissolve should be mentioned here, precisely because an imitation of it is beginning to appear in *e*-picturebooks The *puzzle* or *jigsaw puzzle* book

Figures 2.23.1, 2.23.2 (read top to bottom, left to right).

appears to be a rather foolhardy choice of design for a picturebook that is to be handled by young children; for if book images are jig-saw puzzles, pieces will surely be lost, torn or bent. Ernest Nister tackled this issue with a clever paper-engineering innovation in his Victorian Era My Picture Puzzle Book [Figure 2.23.1, front cover] that manages to offer puzzles to the child reader without the danger of losing the pieces, in that the pieces are attached to the book. In this book, each illustration is divided into four corners pieces that revolve around pivot points located in the corners of the page to create four different puzzle image solutions that illustrate a poem on the accompanying page of the double-page spread. The page is a double-sided sleeve with a die-cut frame cut into the top layer to reveal the completed puzzle and to hide the other three unused options of each corner image. The child has to revolve each of the four corner options around to choose the correct ones that, together, make-up one of four puzzle options on each page. Figure 2.23.2, showing three views of the same page, demonstrates how one image can be transformed into four images. In the image on the left, one puzzle is formed into a central picture (the paper edges of the four pieces that make up the complete images make a "t" across the center of the image that can be seen if examined closely). The corners reveal small pieces of the four image pieces that the child can rotate one direction or the other to try different image options—these are the four puzzle "pieces." In the center image, the illustration tabs that are revealed in the corners are being turned to create a mixed-up larger image because they are not yet in the correct, finished position (the left and right images show the corner pieces turned to a finished position). In the right image a new, different, larger image has been formed and is revealed in the central page frame. Printed puzzle books continue to be a rare picturebook form, probably due to the problem of how to keep the pieces from being lost by little hands. A recent high-quality example of this type of paper-engineered puzzle book is Alice in Wonderland Jigsaw Book, published by

Penguin Putnam in 2000 [Figure 2.24.1, front cover]. The book features seven 48-piece jigsaw puzzles and an abridged text of Lewis Carroll's iconic narratives. As with the *e*-picturebook example, Alice for the *iPad*, introduced at the start of this Chapter, colorized versions of John Tenniel's iconic illustrations are featured in the puzzles and throughout the book, in both cases a likely deliberate choice to legitimize these new versions of the classic story as worthy to be classics as well [Figure 2.24.2, interior page]. The front cover shows pieces of a jigsaw breaking away from the main cover image of Alice with Humpty Dumpty. The book has been thoughtfully





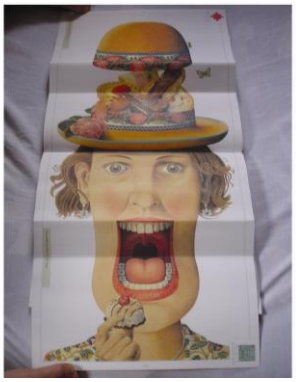
Figures 2.24.1 & 2.24.2 (top to bottom).

designed, as demonstrated by the fact that each puzzle is color-coded on the back for ease in sorting, and plastic sleeves are provided for each puzzle page to keep the puzzle pieces in place

when not in use. The shimmer of the clear plastic sleeve can be seen in Figure 2.24.1 if it is carefully examined, as can the jigsaw shapes on the right-hand page of the double-page spread. The pages are cardstock to ensure the book's durability. This example is included because several early contenders in the *e*-picturebook market explore the virtual jigsaw puzzle feature (An example of a digital jig-saw *e*-picturebook and a bit more discussion of game-playing elements in both book forms will be shared later in this Chapter in the final discussion.

The point here is that the game-like element of this type of print picturebook is clear and dominant, not only in jigsaw paper-engineered picturebooks, but in almost any paper-engineered picturebook. Such books almost always require lifting flaps to search for clues, pulling tabs to activate moveables, and turning pages or activating other devices to promote a pop-up to lift off of the book page. One of the names for at least a portion of the paper-engineered genre is the "toy book," a term which indicates the importance of play when interacting with such a book. Reading such a book is a bit like "playing" a "game." Game elements are clearly an important element in many of the new *e*-picturebooks as well. In fact, this actually seems to be a feature of much of hypertext. Hyperlinks make a game of clicking on items on a hypertext page to see if





Figures 2.25; 2.26.1, 2.26.2.

there is a special feature or pop-up window hiding by means of a hyperlink embedded in each clicked location. This makes a visit to almost any hypertext page similar to playing a game such as Hide and Seek. Entertainment is a huge component of how our children interact with their technology and their narratives today.

The *double-page pop-up* is a three-dimensional illustration that spans the gutter of the two pages of a double-page spread when it pops-up, and, in many cases, the opening of the spread activates the pop-up. The large pop-up at the end of Voitech Kubasta's How Columbus Discovered America paper-engineered book from Westminster Press in 1960, as seen in Figure 2.25, is an excellent example of such a device, although other more recent examples of this double-page pop-up sometimes add movement, light and even sound, enhancing the feeling of spectacle still more. Examples of this are shared in the next chapters (http://www.library .unt.edu/rarebooks/exhibits/popup 2/kubasta.htm). Paper-engineered picturebooks may be small and made only of paper—but, perhaps precisely because the young reader knows that books are not normally capable of offering such visual three-dimensional spectacle, there is something unexpectedly impressive about these large two-page pop-ups that were not there just a moment before rising with such precision into three-dimensional space to tower above the two-dimensional plane of the codex double-page spread.

Such pop-ups seem to be attempting the same effect of other grand spectacles such as the operatic set. The obvious desire to impress with the large impact of such a magnificent paper-engineered marvel might also equate to the grand panorama scenes in feature films. And the ability of designers to design and create paper-sculptures that dramatically rise from a two-dimensional to a three-dimensional state in mere seconds without any help from the reader (other than the choice the reader made to turn the page)—is reminiscent of the much more dramatic

apparatus that is used in such theatre settings as London's National Olivier Theatre, called the Drum Revolve. This device operates like a turntable, an elevator and more—able to make large objects rise up on stage in mere moments, or disappear in the same amount of time [as shown in Video 2.13, List of Videos, demonstrating the drum revolve's attributes, or view the video at http://www.youtube.com/watch?v=vxn3NT9OVDM].

Fan-folded pop-ups utilize zigzag accordion-style folded pieces so that when the page is opened, the illustration will rise above the level of the page. The purpose of this bit of paper-engineering is similar to several other moveable variations. Comparable effects in other mediums might be that of theater sets that contrive to rise up out of the stage quickly. Also, stereoscopic devices and 3-D movies offer parallels for the three-dimension-creating capabilities of this device. In many new *e*-picturebooks with touch-screen interactivity, the characters all bobble and hop when touched—as though they had fan- folded paper supports behind them. An example of this, the Grimm's Rumpelstiltskin *e*-picturebook application recently released by Ideal Binary and powered by Pop Iris will be discussed later in this Chapter [A video preview of this book showing the different elements of the illustration pages bobbing when touched can be viewed in Video 2.14, List of Videos, or at http://www.youtube.com/watch?v=IYZVIRWxcRA].

Flaps or *fugitive flaps* have previously been described earlier in the history portion of this Chapter. Vesalius' 1543 book, De corporis humani fabrica libri septem, used die-cut flaps in layered pages to act as peep holes to reveal more illustrative information to the reader/viewer [Figure 2.5]. This developed into the lift-the-flap option discussed a bit later. The basic difference is that the page revealed by lifting the flap continued to evolve in form until it became attached or sandwiched to the page that contained the die-cut flap on it, so the flap could no longer be lost and the image revealed is irrevocably attached to the flap revealing the image.

Also, in Vesalius' book, his fugitive flaps were used in up to seven layers of combined depths. He actually demonstrated great skill in building up the effect of his revelation through the use of die-cut flaps by combining layers to greater effect. This is an effect that is rarely used today. Lift-the-flaps tend to consist of just the die-cut flap layer combined with the revealed image layer—or just two combined layers. However, with the advent of electronic picturebooks, where flaps cannot get bent, torn or lost, this more complex form could make a re-appearance.

Comparable effects in other mediums might be achieved through the use of footnotes and endnotes in literature, as well as hyperlinks on the World Wide Web. This effect is also utilized in computer programs such as Adobe Photoshop that uses layers to help make the layout process of design jobs easier to maneuver—to help the designer see how design elements are stacked. Cutaway illustrations could also be paralleled to the lift-the-flap feature, such as the Leonardo da Vinci image of a skull partly enclosed and partly open to reveal the skull's interior as shown earlier in the Chapter in Figure 2.21.2. This effect might also bear some similarities to exploded illustrations and exploded animations in which something is presented partially whole and then a part of the image is presented as taken apart in order to allow the viewer to see how the device is put together. In an exploded animation, the device is shown working as it is taken apart so the viewer can understand more easily how it operates [An example exploded animation of an industrial valve is shown in Video 2.15, in the List of Videos, or view the animation at https://www.youtube.com/watch?v=6BMhup3PFRA].

The *gatefold* has one of the oldest forms of paper-engineering, and is a page folded back on itself. There are one or two methods for accomplishing this. In Figure 2.3.1 from earlier in the Chapter, Matthew Paris folded extra paper sections over onto the original dimensions of the main page—when opened, these sections add to the dimensions of the original page and reveal

what is printed behind them, both on the extra flap area and on the previously covered section of the original page. A second way of setting up a gatefold mimics the accordion-fold. Figure 2.26 demonstrates this method, and is an interior page from the picture book, Imagine by Norman Messenger (Candlewick 2005). When unfolded and extended, the page is much larger and reveals, by expansion, more text and/or illustration for the viewer. In the case of this example, the illustrated woman's mouth opens wider as she eats and the hat grows to reveal that the food that she has eaten has relocated to inside of the hat.

Just as a gatefold reveals hidden viewing area that includes more information or image area, so, too, new *e*-picturebooks are beginning to make use of a virtual page that is larger than that initially shown on the screen. *The First Witch* [introduced later in Chapter], created by Kellie Fransman and Jonathan Plackett originally for the *iPad* and *iPhone*, uses a new electronic literary form that will be considered in more detail later called a *tilt comic*. The playing device initially displays one frame of the comic, requiring the reader to move the reading tablet around in space to view more of the comic that was designed larger than the computer tablet's screen area [Video 2.19, List of Videos, or view at http://www.youtube.com/watch?v=wPUBeJerD_g]. The gatefold also bears certain parallels to zooming out in photography such as in a film shot that backs outward to a Panoramic shot in a film, revealing previously hidden, yet obviously connected, information or image area to the viewer. The gatefold might also be similar to including hyperlinks that offer a wider array of information or images than are shown on the basic hypertext layout page. When one hones in on a particular area of a Google Map on-line and clicks on it, a larger and more detailed image of that area pops up. This too is technological design used for a similar intent—to instantly expand the information offered for the reader—similar to the gatefold in the paper-engineered book. An example of a really spectacular page

fold-out that could be adapted to the picturebook is shown in Video 2.16.1 [hyperlinked in the List of Videos, or view video at http://www.youtube.com/watch?v=tME1v37CGZE]. One can easily envision the impact of a picturebook page that begins, in its folded state, with the appearance of and within the size constraints of a typical book page, yet expands to such a dramatic extent, revealing more and more information or image as it unfolds. One more possibility for a type of page that contains extra, hidden information is shown in Video 2.16.2 [List of Videos, or view at http://www.youtube.com/watch?v=a-rrgsMvejM]. This page is constructed in such a way that there is a hidden page in its middle. This is yet another example of emerging paper-engineered models that could be applied to children's picturebooks in the right application. One can imagine the delight that the child reader would feel when faced with a picturebook full of a seemingly magical selection of hidden pages filled with secret information to discover; and, with *YouTube* sharing these new forms of paper-engineering to a worldwide audience, this form could easily end up in picturebooks in the future.

The *harlequinade* (also, *turn-up* or *metamorphoses*) has been mentioned previously with a visual example of Robert Sayer's development of this earliest form of moveable picturebook for children. Figure 2.6, earlier in the Chapter, shows an opened, extended harlequinade from 1771. Sayer's Queen Mab or The Tricks of Harlequin, #6 can be viewed in motion in the screen capture in Video 2.17 [List of Videos. Hyperlink disabled—see note, List of Videos]. The device uses slits and folds in pages to allow the reader to mix the illustrations on the page together and try different options. In early harlequinades, all combination options often made visual sense, showing progressive scenes to support the textual narrative printed at the top and bottom of the illustrated panels. In later harlequinades, however, many combinations often

provide a mixed-up, fascinating, visual mess (http://www.popuplady.com/about01-history.shtml).

Figure 2.27.

Comparable effects and devices in other media might include mixing things up in a "choose your own story" format of young adult chapter books, where different choices offer a different reading each time. The same could be said of some hypertext novels that offer reader involvement and choices. DVDs of current films are sometimes offering alternative endings on the DVD version. And, very rarely, narratives such as the picturebook, Meanwhile: Pick Any Path 3,856 Story Possibilities, by Jason Shiga and published by Abrams Books in 2003, experimentally try to "mix-it-up" and offer multiple plot path possibilities [this book is discussed furthered in Chapter Four]. Shiga's creation is obviously an extreme version of this idea. Visually, harlequinades remind one of emerging multi-screen technology where large groups of viewing screens are massed together that can show one whole picture or can be used to show multiple pictures, or a mix of the two as is shown in Figure 2.27, where two screens in the upper right corner show a headline, one screen in the approximate center shows a rectangular box shape, three screens stacked vertically in the upper left show an aerial photograph, and the remainder of the screens show a large background that coordinates among all of them with a few of the individual parts of that background containing overprinted text. Visually, both of these

technologies, no matter how divergent they may seem at first glance, work with a mass of rectangles ranged together into larger rectangles, and display the ability to mix up the image to the point of confusion, and then to bring it all back together to make sense in a larger picture that supports whatever the narrative or subject may be.

Lift-the-flap, related to the flap or fugitive sheet described earlier, is a term used for the single piece of paper or cardstock attached to the base page at a single point that covers an illustration or text or even a movable illustration. Lifting the flap exposes the base page with its information or image, or allows the underlying pop-up to move into position. As mentioned before, it is different from the fugitive flaps because there is typically only one hidden layer to be revealed and lift-the-flap has developed into an attached form—attached to the revealed page, that is. Lift-the-flap books are often board books for very young children with the pages and flaps created out of a heavier cardstock for durability. One of the more famous lift-the-flap book series are Eric Hill's *Spot the Dog* books, just celebrating their third decade. Whereas lift-the-flap paper-engineering can often be just one part of a much more complicated picturebook full of many variations of paper-engineered curiosities; with Hill's picturebooks, the flaps are the main feature. This point is demonstrated when Eric Hill, himself, reads his very first book in the series, Where's Spot? [Video 2.18, List of Videos, or view the video at https://www.youtube.com/watch?v=jD7hvWtb4ns]. Hill uses the flaps to encourage literacy in young children. In this book he does so by framing questions in the text that prompt the child reader to lift flaps to find answers. As shown in Figure 2.28, the answer to whether Spot is in the box is revealed when the child lifts the flap and personally discovers what is in the box. This is a clear example of how such paper-

Figure 2.28.

engineered devices can set up an interactive relationship between reader and book that can encourage exploration and learning. In 1980, when the first Spot book was published, this idea of an interactive book was a new concept, as described by Hill's Publisher, Penguin Books:

> The design of the books was inspired by an advertising flyer Eric had devised involving a flap covering an amusing picture [Author's Note: Hill worked in the Advertising Field at the time]. When Eric showed this to Christopher he saw how responsive he was to the idea and incorporated it into his book. Although initially created just as a story to please his son, Where's Spot? was actually published as a children's book in 1980 and started a new publishing concept of 'interactive books for babies'" (http://www.penguin.co.uk/nf/Author/AuthorPage/0,,1000015103,00.html).

This interactive potential of lift-the-flap design is already being developed in *e*-picturebooks through faux lift-the-flaps, made to look as though they operate in the same way, if virtually, as in the DK baby *iPad* applications that include an *e*-picturebook adaptation of Hill's *Spot* books. It could also be developed through touch-screen hyperlinks. If a child touches an image of a bed on a screen, the bedskirt could appear to lift up and reveal the animal hidden under the bed. So the element of instantaneous change that reveals more information, either visual or textual or both, is an important intent of this paper-engineered element.

This effect might be comparable to the layers of a file in a computer program such as Photoshop that hold progressively more information in the same location of a design on separate layers that can be viewed separately or in combinations of layers. It could be compared to cutaway illustrations or to telephoto zooming shots in film or photography. However, none of these possibilities exhibit the interactive potential that the lift-the-flap element has always demonstrated. Multi-touch screen technology, already in use in smart phones and computer tablets, now offers some of the same potential benefits. Also, multi-touch, multi-screen prototypes, that turn multi-screen displays (still very new to the market—available in museum displays, at convention hotels, etc.) into interactive experiences with viewers as they touch the

screen. Both of these new technologies work in ways that parallel the interactive experience that lift-the-flap books offer young readers.

The *peep-show* or *tunnel* can be a stand-alone pop-up on one page of a picturebook, or it can be used as the entire book within the front and back covers, revealed as the front cover is opened (it is an unusual form for an entire picturebook). The tunnel consists of a series of images with the centers die-cut to the inner outlines of the illustration revealing holes in the center of each layered sheet. Typically, for example, a fairly quiet part of the illustration could be removed with a die-cut, a part where nothing much is going on, and usually this area needs to be in the center of the layout to create an effective tunnel. For example, the sky, or the interior of a theatre set, or the center of an illustrated room could be die-cut out of the images around the skyline of trees or buildings, or furniture, etc. The entire assembly is supported by side connector panels that expand outward like an accordion. A single or double peep hole at one end [Figures 2.29.1 & 2.29.3, respectively], or a completely open end, invites the reader to view the inner layers. The overlapping of many layers creates an illusion of depth. It gives the viewer the





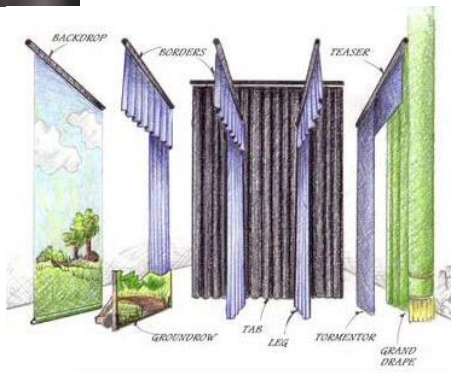


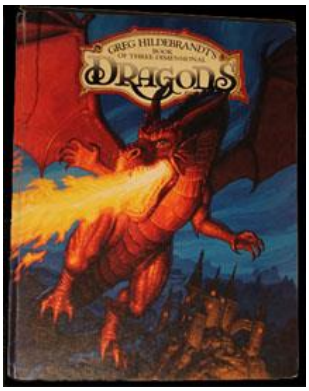
Figure 2.29.1, 2.29.2, 2.29.3, 2.29.4 & 2.29.5 (top to bottom, left to right).

feeling of looking into a three-dimensional tunnel-like scene--hence, the name "tunnel book." Some tunnel books have narrative text on the borders of each vertical die-cut image layer telling a story that begins at the front of the book and concludes at the back.

Reading a tunnel book is not the easiest process (depending upon whether the text is inside or outside of the tunnel. This calls to mind the Victorian Era picturebook designers who often made the attempt to fulfill reader expectations that a picturebook should have both illustrations and a text-based narrative—even in books where the primary objective is not necessarily the narrative, such as paperdoll books, where no such attempt is made in modern incarnations of that type of book.

Figures 2.29.1 and 2.29.2 are from one early tunnel example created, not as a picturebook, but as a promotional for the grand opening of the Thames Tunnel in 1851. As in the Eric Hill Where's Spot? example just discussed, and the Matthew Paris early gatefolds and volvelles; designs for children's picturebooks often borrow from creativity used in other fields for other purposes, often practical ones. In each of these cases, respectively, a commemoration promotional, a marketing sample, a pilgrim map and a device to aid scientific calculations all were practical ideas from other fields that made their way into the children's paper-engineered picturebook. Figure 2.29.1 shows the general configuration of many tunnel books and the eye holes through which a reader/viewer looks at the book; while 2.29.2 shows the view as seen through the peep hole. In this type of paper-engineered creation there is occasionally no spine to the book. When this is the case, the tunnels merely expand out without the necessity of opening a cover to release the moveable, and the outer-most layers act as covers without a spine connecting them. This moveable would not work with a spine attached to it that would prevent one side from expanding out—so any added covers to such moveables are merely attached to the

back of the moveable and merely act as protection for the moveable when closed. Figures 2.29.3 and 2.29.4 are from a modern example of a tunnel that appears in Robert Sabuda's paper-engineered version of Lewis Carroll's Alice in Wonderland, published by Little Simon in 2003. This tunnel is just one of several paper-engineered elements on the first double-page spread in the book. It shows Alice falling down the rabbit hole which is illustrated to look like a multi-storied, circular library, the layout's impression of great depth reinforced by concentrically-shrinking die-cut circular holes cut out of the center of each level of the tunnel such that they appear to be shrinking due to distance. Alice appears to be falling in mid-air because she is actually printed in color on clear acetate affixed to one of the in-between sections of the tunnel. The tunnel displays no text, other than two words on the paper strap holding down the closed tunnel that instruct the reader to, "Open me," in the manner of Carroll himself with the items



Figures 2.30.1, 2.30.2 & 2.30.3 (top to bottom).

in the story that have notes telling Alice to eat them and drink them (and when the strap is removed, a note on the outside top of the tunnel instructs the reader to, "Pull me up and look inside"). Other comparable efforts in neighboring media might include the hypertextual narrative that keeps taking the reader, through hyperlinks, deeper and deeper into a subject; or some computer games that allow the player to achieve deeper and deeper access to a virtual world as they play and achieve certain levels of expertise. It might also apply to theatrical stages and even virtual theatrical stages (as used for setting up animations) where multiple side panels, or legs, contribute to the three-dimensional feeling of depth in the entire set design as shown in a theatre set side view illustration in Figure 2.29.5 (the legs are marked and are often scenery, such as a border of trees, instead of curtains). The effect displayed in this last theatrical stage example is a physical effect, while the examples suggested prior to it are theoretical in scope

Figure 2.30.4, 2.30.5 & 2.30.6 (top to bottom).

Pop-up, that term that is scattered throughout this paper, is used to mean an illustration that, when activated by either opening a page, lifting a flap, or pulling a tab, this catalyst causes the illustration to rise above the level

of the page and become a three-dimensional illustration. Pop-ups can sometimes rise up to impressive levels, and, sometimes, pop-ups include movement that supports the narrative or even moves it forward—even movement that continues after the page is turned.

Greg Hildebrandt's Book of Three-Dimensional Dragons was published by Little, Brown in 1994 [Figure 2.30.1, front cover]. This book contains simple text describing different breeds of legendary dragons; but the factor that most contributes to the book's impact are some marvelous pop-ups that extend up above the page quite dramatically, as demonstrated in Figures 2.30.2 and 2.30.3. Figure 2.30.2 shows a dragon making a lunge while flying toward the reader—visually breaking out of the page's picture plane and into the reader's comfort zone—and this pop-up offers appropriate movement that supports the image. The dragon's jaws open and close as the double-page spread is opened and closed and the dragon actively appears to be attempting to escape the constraints of the picturebook. This pop-up could cause very young readers a bit of real concern, with perhaps a need for reassurance from a parent that dragons are not real. Figure 2.30.3 extends dramatically above and below the frame of the double-page spread. These dramatic pop-ups, while initially constrained by the book page (when closed) are breaking out of the constraints and frame of the codex book, extending the viewing area or picture plane in ways that parallel the workings of *The First Witch* tilt comic introduced earlier (Video 2.19, or view at http://www.youtube.com/watch?v=wPUBeJerD_g). In this electronic cartoon designed for *iPads* and iPhones, the reading device screen accommodates only part of the comic, and much of the comic extends beyond the initial viewing area into virtual space onto a larger virtual screen.

Effects comparable to the pop-up element that appear in other mediums might include projected three-dimensional or *holographic* images. These are currently being developed into a

holographic television, discussed on the BBC (British Broadcasting Company) by Spencer Kelly in February of 2011 in a video segment that can be seen in Video 2.20 [List of Videos], or viewed at http://news.bbc.co.uk/2/hi/programmes/click_online/9393762.stm]. Callie Bost reported for Bloomberg.com in June of 2013 that "Holographic televisions could be in living rooms in the next 10 years at the price of today's two-dimensional sets because of technology being developed by Massachusetts Institute of Technology's Media Lab, and Michael Bove, head of the lab's Object-Based Media Group" (http://www.bloomberg.com/news/2013-06-19/mit-researcher-says-holographic-tv-could-debut-in-next-10-years.html). An art style that offers similar effects is that of *trompe l'oeil* painting that attempts to make a flat painting appear true-to-life and three-dimensional, as with the 1874 oil painting by Pere Borrel de Caso entitled Escaping Criticism, shown in Figure 2.30.4. In this image, the viewer is confronted with an amazingly realistic painted canvas of a young boy who either appears to be escaping through a window, perhaps from the schoolroom, or from a punishment—or, it could be that the boy is actually the subject of a portrait that is escaping from the criticism of art critics (and medium specificity proponents who do not approve of trompe l'oeil that attempts to stretch the boundaries of what paintings can accomplish) as the window actually appears to be a picture frame. In either case, the boy appears to be visually breaking out of the picture plane and joining the viewer's world, achieving an effect quite similar to the effect of Hildebrandt's dragons. Stereoscopic images, which were introduced for the first time at the 1851 London Great Exhibition, also offer the illusion of three-dimensions by combining two photographic images in a way that causes the viewer to see a single picture in three dimensions when observing the double pictures through a special viewing device. A Victorian Era example of this type of image is shown in Figure 2.30.5 and includes both the double-lens viewer and the doubled picture.

Figures 2.31.1, 2.31.2 & 2.31.3 (left to right).

Several variations on this type of three-dimensionality have developed, including the red/blue (or green) lens glasses used for 3D movies that are invading both movie theatres and television ever more frequently today and that require such dual-colored eyeglasses as those shown in Figure 2.30.6 for the movie to be seen as three-dimensional. Another parallel that could be drawn in other media could be drawn from the *activation* of the pop-up that could be compared to that of hyperlinked buttons paired with the film clip on the web-page that the button activates. The movement offered by the pop-up could be seen as similar in intent to video and installation art, film clips, and 3-D films, among other possibilities. All of these attempt to create a more three-dimensional image as though from real life, rather than the flat image of a painting or photograph. Some show similarities in the shared requirement of requiring the viewer to activate the movement, and some of these examples offer the movement that some pop-ups offer.

Volvelles, one of the earliest developed paper-engineered devices, consists of die-cut circles of paper placed one over the other that all rotate around a central axis. There can be many layers to a complex volvelle as shown in Figure 2.31.1, each layer containing added information that can be combined with the information on the other layers of the volvelle in a multitude of combinations (http://fignewtonsandscotch. blogspot.com /2006/12 /volvelles.html). Volvelles are

secured by a central string or rivet. When aligned in certain ways they compute information and reveal information and connections. While they are often used for quite complicated assemblages and computations of information, they can also be used for fun, as demonstrated by the simple two-level volvelle shown in Figures 2.31.2 and 2.31.3 from Messenger's picturebook, Imagine, published by Candlewick Press in 2005 (unpaged). In this example, the reader can see various people's heads, the tops and headgear of which change when the top circle of the volvelle is revolved, matching different tops of heads with different bottoms of heads and shoulders that appear on the base page of the volvelle. Figure 2.31.2 shows one head and shoulders combination, and Figure 2.31.3 shows a second combination achieved by revolving the circle layered on top of the page in the center. Voitech Kubasta's picturebook front cover introduced earlier [Figure 2.18.2] featured a paper-engineered volvelle in its illustration and mechanics. As the reader turns the ship's wheel in the cover illustration all of the parts of a map are displayed in sequence, revealing Columbus' route to America [a screen capture may be viewed in Video 2.9, List of Videos (hyperlink disabled, see note, List of Videos)]. Volvelles are found in many disciplines. As a graphic designer, I have regularly used a proportion wheel volvelle that calculates the proportions one needs to alter photographs for layout purposes.

Figures 2.32.1 & 2.32.2 (left to right).

Volvelles behave like a circular slide rule and bear similarities in purpose and function to slide rules, computational computers, or word search or hyperlink applications in stories that allow the reader to tie together certain thematic words
or elements.

A *wheel* is similar to a volvelle in that it is made up of an illustrated circular disc of paper sandwiched by means of a centralized grommet between two adjoining pages (usually sealed along the edges). Die-cut holes in the outside pages allow for the illustrations drawn around the inside wheel to show through at various locations through those holes as the viewer revolves the wheel. Wheels are often used to slowly reveal sequential action, such as the development and hatching of a baby chicken. The Magic Show by Mark Setteducati and Anne Benkovitz, two views of the cover of which are shown in Figures 2.32.1 and 2.32.2, uses a moveable wheel on its outside cover to complete a magic trick illusion. When a side of the inner wheel is rotated on the edge of the book (marked by a red arrow), red balls revealed in a top window of the circle appear to transform into green balls as they travel past a window on the bottom of the wheel. The main difference between the *volvelle* and the *wheel* is that the reader sees and turns the openly-layered, printed wheels with volvelles; while the wheel (and there can be multiple ones here as well) is mainly hidden and sandwiched between two conjoined pages and the turning information is only revealed through die-cut windows.

Comparable effects might include film sequences or the sequential story in a picture book, both of which are revealed frame after frame or scene after scene. On web-sites, illustrations that reveal other illustrations when the mouse runs over a series of hyperlinked boxes offer a similar effect. The theatrical turntable that reveals scenes in sequence could also be used with similar result in certain applications. Thus, the wheel used by paper-engineers is all

about revealing information in sequence, and so comparable effects in other media would demonstrate the same sequential aptitude and intent.

Paper doll books were among the first popular children's paper-engineered books. They were highly popular with both girls and women and often were marketed to high-end buyers. Although they originated in England, they were quickly adopted by the fashion-conscious French and were originally marketed to adult women as a means to view fashion trends from home. These early paper doll books included stories, in addition to the cardboard dolls and fashion choices. The narrative for The History of Little Fanny paper doll book, introduced earlier in the history section, is shown in Figure 2.33, as well as the storybook, a sleeve to tuck the book into, and several of the included costumes standing erect with the Fanny doll head tucked into one of the costumes. Whether this was due to tradition, or a desire for some sort of teaching element is uncertain. By including narratives in such books, book creators of the Victorian Era fulfilled that society's expectation for books for children that they should include both illustrations and a narrative. Paper doll books today most frequently leave any narrative out of the product design. And, has been mentioned previously, early paper dolls often consisted of just the head and shoulders of a figure that the reader could slot into the various standing fashionable outfits. (http://www.library.unt.edu/rarebooks/ exhibits/popup2/fuller.htm).

Figure 2.33.

Comparable effects might include role-playing computer games and environments that frequent the World Wide Web, where participants create *avatars*, or virtual character representations. Participants can alter the avatars' names, appearance and personalities at will, or experiment with various personalities without having to go through the trauma of such experimentation in real life (Information in this section is informed by http://popuplady.com/ mov-glossary.htm unless otherwise specified).

Figure 2.34.1 & 2.34.2 (left to right).

In the last few years, ever more complicated paper-engineering features are showing up in the newest paper-engineered books, and more are continuing to be developed. An interesting development is that paper-engineers, both professional and amateur, are uploading digital videos to the freely-accessible *YouTube* Website, introducing various paper-engineered features with clear instructions on how to create them. This new easy accessibility of "how-to" videos on paper-engineering makes paper-engineering easily accessible to any interested party and undoubtedly fosters new and creative paper-engineered figures that can only energize an industry that is once again growing in popularity. Just a couple of these newer features will be introduced here to represent the wave of new features that are quickly being developed for the growing numbers of paper-engineered books being published: the *flag* with the related *waterfall* and the *never-ending* features.

The *flag* feature was originally developed as a flag book by Hedi Kyle for her artist's book, *April Diary*, created in 1976. The interior of this book is shown in Figure 2.34.1. The flag structure involves an accordion-folded spine to which rows of flag-shaped card-stock are affixed so that they fold-out at different angles. Rows of flags attached to the central hills and valleys of the spine create masses of flags that fold out at the same angle, while other rows of flags fold out at an opposing angle. Such flag book structures can be read page by page (or flag by flag in this case) in an individual manner, or viewed as a whole like a large, mixed-up jig-saw puzzle. Text and/or images may be applied to flags individually, or may be designed to work together in visual groups in certain configurations. For example, when a flag book is fully opened it not only creates a pleasing fluttering sound as the cardboard flags shrug by each other, but it can create a full panoramic view of, often, one large image, as demonstrated by Dennis Yuen's 2006 artist's book entitled *Greenpoint Snow*, that can be viewed as many smaller images on the many, overlapping, individual flags, or as one combined,, sweeping view.. However, the flag feature could be quite effectively designed to include a collage of multiple images as well. The viewer can interact with this paper-engineered form to self-create a variety of interior spreads by flipping various flags back and forth—reading them individually, or viewing the entire spread as a unit, in ways similar to multi-screen technology described earlier. The flags could easily be read either in order or out of order—as opposed to a codex book that is more easily read in linear order from front to back (http://www.philobiblon.com/flagbook).

The *waterfall* paper-engineered feature is a relative of the flag feature in that it uses multiple flags as a part of the paper-engineered form, but the flipping of the multiple rectangular cards is engineered to occur in sequence, similar to water running over a waterfall, contrasted to the flag where the flipping of rectangles happens simultaneously when the book (or page) is

opened and which are then able to be flipped by the reader at random. This waterfall feature also allows an illustration to transform to another in the process of turning a page as the individual rectangles all flip in sequence. Thus far, this feature is virtually non-existent in children's paper-engineered picturebooks, but it has appeared in the artist's book field. It is likely only a matter of time before this eye-catching feature makes its appearance in a paper-engineered picturebook. A digital video of this feature used as a marketing product can be viewed in the video at http://www.youtube.com/watch?v=9xR9N-nKcOg; and directions on its construction and operation may be viewed at http://www.youtube.com/watch?v=JNKg_mFKSY0 [Videos 2.22.1 and 2.22.2 in List of Videos].

Features in other media or technologies that compare to the flag and waterfall paper-engineered forms (in that they share similar intent and/or results) could include video billboards that change the images they display as a whole or in sections; or multiple-screen technology, as previously discussed and shown in Figure 2.27, that allows multiple screens to work in concert with one another in displaying changing images. This is perhaps the example that seems most similar visually, because viewers of both mediums/technologies would view a similar effect—that of multiple rectangular "screens" displaying changing images. The flag is, of course, constrained by the number of sides that are available to bear a printed image (two), while multiple screen technology operates under no such constraint and can display as many changing images as desired. The interactivity that is possible with the paper-engineered forms is rapidly becoming possible, in a purely virtual sense, with multi-touch screen technology's continued development. The ability for users of screen technology to touch a screen in several places at once and cause changes in the images displayed, or to touch a screen several times in sequence and cause changes to occur in sequence could be seen as a similar result. This is already

happening with multi touch-screen smart phones and computer tablets such as the *iPhone* and *iPad*. One recently released *e*-picturebook application developed for the *iPad* that shows the rapid touch screen sequence changes just described was created by Oliver Jeffers and is titled The Heart and the Bottle, released by HarperCollins Children's Books (discussed further in Chapter Four)

The *never-ending* feature is a marvelous piece of paper-engineering that allows a stacked, glued and die-cut combination of layered paper to fold, and refold and refold back upon itself in a continuous, never-ending fashion. In order to be able to observe this difficult-to-describe and intricate bit of paper-engineering, you may view Video 2.23 [in the List of Videos] at http://www.youtube.com/watch?v=BOSIHIQhjjQ. This video shows how to assemble such a feature and demonstrates its operation. Videos on *YouTube* tend to feature this type of paper-engineering for handmade greeting cards. It has also been used in advertising promotionals. I have not yet seen this feature included in a children's paper-engineered picturebook, but it should appear in time, due to the fascination such a feature offers viewers and the exposure to the emerging generation of paper-engineers that *YouTube* offers such a feature. If it were to be used, it could be used for a very short picturebook of only four total page-spreads, in which the front and back side in its original position would act as covers—because this device needs to be unattached to be able to operate properly in its cyclical manner. Designers could also secure this device in its book covers by means of a pocket or by using the book covers merely as a protective sleeve while leaving the inside free to operate separately, its "pages" turned endlessly. A small booklet such as this could also be a smaller part of a larger, more complicated book that contains many paper-engineered features, such as those included in the paper-engineered picture books of Robert Sabuda and Matthew Reinhart.

The never-ending feature is similar to a looped video clip, PowerPoint presentation or digital video where each is set up to repeat endlessly. It also bears similarities to the circular picturebook narrative that ends back where it began so that it could theoretically continue ad infinitum, samples of which are discussed more fully in Chapter Three.

With this ubiquitous type of dissemination by means of Facebook, the new paper-engineered features discussed here, as well as others we have not reviewed, could very well make their way into printed paper-engineered picturebooks in time, and could then eventually be adapted and simulated virtually for inclusion in *e*-books, as the older form provides inspiration and ideas for the newer form. This may also happen because the *e*-book industry is in its formative stage where mimicry is frequently used to "legitimize itself as art by aping the conventions, forms and effects of pre-existing arts" as postulated by Noel Carroll in his Theorizing the Moving Image, (3).

While some argue that the printed book form is a threatened medium, the paper-engineered picturebook form is becoming a highly developed art form with new and dynamic paper-engineered forms being created and added to the paper-engineer's repertoire. These new innovations that are being created and added to paper-engineered picturebooks today will likely keep this medium vital for the foreseeable future; and, what is achieved in the physical book will no doubt inspire what is attempted in the virtual book, and vice versa.

2.4. Producing and Publishing the Paper-Engineered Picturebook

This discussion has thus far considered the history of the paper-engineered picturebook genre; as well as taken a look at its terminology while making technological comparisons. Before moving on in the discussion, it is worthwhile to to take a moment to discuss the

production and publication details of the paper-engineered picturebook. Many people often make the mistake of assuming that because something is small it could not have required a lengthy or complex design process (i.e., a small picturebook as opposed to a large car's design); or because something is created from relatively inexpensive products (in this case, cardstock), that it must not be valuable; or because it is designed for children, who have little voice or power in society, it must not be important. This chapter hopefully shows the incredible complexity and creativity of many of the best paper-engineered picturebooks. This section can illuminate the diligent effort and hand-crafting that infuses each paper-engineered book.

The creation of a pop-up picture book begins with a concept and a story. Most (but not all) pop-up books do contain a story or some sort of text within their covers.

The concept of a proposed paper-engineered picturebook is first built into its initial form as a "white book" where all of the pop-ups are created in prototype with white cardstock. Then the design is handed over to the paper-engineer who takes the ideas of the author and illustrator and refines the design to add the most appropriate motion and 3-D imagery to each scene. Colored illustrations are created to fit the designed paper-engineered elements. In designing the actions in a paper-engineered book, the paper engineer must balance creativity with practicality. It is during this stage that decisions on how moveable pieces will attach to a page and how to prevent such pieces from breaking with time and use are made. Paper-engineers decide what and where to glue, the length of pull tabs, or how high a piece should pop-up. They decide how best to allow these pieces to fold into one another without damaging themselves or others when the page is turned or the book is closed. Paper-engineers are responsible for layout out or "nesting" all of these paper-engineered pieces onto large printer's sheet of paper to conserve paper as it goes to press, since books are priced according to the amount of paper used and the number of

glue points necessary to assemble each book. Finally, all of the paper-engineered elements are printed in color (although, as mentioned previously, Robert Sabuda has made a name for himself by designing some of his books with white paper-engineered elements) (http://www.youtube.com/watch?v=iDJJOaZ1myM).

Today's pop-up books are assembled by hand most commonly in Colombia, Ecuador, Mexico or Singapore. Following the printing process, nested pieces of each book are die-cut from the printed sheets and collated with the appropriate pages. Production lines have to hand-assemble each picture book. These production lines can be comprised of sixty people or more. Participants of these production lines are responsible for folding, inserting tabs into slits, connecting pivots, gluing and taping. It is crucial that alignment of all these elements be exact so that the engineered structures work properly. Some of the most complex paper-engineered books require over one hundred individual handwork procedures before they are complete. It is this point that may be the most significant when considering the inherent value and artistic worth of the books in this field. For, while paper-engineered books are undeniably mass-printed, each book is hand-created and hand-assembled, and the finest of these are increasingly being valued as true works of art (http://www.broward.org/library/bienes/lii13903.htm).

Currently, increasing numbers of paper-engineers are beginning to create ever more impressive and creative paper-engineered picturebooks. Robert Sabuda is the acknowledged grand master of modern paper-engineering and was the first to be awarded the Meggendorfer Award for excellence in paper-engineered design offered by the Movable Book Society in 1998 for his 1994 The Christmas Alphabet, discussed earlier in the Chapter [Figures 2.19.1 & 2.19.2]. Other unquestionably excellent paper-engineers are emerging alongside him. Matthew Reinhart has partnered with Sabuda to create many, already classic, paper-engineered picturebooks.

Reinhart has also continued on to create many books on his own. Names such as David Pelham, David A. Carter, and Ron van der Meer have joined Sabuda in the last few years as reputable paper-engineered picturebook creators. Women designers in the field are beginning to shine as well, notably Marion Bataille, the first European to be awarded the Meggendorfer Award in 2010 for her innovative ABC3D, published in 2008 by Roaring Brook Press in which one three-dimensional pop-up alphabet letter sometimes transforms into the next letter, among other creative applications in this picturebook (discussed further in the Conclusion of this Chapter) (http://www.popuplady.com/mbs11-meggprizes.shtml).

2.5. Parallels between Paper-Engineered Picturebooks and Emerging *e*-Picturebooks

Following a fairly extensive discussion of the history of the paper-engineered book, as well as a look at the forms within such books and existing parallels within other media, the groundwork has been laid to finally take a look at the similarities between the paper-engineered picturebook and the *e*-picturebooks in their entirety (and not just between their pieces and parts). It is clear that several parallels can be drawn between the older form of the paper-engineered picturebook and the emerging *e*-picturebooks. While more could probably be identified given the time and space to consider them, six of the most obvious and important parallels will be discussed here:

1. First, both forms are attempting to create "real" illustrations for their picturebooks through the three-dimensionality of the paper-engineered images in the pop-up book and through the virtually three-dimensional images in the *e*-picturebook.
2. Secondly, both forms introduce movement in their images, and sometimes this movement is used to move the narrative forward or to add to the narrative in some way.

3. Thirdly, both forms share a mechanical aspect to the way they work.
4. The fourth parallel is that both paper-engineered picturebooks and *e*-picturebooks encourage interactivity in their designs.
5. The fifth parallel is that both forms often take interactivity to such a degree that game-like elements are included.
6. And Sixth, and perhaps most intriguingly, each of the mediums used to create both forms of these, three-dimensional, moving, interactive picturebooks are fragile mediums, easily broken.

2.5.1. *First Paralle1: Both Published Forms Create "Reality" Through Three-Dimensionality*

Taking a look at the first point listed here: Both paper-engineered picturebooks and the emerging *e*-picturebooks work hard to create picturebook images that appear to the reader as more "real." The word "real" here is used to indicate a pseudo-reality, an impression of greater reality for the book's readers. This pseudo-reality is mainly built through illustrations that are created in three dimensions out of cardstock in the case of the paper-engineered picturebook, or that *appear* to be three-dimensional as with the *e*-picturebook. For example, revisit the digital video of Robert Sabuda's paper-engineered Alice in Wonderland in Video 2.10 [in List of Videos; view at http://www.youtube.com/watch? v=egXg0gkKvwM]. This picturebook uses three-dimensional paper models that spring into shape as each page is turned to create a pseudo-"real" world for the child reader. The house in which a giant Alice is trapped is a three-dimensional model that appears very house-like to the child reader, who is naturally familiar with the three-dimensional shape of his or her own home. The hole down which Alice falls appears truly deep because its shape has genuine dimension that is created by the tunnel paper-

engineered form that shapes the illustration. Now, take a look at the digital video in Video 2.14 [in the List of Videos; or view at http://www.youtube.com/watch?v=9mLR1F4ISmI], of Grimm's Rumpelstiltskin, an *e*-picturebook application created by Ideal Binary and powered by Pop Iris, released in 2010. Notice how this *e*-book is created to *appear* three-dimensional and very much resembles a traditional, physical paper-engineered picturebook. In fact, Ideal Binary describes Grimm's Rumpelstiltskin on their website as, "the world's first fully 3D interactive pop-up book for iPad™" (http://www.idealbinary.com/blog/ 2010/09/grimms-rumpelstiltskin-available-now-for-ipad/). The text-based pages in this example are given an illusion of reality through three features:

1) The representation of the book's shape with spine and stack of pages appears to be three-dimensional;

2) The page turns imitate actual page turns of paper pages in printed codex books; and,

3) The text on the pages is illuminated in the manner of the most ancient of codex print books—the illuminated manuscript.

Thus, these features offer a virtual picturebook the *illusion* of solidity and permanence through active imitation of a previous well-established medium—the illuminated manuscript. On alternative double-page spreads between each text-based double-page spread are page layouts that are filled with a virtually three-dimensional illustration that clearly mimic the pop-up double-page spread of a traditional paper-engineered picturebook. The virtual pop-up spreads in this virtual picturebook are framed by the virtual facsimile of cardboard backdrops that spring up when the page is opened by the reader, as do the various characters on each spread in much the manner of a paper-engineered pop-up. And just as many of the items on a paper-engineered pop-up can move and turn when activated by the page turn or a reader-activated mechanism such as a

tab, so the elements on the virtual pop-ups in this *e*-picturebook turn and bob when the reader touches them or drags them with their fingertips. Their "real" movements are also reader-activated. The spinning wheel turns, the clouds move; or, in this example, they float (while in virtual pop-up picturebooks, such items as clouds do not have to appear to be connected to the rest of the pop-up, with paper-engineered books, connection to the rest of the page in some way is usually vital for proper operation). Ideal Binary has recently released a library of *e*-picturebook applications following the same pattern—and with their focus on the traditional fairy tale for subject matter in this *e*-picturebook series, as well as their design similarity to both the illuminated manuscript and the traditional paper-engineered picturebook, Ideal Binary has chosen to imitate three important literary forms to lend legitimacy to their first efforts in the *e*-picturebook market.

One more way the new *e*-picturebooks are attempting to achieve three-dimensionality is

Figures 2.35.1 & 2.35.2 (left to right)

through the emerging use of three-dimensional glasses and 3D images in the picturebook applications. This is a newly emerging effect. Two examples that use three-dimensional glasses to offer 3D images to the reader include: Theodore Gray's The Elements *e*-picturebook application, introduced at the beginning of this Chapter, contained three-dimensional images that require 3D glasses to be viewed properly; and, The Wrong Side of the Bed is a recently released *e*-picturebook that has been released in both a 2D and a 3D version (that requires viewing glasses). A preview of the picturebook application can be seen in Video 2.24 [in the List of Videos; view at http://www.youtube.com/watch?v=Q7mC4tlznrY&feature=results_main&playnext=1&list=PL1038E6EB6114C9A5].

With the paper-engineered picturebook, even the terminology with which these book creators and publishers traditionally described their creations to the public reflects this desire to present illustrations with greater reality. As described in the history section of this Chapter, during the 1860s, Thomas Dean, of Dean & Sons, advertised his artwork that incorporated his new tab mechanisms as "living pictures." So the virtual *e*-picturebook is imitating the three-dimensional physical paper-engineered picturebook that takes up real space and creates real movement when pages are turned and tabs are pulled; while the physical paper-engineered picturebook is attempting to imitate real life.

2.5.2. *Second Parallel: Both Picturebook Forms Showcase Movement as a Primary Feature*

The second similarity between these two published forms involves the focus on movement. It is an obvious characteristic of paper-engineered picturebooks that they showcase movement throughout the book. In fact, a common term for these individual paper-engineered elements or the books that contain them is "moveables" or "moveable books." The pop-ups

inside such books move as they spring into place when each page is turned. Different elements move when a page is turned back and forth. The pulling of a tab or lifting of a flap will cause a pop-up or image to change, or transform as it moves into a new position.

Revisit Video 2.10, of Robert Sabuda's paper-engineered adaptation of Alice in Wonderland [in the List of Videos, or at http://www.youtube.com/watch?v=egXg0gkKvwM]. This paper-engineered picturebook features numerous card-constructed elements that move. In fact, some of them, as with many moveables, move in such a way as to support the plot or even to move the narrative forward. For example, in one such feature within this picturebook, Alice's neck grows and shrinks as the page is moved back and forth (shown in Figure 2.35.1). In another moveable, Alice swims as the page is turned; and, at the end of the book, the pack of cards flies all about as the double-page spread is opened. These movements are not simply functional, just pulling the paper sculpture into position. All of these are movements that support the narrative, reflecting what the child is reading about in the text.

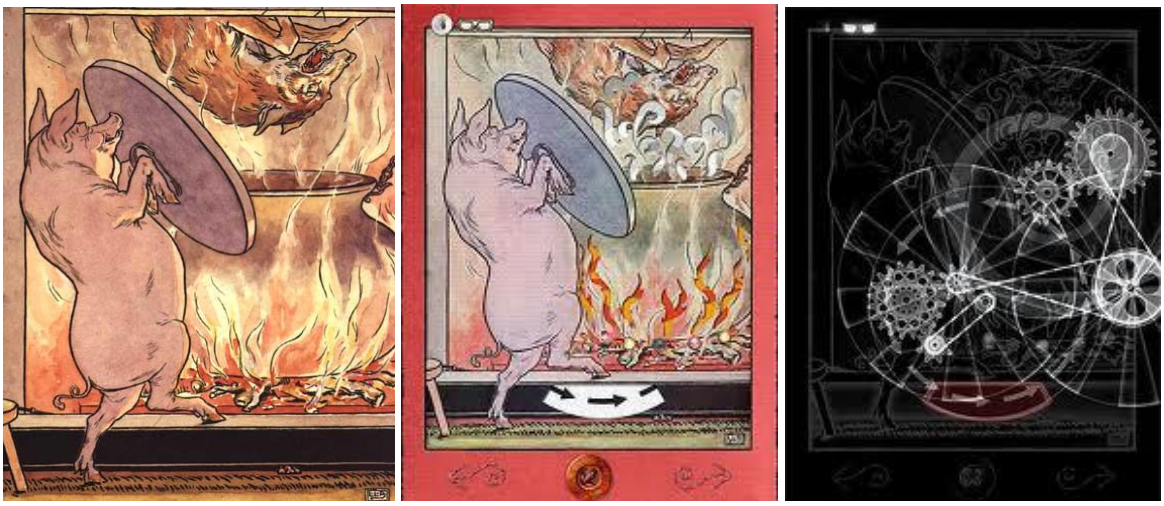
Movement is also a vital element of the *e*-picturebook application, Alice for the iPad, previously introduced [Video 1.3.1 in the List of Videos shows a demonstration; view at http://www.youtube.com/watch?v=gew68Qj5kxw]. In this *e*-picturebook, readers can enjoy seeing Alice's neck grow and shrink (see also Figure 2.35.2). Note in a comparison of Figures 2.35.1 and 2.35.2 that they look remarkably similar in effect, although the first is obviously a mechanical neck growth and the second example is a digital neck movement. In addition, in Alice for the iPad, pills fall out of a bottle onto the ground, or a crown falls, or cards fly. Many of these movements are, once again, supporting the textual narrative. And, as with Sabuda's paper-engineered Alice in Wonderland, often these movements are activated by the reader—in this case by tipping and tilting the *iPad* rather than pulling tabs and turning pages (and, in the

sequel, Alice in New York, previously introduced, by touching the *iPad* screen as well) [Video 1.3.2]. In the previous example of Grimm's Rumpelstiltskin movements are also activated by readers, but by finger touches and swipes as the reader manipulates the touch-screen to activate the movement of various elements in the virtual "pop-up" page spreads. Many *e*-picturebooks create movements within their illustrations that are activated in some way by the reader, reminiscent of the way movement is activated by readers in paper-engineered picturebooks—so both forms are interactive with their readers (a point discussed further later). Also, in both mediums, movements created are not always merely functional (to help set up a three-dimensional scene), but some created movements supports the narrative in some way.

2.5.3. *Third Parallel: Mechanics are Also an Important Featured Design of e-Picturebooks*

Figure 2.36.4.

One of the common names for the paper-engineered picturebook is the mechanical book. The mechanics of paper-engineering tend to be fairly obvious, as pictures slide and forms pop into place at the pull of a tab or the turn of a


Figures 2.36.1, 2.36.2, 2.36.3 (left to right)

page. While important mechanicals are hidden within the inside of each double-layered page, it is often impossible to hide the mechanics of such books completely. Folds and tucks, shapes and slots are of extreme importance to the creation of a paper-engineered book that works properly and still closes properly like a simple codex picturebook. Recall Robert Sabuda's paper-engineered Alice in Wonderland [Video 2.10]. Appreciate the mechanics that make the paper-constructed moveables move and pop.

Not all paper-engineered picturebooks are pop-up books. Some are more accurately described as moveable books. In such books, the mechanics of movement are still there, but, instead, operate *inside* the constraints of the picture plane of the book page, rather than above it. While there are several kinds of moveable books—for example, transformation picturebooks or lift-the-flap books—a more mechanical pair of moveable picturebooks are presented here for comparison between the importance of mechanics in both the physical and virtual picturebook.

The Robot Book, published by Accord Publishing in 2010, is a simple story about the mechanics of a robot whose most important working part is his heart. In this book, visible gears purposely turn and grind in clear view of young readers to give the robot life. Children can operate the gears that create the robot's eyes or mouth or arms and observe how they operate. A video preview of this print picturebook can be viewed in Video 2.25.1 [in List of Videos; or view at http://www.youtube.com/watch?feature=endscreen&v=pg6U1VNNAi0&NR=1]. The gears in this narrative are consciously visible and interactive to a greater extent than normal for paper-engineered books—a working element crucial to this picturebook's function and success.

Compare this book with a virtual picturebook application that has recently appeared. The Three Little Pigs and the Secrets of a Pop Up Book, by Game Collage features iconic illustrations by L. Leslie Brooke from the 1904 print edition of this classic fairytale. The

"mechanics" of this *e*-picturebook are previewed in Video 2.25.2 [List of Videos, or view at https://www.youtube.com/watch?v=2uMavEEyrzs]. Compare a Brookes' illustration from the original picturebook, featured in Figure 2.36.1, with Game Collage's reprint in this *e*-picturebook version of the fairy tale in Figure 2.36.2, in which one can see some added virtual buttons along the bottom of the screen in the red border, as well as a virtual moveable wheel near the bottom of the Brookes' image. There is a definite decrease in color saturation between the two illustration samples, but their use in this *e*-picturebook adds a traditional element to an already classic folktale. The most notable feature of this *e*-picturebook, however, lies in the virtual mechanization of the story that is revealed to the reader/viewer. On each page there are working gears and mechanical elements that the reader can manipulate through the touch screen of the *iPad* or other reading device, as, for example, the wheel in the layout in Figure 2.36.2 that can be revolved to make the pig and other elements of the image "move" when revolved. The look of this virtual mechanization is very similar in appearance to that of a moveable in a traditional mechanical picturebook, as well as bearing similarity to the revealed workings of the physical picturebook, The Robot Book. The Three Little Pigs *e*-picturebook boasts an unusual feature that serves to emphasize the supposedly "mechanical" underpinnings of this book design. By clicking on a small icon of a pair of eyeglasses tucked into each page design, readers of this picturebook application can see the way the designer created the movement on that particular page [Figure 2.36.3]. The virtual gears and other mechanics are exposed for the reader to enjoy and examine in a sort of x-ray view of the page where the working gears are exposed with the faint markings of the illustration characters in view as well. The reader/viewer can play with manipulating the gears and watching them affect the image's behavior.

After observing The Three Little Pigs *e*-picturebook, I found myself wondering how long it would take before the creators of traditional printed paper-engineered books begin adding clear acetate windows to the backs of their mechanical pages so the reader/viewer can observe their interior mechanical workings as well as the already apparent outer mechanics. Now that a virtual *e*-picturebook has created such a delightful feature, I theorized, it should only be a matter of time before the creators of the print version of such books try to give their public a mechanical version of this feature. And I would not be surprised to see a print version of this *e*-picturebook. The x-ray feature could be equally fascinating in paper form because the reader/viewer could compare the virtual version of the inner page workings with what is actually necessary to make a page operable in a physical mechanical book as opposed to a virtual one. With research, I have only found one printed paper-engineered picturebook with this feature used just once. The final page of a 1985 paper-engineered tribute picturebook from Random House titled, The Genius of Lothar Meggendorfer: A Movable Toy Book, with an Introduction by Maurice Sendak, displays reproductions of several of Meggendorfer's pre-1900 moveables inside, with accompanying poems. On its final page, one last reproduction of a Meggendorfer moveable is shown with the back side of the page covered with transparent plastic so the viewer can see the paper-mechanicals as they work. One can view this transparent window at the end of Video 2.25.3 [List of Videos, or view at https://www.youtube.com/watch?v=tPtFVgZVFZY]. With only one single print example of such book mechanics "exposed" since 1985, if such books now begin to appear, it could be viewed as a response to this *e*-picturebook's innovative new feature (although this book's creators could have been exposed to this 1985 printed book).[38] One last point about

[38] There does exist an informational book about gears, titled Hands-On Science: Get in Gear, published by Innovative Kids in 2002. The book is a board book with a metal pin that pierces every page, and a battery-operated motor and storage box filled with cardboard gears built into the back of the book. The story encourages readers to build different gear configurations on the pin piercing the page and then to watch the assemblage work. One gear

the virtual mechanization: It is my experience that, thus far, virtual movement is modeled after mechanical movement. In both 2D and 3D animation programs, one creates virtual puppets with hinged skeletons that one manipulates in ways similar to how a real puppet would be manipulated. While this may change over time, it is significant that, once again, a new technology first attempts to model itself after the older technology. The e-picturebook in this example, in stressing its relationship to the older technology, emphasizes that connection.

These two picturebook examples, the one a physical picturebook and the other a virtual one, emphasize the importance of mechanics to the design of both of these types of picturebooks. If a designer wants their illustrations to move and change, they have to create a framework and the mechanics that can operate and create such movement and/or change. In the physical book, the paper-engineer creates the movement by building three-dimensional images operated by cardboard mechanics. In the *virtual* moveable *e*-picturebook, the "mechanics" may be achieved by means of computer coding, but they are still quite necessary to create the *virtual* moveables for the viewer. Movement, whether in the real world or the virtual world, still requires some sort of catalyzing framework to operate that action. There are mechanics involved in the workings of a normal codex book, but they are much simpler and more standardized. Typical narratives only require the turning of pages for the story to unfold. If the illustrations do not move, the operation of the book is much simpler. Paper-engineered picturebooks require mechanical operation of moving parts in their illustrations. Emerging virtual picturebooks have quickly embraced animation and movement in their illustrations because screen technologies can handle animation

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assembly is built into the cover and, when the battery switch is thrown, the viewer can watch the cover gears revolve [See Figure 2.36.4]. It is not really a paper-engineered book showing its inner-workings—it is, rather an informational book exploring a certain subject. Still, using only cardstock for gears, it is a most interesting way for the child reader to experiment with the subject; and, other than the metal pin and motor, and the fact that the child reader builds the "moveables" using loose pieces and provided plans, it could be considered an innovative version of a moveable book.

and movement. Film, television and the World Wide Web have prepared the way. And, whether virtual or physical, moving illustrations require mechanics to operate that movement.

2.5.4. *The Fourth Parallel: Encouraging Interactivity with Readers*

The fourth way paper-engineered picturebooks and *e*-picturebooks are similar is in the interactivity they encourage between the reader and the book itself, a point that was touched on earlier. It would be difficult to find an example of a paper-engineered picturebook that is *not* interactive. Many of the examples throughout this chapter require the reader to set up the pop-up or pull a tab to make an illustration move or to activate an image transformation, or to lift a flap, or, at the very least, turn the page to activate the pop-up. An extreme example of interactivity applied in paper-engineered picturebook design was introduced in a previous example in this Chapter. Figures 2.32.1 shows the cover of The Magic Show by Mark Setteducati and Anne Benkovitz. This picturebook requires someone to set the book up in a certain way from beginning to end. Then the reader, as they read their way through this picturebook, find that they are interacting with a magician character within the book's narrative and illustrations who conducts an entire actual magic show using the reader as the audience contestant who has to make choices, such as choosing cards, to make the magic tricks work. The remarkable thing about this interactive picturebook is that all of the magic tricks work with the reader making their own choices in each trick.

Emerging *e*-picturebook applications are depending more and more on interactivity as well. Interactivity in *e*-picturebooks has been given a huge boost forward with the emergence of multi-touch screen technology. Now readers can touch the images and text to interact with them. An *e*-picturebook application for Dr. Seuss' Green Eggs and Ham shows the reader the word for

any item in an illustration that the reader touches and reads the word aloud, and this feature is appearing in other *e*-picturebook applications now, as well. View a video preview of this *e*-picturebook to see this demonstrated in Video 2.26.1 [List of Videos, or view the video at http://www.youtube.com/watch?v=1_oIuwxj7AI]. The Toy Story *e*-picturebook application from *Disney Digital Books* was introduced at the beginning of this chapter in Video 2.2 [List of Videos, or at http://www.youtube.com/watch?v=Iq7xKXuN6i8]. This *e*-picturebook contains a feature that highlights text as the narrator reads (if the narrator option is activated) to help young readers read along, pronounces a word for a reader when the reader touches the word, or it will even define the word. Features such as these are helpful tools for new readers.

Figure 2.37.

And, of course, Toy Story includes interactive touch screen games for children and a finger-touch coloring feature as well.

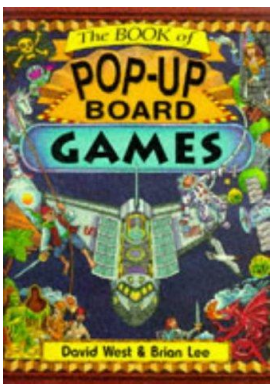
Even *e*-picturebooks that are careful adaptations of classic print picturebooks now invariably include interactive features embedded in their illustrations. An excellent example of this is Pop Out! The Tale of Peter Rabbit *e*-picturebook application for *iPad*, *iPhone* and *iPod Touch*—the first in the new *Pop Out*! series from Loud Crow Interactive, released in 2010. View these features in a preview in Video 2.26.2 [List of Videos, or you may view the video preview at http://www.youtube.com/watch?v=LGUqe9u56Xo]. This *e*-picturebook application has been created to look very much like Beatrix Potter's original diminutive picturebooks and uses her

gently colored illustrations, with a page turn feature that appears to work exactly like a print picturebook's pages. However, interactive items have been added. Bunnies jiggle and bob when touched, characters move when virtual tabs or wheels are pulled or turned in exact imitation of pull tabs and volvelles in paper-engineered picturebooks, items fall and slide when the *iPad* is tilted due to the accelerometer feature that helps orient the screen. Perhaps the most delightfully innovative feature enlarges leaves, blossoms or berries from the illustration when items are touched by the reader and then causes them to bounce out toward the reader. The reader can virtually smash a large blackberry in an illustration so that it appears to splatter on the screen [Figure 2.37]. Exquisite features such as these encourage the reader to explore illustrations to see what other delights are hidden there for the touching. It is an intriguing design choice that this book seems to be attempting to legitimize itself as part of the paper-engineered picturebook genre in that it contains virtual representations of mechanical moveables, imitating the previous technology that brought books to life, while also using a new technology to represent apparently real elements such as berries that have shadows, that can be smashed on the book's virtual page (without permanently damaging it as would happen if the page and the berry were real), and that move around in incredibly realistic ways when the display screen is tilted. This book designer is simultaneously demonstrating that this technology can seriously achieve what the older technologies (that of the codex book and the paper-engineered book) can achieve by representing this classic tale with grace and dignity and by using virtual mechanical tabs to achieve life-like movement, while also exploring what this new technology can do that is different, like smashing berries on a page without damaging the book. This application is exploring two stages of media development concurrently.

Developer of *e*-picturebook applications, Nosy Crow, creates *e*-books that display a

significant level of interactivity in innovative ways that add to, change or support the narrative. Their recent The Three Pigs shows similar interactivity to the Grimm's Rumpelstiltskin, in that readers touch characters and elements on each illustration to cause them to hop, flip or change in some way. However, readers can also actually blow air into the *iPad* to help the wolf blow the pigs' homes down. Blowing affects the illustration and causes the pigs' houses to lean. In Nosy Crow's Cinderella, readers get to choose Cinderella's dress color, or the type of music to which she and the Prince dance. Readers may change their mind and choose a different color of dress or different music repeatedly. Their Little Red Riding Hood allows readers to choose their path to Grandma's House and choose what items to pick up for Red Riding Hood's basket, which changes the results of the story [Watch preview of interactive features in Videos 2.26.3, 2.26.4, & 2.26.5 or view at https://www.youtube.com/watch?v=xjzQ_QUCFLs; https://www.youtube.com/watch?v=Mu0QmR7giM0; and https://www.youtube.com/watch?v=emR8_vqJdlQ, respectively].

In all of these examples, both physical and virtual, the interactivity required of the reader is used to actually interplay with the story details or affect the narrative in some way. But, whether the interactivity required to read one of these books affects the narrative or not, it is true that both of these picturebook forms encourage exploration on the part of the reader. Readers are



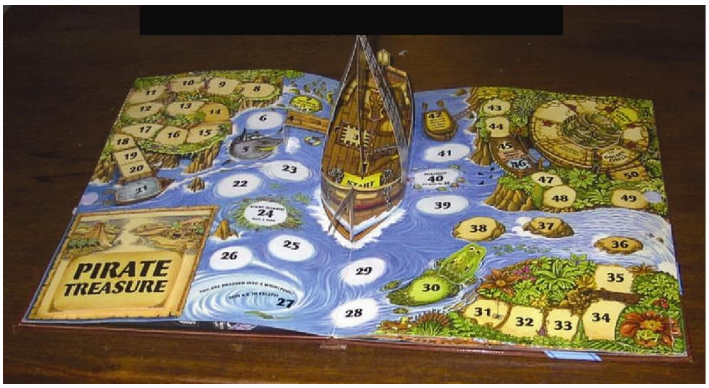


Figure 2.38.1 & 2.38.2 (left to right).

encouraged to touch and pull, slide and lift, or turn pages back and forth to create movement in the images—they are invited to interact with the book form and content.

2.5.5. *The Fifth Parallel: The Importance of Play—The Game Element*

As has been asserted previously, paper-engineered picturebooks tend to include a high degree of interactivity and an active element of play or game-playing in even the most basic examples. There is a degree of hide and seek about reading a lift-the-flap picturebook. Die-cut holes remind one of the game of peek-a-boo. Slide tabs that activate transformations remind one of dress-up games, and pull tabs that activate pop-ups encourage poking and prodding and tugging and pulling, reminiscent of the childhood game of tug-of-war. Paper-engineered books want the reader to touch and explore, lift and slide, pull and twist. Some examples of paper-engineered picturebooks encourage this game-playing element more than do others, however.

The Book of Pop-Up Board Games by David West and Brian Lee, was published in 1996 by Tango Books, a London-based publisher. This picturebook actually contains an attached, working spinner and four different pop-up gameboards complete with large central pop-ups and flaps to lift, game pieces for each game are also included as well as pockets to keep them in and tabs to keep the pages flat and protected when games are not in use. So, careful thought has been used to protect the all cardboard game pieces and parts. Each game board has a different design theme, ranging from fairytales to space exploration. Figures 2.38.1 and 2.38.2 show, respectively, the book cover and one of the interior game spreads titled "Pirate Treasure," a gameboard that features a centrally-situated, pop-up, pirate ship. This paper-engineered book utilizes the game element to the ultimate degree—the book has literally become a game library—and it bears comparison to some of the emerging *e*-picturebooks.

Many of the new *e*-picturebooks being released today have embedded game-like characteristics as well. Simple touch-screen interactivity alone introduces a game-like element to even the simplest of *e*-picturebooks, similar to the way the tactile pull-tabs and volvelles of the paper-engineered books invite interactivity. Touching an illustrated character or item in the *e*-book's images may cause the items to bobble or jump—this encourages the child reader to explore and touch more parts of the illustrations to see if there are hidden elements or movements embedded there. And many *e*-picturebooks go beyond this standard by adding even more game-like elements. Picturebook applications in the Disney Digital Library are examples of these emerging *e*-picturebook applications that have so many game-like elements that these add-ons to the expected codex form launch these new *e*-picturebook applications into something other than a book. One example of such an *e*-picturebook application is Toy Story introduced at the Chapter's beginning. The Toy Story application includes a coloring book application, movie clips, audio clips and several games.

Jigsaw puzzle books, discussed earlier, are another type of paper-engineered picturebook where the game is dominant. Digital picturebook applications are beginning to showcase this puzzle feature, just like their printed counterparts; but there has been a problem in the translation of this game form that affects the child's ability to learn from participation. Disney Digital Books is one leader in this development, and their Winnie the Pooh Puzzle Book application for Android devices is previewed in Video 2.27.1 [in the List of Videos; view at http://www.youtube.com/watch?v=8okUcoXGfj0]. The virtual puzzle book has created a way to allow children to complete jigsaw puzzles without losing the pieces, and this is an obvious advantage for parents. However, in completing virtual puzzles, in some applications, such as this example, the child merely has to bring the correct piece to the space, and is not required to move

the piece around and fit it into the shaped space correctly—an educational aspect of such puzzles that is being lost in translation from medium to medium.

Jigsaws are not the only puzzles making their way into *e*-picturebook applications as game-playing elements. Bartleby's Book of Buttons, Volumes 1 and 2, are *e*-picturebook application released in 2010 and 2011, respectively, from software start-up company, Monster Costume, in West Seattle, Washington (with Volume 2 being a featured app on the *iPhone* 4 when it was released). While the book contains a narrative, it also actively encourages game play on every page as an integral part of the picturebook—in fact, the *e*-picturebook is really more of a series of puzzles than a storybook. The child reader is not allowed to continue on to the next page spread until a puzzle is completed correctly. Puzzle-solving clues are hidden in the narrative for the diligent reader, and plenty of virtual buttons and choice options make the interactive puzzles a delight to complete and give this virtual picturebook application a somewhat Victorian feel, with virtual hand cranks and buttons to push. The book contains so many game-like elements that this *e*-picturebook almost equals The Book of Pop-Up Board Games just discussed for game-playing focus. A video preview of how the puzzles in this *e*-book interplay with the narrative can be viewed in Video 2.27.2 [in the List of Videos; view at http://www.youtube.com/watch?v=2X2Xndyx3G8].

Examples such as these contain so many elements of play, so many built-in games, that it becomes easy for the reader to forget such *e*-picturebook applications are narrative-based books. One obvious observation of this design is that the child reader might get lost in the interactivity and forget about the reading. In many *e*-picturebook applications the child reader can choose to turn off the text completely and have a narrator read the story to them—and in such cases, is the book a book at all? The book has arguably become the game in instances such as these.

One could counter that, if the book is read first, then the game-like elements could be used as peripheral activities to complement the book. For example, if one normally reads a picturebook with a child, after the book is read, the child may color pictures in a coloring book that features scenes from the story, or they may look through the book again to play with the pull-tabs and moveables, or complete some puzzles based on the book's characters. Teachers use additional projects and activities to expand on the reading experience, so why should *e*-picturebook application creators not offer similar features? The problem lies in *when* the child reader uses these activities. If an adult is guiding the reading experience so that the incorporated games are saved until after the reading is completed, they could enhance and reinforce what is learned from reading. If the child is reading alone and uses such features too much *during* the reading, game elements may act as distracters and disrupt the benefits of the narrative reading experience. This is touching on that balance John Newbery referred to in the frontispiece of his first picturebook for children, A Little Pretty Pocketbook, way back in 1744: "*Delectando monemus,*" or, "instruction with delight." There is no reason why *some* books should not have a wholly delight-focused intent. But if children are in that time period of their lives when reading is easy for their brains to learn, and they spend all of their time on virtual games instead of text-based content, it could be difficult for them to attain the skills of an excellent reader that help develop their brains in vital ways and contribute strongly to later success in life [as discussed more fully in the Introduction] (Sparks http://blogs.edweek .org/edweek/inside-school-research/2011/04/the_disquieting_side_effect_of.html).

While something vital may have been lost in the translation—for example, the tactility, substance and weight of physical objects, as well as some of the physical and mental activities inherent in completing physical games and puzzles—still, these are a few examples of the new

game-type virtual picturebooks where playing begins to dominate the book's purpose in ways very similar to the game-like interactivity first established by the older paper-engineered picturebook form.

2.5.6. *The Sixth Parallel: The Fragility Factor*

One of the most fascinating parallels between the forms of paper-engineered picturebooks and *e*-picturebook applications is their sharing of a certain aspect of fragility—they are each easy to harm or break; and this is especially intriguing because they are both forms that are aimed mainly at the young reader, the most likely segment of the reading population to thoughtlessly or carelessly harm either type of book.

Paper-engineered books have many moving parts, folding parts, pop-out parts—all created from a light-weight card stock. Paper bends easily, creases easily, and tears easily, so it is almost inevitable that damage will occur with a paper-engineered book. The easiest way to keep paper-engineered books from harm is to close each page slowly and carefully; to have vigilant adults read such books with young readers; to remind children, before allowing them to read such books, to take care and treat them properly; and to keep them on the higher bookshelves so young hands cannot pull them down on their own. This was the reason Victorian Era paper-engineer master, Lothar Meggendorfer, created cautionary poems that appeared in his paper-engineered books such as the excerpt previously quoted from from his picturebook, Always Jolly, that urges:". . . But, still, they are of paper made, / And, therefore, I advise / That care and caution should be paid . . . ." (Unpaged). And yet, with paper's light weight, its portability and adaptability, its ability to be folded flat, cut, and manipulated into sculpted shapes, and its widespread availability and relative low cost (by the time of the Industrial

Revolution, and when compared to other sculpting and building materials such as marble, wood, glass or clay)—it is not surprising that paper was used for fold-out maps, models for building projects and inexpensive foldable toys for children. It is also, perhaps, to be expected that creators of children's books eventually embraced this medium, for all of its strengths and weaknesses, and began creating these highly innovative and fragile paper-engineered books for children.

Emerging *e*-picturebooks have a fragility factor as well, but of a different sort. In a way, this sort of virtual moveable picturebook has resolved some of the issues of the genuine article. The moveable pieces and parts of an *e*-picturebook are merely computer coding, only moving virtually, and, as such, will not break or cannot be creased in the wrong way. The pieces of the virtual jigsaw *e*-picturebooks cannot be lost or torn. However, virtual picturebooks are built of code, and anyone who has ever used electronic media for any length of time knows that there are distinct limitations to code-based creations. In this instance, code can develop bugs, and it can be nearly impossible to get rid of bugs or glitches in code-based programs. In addition, code needs the correct converter to be understood at all. Virtual picturebooks are dependent upon the existence of the appropriate electronic reading device for their existence. While printed picturebooks may exist for hundreds of years unless destroyed by fire and are readable as long as readers can interpret the language in which the books were originally written (and languages take centuries to evolve as well); new technology is evolving at such a rapid rate that today's electronic readers may literally be on tomorrow's scrap heap with an entirely new system in place; and virtual picturebooks depend upon being written in a useable code in order to be correctly "read" by a reader. If the electronic reader is too new or too old or does not handle a particular file format, the *e*-book cannot be read. And, finally, virtual picturebooks depend for

their existence upon computer-based readers, and computers are expensive, fragile and temperamental. Computers are not the ideal reading device to hand over to a toddler with instructions to shake and bang on the device. View the first two video previews of baby reading applications for the *iPad* from Penguin Books DK Reader in Video 2.28 [in the List of Videos; view at http://www.youtube.com/watch?v=nF4uxiora9k]. These are applications created specifically for the infant. Any infant interacting with this program will be invited to touch the computer screen and move the computer screen one way and another to make things change on the screen—keep in mind that *iPad*s, depending upon what size, how many gigabytes of memory and what type of Internet access is included,[39] currently have suggested retail prices from about $400 to near $1000 each, according to Apple's March 18, 2014 and November 22, 2013 press releases (https://www.apple.com/pr/library/2014/03/18 Apple-Updates-Most-Affordable-9-7-inch-iPad-with-Retina-display-Improved-Cameras-Enhanced-Performance-Now-Available-Starting-at-399.html). When these applications for babies were first released my own initial reaction was to laugh. If it is still many adults' reaction to kick or hit a computer when it will not behave as one desires, one can readily imagine an infant's instinct when the computer screen does not react in the way they are expecting. Touching the touch-screen could easily become banging on the touch-screen, and light shaking or tilting of the computer screen could easily become a more violent interaction. But an *iPad* is not a toy—it is not an *Etch-a-Sketch*. It would be essential to only allow the child to interact with such applications with a supervising adult present. One would need to keep the *iPad* and such virtual picturebooks "on the high shelf" out of harm's way, so to speak. Still, such *e*-books for babies are the trend at the moment,

[39] In their November 22, 2013 press release, Apple stated the suggested retail prices of many models and they fell within this range of figures. This is generally the difference between various sizes of screens, 16 and 128 gigabytes of memory and Wi-Fi versus Wi-Fi plus LTE Cellular Internet access, among other specification variants. The point is that these are expensive devices, not throwaway toys (https://www.apple.com/pr/library/2013/10/23Apple-Announces-iPad-Air-Dramatically-Thinner-Lighter-More-Powerful-iPad.html).

and more and more baby applications are being released for the *iPad*, smart phones, *iPods* and other reading devices. Such devices are being used to entertain children, bored from long car rides, etc. A May 23, 2012 Diane Rehm Show on NPR, entitled "Touch-Screen Devices and Very young Children," included guests Lisa Guernsey, the Director of the Early Education Initiative at the new America Foundation; Ben Worthen, a Reporter from the *Wall Street Journal*; Heather Kirkorian, Assistant Professor of Human Development and Family Studies at the University of Wisconsin; and Liz Perle, Editor-in-Chief of Common Sense Media. These participants' conversation encompassed the new trend to create interaction between the infant, or the very young child, and the *iPad*. In this show, when the question was posed as to whether screen technology has potentially harmful ramifications to a child's health and developing brain, the response was that studies were showing that interactive screen applications offer more positive results for the child than passive screen applications (such as with traditional television).

In the United Kingdom it was reported in 2013 that babies are becoming addicted to *iPads*, and that withdrawal programs are being implemented to help wean babies away from the devices. "It is feared that products such as baby-proof iPad covers and iPotties which feature built-in iPad stands, only fuel the problem," wrote Victoria Ward in *The Telegraph* in April of 2013, continuing, "Parents who have found themselves unable to wean their children off computer games and mobile phones are paying up to £16,000 for a 28-day "digital detox" programme designed by Dr [Richard] Graham at the Capio Nightingale Hospital in London." She continues, "One in seven of more than 1,000 parents questioned by babies.co.uk website admitted that they let them use the gadgets for four or more hours a day. James Macfarlane, managing director of the website, said: "Given that babies between 3-12 months are awake for only around 10 hours per day this is a huge proportion of their waking day" (http://www.

telegraph.co.uk/technology/10008707/Toddlers-becoming-so-addicted-to-iPads-they-require-therapy.html). Since the windows of neural plasticity in children's brains that allow them to learn countless important tasks such as reading, close up after the first few years of a child's life, or at different points within those years, depending upon the knowledge being learned, this may become a question of not only the fragility of the devices, but the fragility of the child's brain.

Children have a few short years to learn a lifetime's worth of skills, and studies are beginning to show that if the child is sitting in front of a screen during that time, skills don't get learned and some may not ever be able to be learned. D. M. Chirico writes about this issue in her 1998 article for the *Waldorf Education Research Institute Bulletin* titled, "Building on Shifting Sand: The Impact of Computer Use on Neural & Cognitive Development." One issue raised in her article concerns the fact that the amount of time in front of a screen decreases the amount of time learning from real world interaction. "Phyllis Weikert addresses this point," says Chirico, "by stating, 'Children used to play in natural ways, with kids of different ages, outside, basically unsupervised by adults. Visual and auditory attention, body coordination −all were gained through that kind of play. This physical learning must take place before children start dealing with abstractions; it doesn't happen if children don't have those experiences'" (http://www. waldorflibrary.org/Journal_Articles/ RB2103.pdf). A second and even more concerning problem is the windows of time during a child's early years when the brain is most plastic and ready to absorb certain types of knowledge. Those types of windows are open only for a limited time, for some areas of knowledge, so what happens if a child is sitting in front of a screen, whether a passive or active screen, during those windows of neural plasticity? Gary Small and Gigi Vorgan speak of this problem, in their 2008 text iBrain: Surviving the Technological Alteration of the Modern Mind:

> The vast number of potentially viable connections accounts for the young brain's *plasticity*, its ability to be malleable . . . in response to stimulation and the environment. This plasticity allows an immature brain to learn new skills readily and much more efficiently than the trimmed-down adult brain. One of the best examples is the young brain's ability to learn language. The fine-tuned and well-pruned adult brain can still take on a new language, but it requires hard work and commitment. Young children are more receptive to the sounds of a new language and much quicker to learn the words and phrases. Linguistic scientists have found that the keen ability of normal infants to distinguish foreign language sounds begins declining by twelve months of age (05%).

Despite this vital area for research as to whether too much use of the *iPad* or other screen technology is good or bad for an infant, with "active" screens being lauded as at least a more positive option than passive screen viewing; shaking, rocking and tapping the *iPad* by young children will likely continue as a form of entertainment and even of babysitting for the fore-seeable future, despite the fragility of both the medium and of the child's maturing brain (http://thediane rehmshow.org/shows/2012-05-23/touch-screen-devices-and-very-young-children).

2.6. Some Concluding Observations on Both Mediums

2.6.1. *Final Thoughts on Fragility and Medium Specificity, as Applied to These Two Printed Forms*

This overview of the history of paper-engineered picturebooks, along with the discussion of many of the possible techniques and individual forms used in their design today and their possible correlations to new techniques and forms used in emerging *e*-picturebooks and other media, show how children and other readers of paper-engineered books and *e*-picturebooks are interacting with such books, being drawn into the book page, so to speak. They are crossing over the picture plane of the page into the picture book and becoming involved in the narrative and the illustrations. They are becoming immersed in the created environment or becoming *part* of the story. The creators of such books do not seem concerned with the fact that they are leaving

the bounds of what is *easy* to accomplish with the codex book form. Nor does the reading public seem to be concerned, for both of these are energetically growing industries. As far as paper-engineered picturebooks are concerned, many more pop-up books are being published today than even a decade or two ago, and antique pop-up books are selling for substantial amounts. I would suggest that, despite the flux in the publishing industry created by the influences of *e*-media, we are enjoying a second Golden Age of paper-engineered books. Similarly, *e*-picturebook applications are being rapidly released as an enthusiastic public embraces new applications for their *iPads* and smart phones.

As Iona & Peter Opie observed, "Mechanical books should look like ordinary books. Their success is to be measured by the ingenuity with which their bookish format conceals unbookish characteristics" (http://www.libraries.rutgers.edu/rul/libs/_scua/montanar/p-intro.htm). Their words sound, on the surface, like an argument against medium specificity as applied to paper-engineered picture books, and, now, to *e*-picturebook applications as well—that philosophical argument suggests that the various areas of the arts should focus on doing only what they do best. In his chapter, "Medium Specificity Arguments and the Self-Consciously Invented Arts: Film, Video, and Photography," from *Theorizing the Moving Image*, Noël Carroll describes medium specificity arguments as "arguments that purport to establish that the new media have a range of aesthetic effects peculiar to them whose exploitation marks the proper avenue of artistic development within the medium in question" (3). Rudolph Arnheim postulated that there are two separate components to the specificity thesis. There exists an "excellency requirement" for what the medium does best, and a "differentiation requirement" for that aspect of a particular medium that sets it apart from other media. With medium specificity arguments, then, mediums should adhere only to that which they can achieve with *excellence* and what they

can do that is *different* from other mediums. Carroll however felt that "the struggle for that excellence factor is restrictive, encouraging an individual medium to pursue only its successful area," and, "a medium does not ordain a single style or even a single family of styles, but generally affords the opportunities for a plethora of incompatible styles (Carroll 13)." Ultimately, in Carroll's view, "It is the use we find for the medium that determines what aspect of the medium deserves our attention. The medium is open to our purposes; the medium does not use us for its own agenda" (Carroll 13).

Creators of both paper-engineered picturebooks and *e*-picturebooks appear to agree with Carroll, designing books that look like books but do not act like books and that break the boundaries of what is considered traditional for the codex book form to accomplish. These certainly seem to be the types of mechanical, and, now, the emerging electronic books for which Iona and Peter Opie appear to be lobbying. Their words also seem to imply that the more ingeniously such books escape the boundaries of what is normal for most books, the better; opening the field for all sorts of mimicry of what other mediums can do more easily than can picture books.

Makers of paper-engineered books are certainly not adhering to purist, medium specificity arguments by sticking to what paper and the codex book form can do best and most easily, or most purely. Paper is flat. It is easy to print both text and images on flat paper, but it is not so easy to build three-dimensional pictures with it. Modeling clay or wax would be a more obvious choice. Paper is fragile and can be creased or torn easily, and pop-ups made in this medium are easily broken, so creating *enduring* three-dimensional models is difficult. The movements in paper-engineering tend to be time-consuming, complicated to design and assemble, and, once created, are fragile and easily damaged. It would seem much more cost and

time effective to create these stories in another medium that would not invite its own destruction, like film or a simple codex picture book, or possibly to create the moveables in light metal, plastic or wood that are more durable (if heavier). Though paper does fold and can be manipulated easily, it is difficult to create life-like movement with paper. The movements created in this medium are somewhat jerky when working at their best; having nothing like the fluidity of video. In addition, the book form is small, so it is difficult to create the realistic virtual environments in such a small format that are more easily achieved with film, theater, virtual reality exhibits or life-size installations that all create life-sized environments. The codex is also a flat form, and trying to create something that springs forth from that flat form seems contrary to the very nature of a form that folds up into a flat rectangular when the reader is finished with the book. It would be much easier for such creators to create similar movements and effects in many other media. Certainly, their creations would probably be more enduring. Paper-engineered books are often lumped with *ephemera*, or transient paper objects not made to last, such as letters, journals, or postcards. Yet creators in this medium take paper and the codex book form and attempt to create, within the limited format of the book and the fragile and stilted form of engineered paper, picture books that attempt to emulate the more easily achieved and enduring 3-D effects of sculpture; the more fluid movement of film; the greater size, layers and sometimes the sounds of theater; the pageantry of the three-ring circus; the extra information opportunities found in endnotes and hyperlinks; and the interaction found in new forms of hypertext and web art projects. In doing so, creators of paper-engineered picture books seem to be breaking the bonds of medium specificity arguments.

The creators of the new *e*-picturebook applications, likewise, are also attempting to accomplish what is not accomplished easily in that medium. They are attempting to create the

feeling of solidity when such books are entirely virtual. They are striving to create the appearance of a three-dimensional book built of covers and paper, page turns, and pop-up illustrations; but with codes and light. They are trying to make the child reader believe that touching certain virtual tabs and buttons creates certain physical changes in the book or the book's illustrations; when such apparent changes are really created through hyperlinks and electronic codes alone. And such electronic picturebooks are being created not only for *iPads* and other *e*-reading devices, but for smart phones and *iPods* or other MP3 devices that also have display screens (however miniscule)—the form is shrinking drastically in size, making it ever more difficult to design a picturebook that still includes text and is readable, when text-based narrative has *always* been an integral part of children's picturebooks. Even in the *iPad* format, the constraints of a flat screen of a defined and non-changeable size make it very difficult to design books that pop-out of the screen visually, both above and below the screen, or to design books that simply vary in size from that of the *iPad* screen. Having to design only one-screen-sized *e*-picturebooks is a significant limitation (especially with the countless classic print picturebooks that will undoubtedly require adaptation to this new e-medium, that come in all shapes and sizes with all sorts of special fold-out and pop-out features).[40] Think of a book that utilizes page-sized fold-out panels in its design. These would not display well on screen technology as it currently exists, because, as *e*-readers are currently designed, there are no fold-

[40]It is possible that applications such as the tilt comic, *The First Witch* (Video 2.19), could offer some possibilities in future design of such *e*-picturebook applications for extending the screen area for creating virtual pop-up moveables that extend beyond the virtual picturebook page where necessary. Using the concept introduced in this example, simply by moving the screen around, the viewer will see a larger designed viewing area than offered by the screen at first glance—almost like looking at only one comic on a Sunday Funnies page layout, and then moving your gaze around and seeing that other comics exist on the entire page for viewing. Yet, while this method for expanding the display screen will undoubtedly prove useful (and could even be used as a positive design feature in designing narratives to take advantage of its possibilities; i.e., clues to a mystery hidden in margins), it still initially hides the larger screen from the viewer, thus preventing the viewer from ever seeing the larger picture, in its entirety, all at once (i.e., the entire double-page spread, or the entire book, or the entire fold-out panel, etc.)—which, unless it is a specific design feature of the story, would be frustrating for the viewer. So, while this idea of designing for a larger screen than that on which the *e*-book is displayed offers one alternative to expand the shrinking visuals, it is only a partial, imperfect one.

out panels that can come into play when fold-out panels make it necessary. The only way to display abnormally-sized page spreads created when a fold-out panel is used is to shrink the view of the picturebook drastically on the screen to accommodate the fold-out, which would make the picturebook too small to read well or examine closely; where, with a printed full-size picturebook, all special features can be examined at full-size at close range. In addition, *e*-picturebooks for only one size page will continue to be a difficult constraint to adhere to when there are centuries of precedent for designers to design to whatever size of page they desire in the Children's Picturebook Field. Designers of picturebooks have begun to feel this is their prerogative, one of those often unrecognized defining features that sets Children's Literature apart from other types of literature (adult novels, for example, that usually do not feature illustrations and most often come in a standard vertical rectangular size that is easily adaptable to other standard vertical rectangular sizes—from hardbound to paperback versions of the same book). Over time, and perhaps very quickly, all picturebooks could come in identical sizes, as is already happening in the *uTales* collection of *e*-picturebooks or the *Disney Digital Bookshelves*. While one could argue that *The Little Golden Books* or other series books for children (with identical sized books within the series) can become classics—demanding that *all* picturebooks conform to a particular screen size may be a tragic mistake during that period of a child's life when their brain is developing in rapid and dramatic ways, during a stage where children lack literary skills and depend much more on visual skills, and during a time when adults should want to encourage a child's imagination rather than limit it.[41] Another difficulty with this form is that

[41] As screen technology gets cheaper, thinner and more versatile (and this is already happening), it might be possible to develop an adaptable layered fold-out screen, that allowed adaptation in proportions of height to width, and possibly had fold-out panels that layer and fold over one another into a compact shape with the top screen being the normally operable one. However, upon a flap being opened, they could activate to become part of the screen. For certain *e*-picturebooks the coding could be written into the program to adapt to such screens. Already we have multi-screen technology, previously discussed, that would be necessary for such a screen device. The mechanism might work in similar fashion to the paper-engineered, layered, multi-fold card described in File 2.16.1, Chapter Two file,

the *e*-picturebooks are designed for an expensive and breakable reading device—a computer—while they are intended for the young child, a reader not known for taking care with books. And, one final point is that, during a stage of childhood when children become inordinately attached to physical objects, such as a stuffed rabbit or a favorite picturebook, often dragging them around until they become quite bedraggled (my own children wanted to hear the same story literally hundreds of times), books that depend on an electronic reading device that could fail, or a code that could fail may not offer the permanency and physicality that a child at that stage of development requires. Now, one could work around that by continuing to download the favorite story onto a new device once the old one had broken, or purchasing a print copy of a favorite story—but, still, this is yet another difficulty of designing for this medium.

Thus, the *e*-picturebook and the paper-engineered picturebook both are examples of forms consciously designed to stretch the constraints of what their medium can do easily and well. Both forms also appear to imitate or mimic other media.

Interestingly, the older of the two forms, the paper-engineered book, seems to be imitating real life (by the publishers' own marketing slogans, as when Victorian publisher, Thomas Dean, of Dean & Sons marketed his moveable books as containing "living pictures" as previously discussed in this Chapter); but it also imitates the older medium/or technology of theatre, often displaying distinctively theatrical settings for its large pop-up displays as shown in all six of the previous Figures 2.9 through 2.10, including spreads from Royal Punch & Judy as Played before the Queen at Windsor Castle & the Crystal Palace, and Home Pantomime Toy Books: Beauty and the Beast, both of which use theatrical visual frames for their stories. Note how the Punch & Judy book is also legitimized by stating on the cover that this book shows the

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CD]. Whether such an adaptable screen ever is developed no doubt depends on whether enough applications demand such a screen, or whether the consumer demands such a screen.

very performance these characters acted out before the Queen. The book is being marketed by tying itself in to a live important theatrical performance. Beauty and the Beast also attempts to legitimize and market itself with its title describing the book as a "Home Pantomime."[42] British Pantomime has developed from the silent tradition into a type of lively family theatre with a whole host of traditional characteristics inherited from several ancient theatre and festival traditions. Pantomimes are usually performed annually during the Christmas holidays and sometimes at Easter in Great Britain.[43] Beauty and the Beast's front cover invites families to enjoy such a theatrical performance anytime they read the book together. The book's cover reminds the reader that tickets to a performance are "One Shilling Apiece." This phrase reminds parents who might purchase the book for their children that the child reader will be able to enjoy this type of performance repeatedly without additional admission fees, making the book's cost worth the investment—and making this type of book theatre an early example of a repeatable theatrical performance.[44] The publisher, Dean & Sons, validates this innovative book form by

[42]Pantomime in this picturebook's cover title does not refer to the miming style of theatre with the full face paint and silent acting of clowns and street mimes, but, instead, refers to British Pantomime that has roots in silent theatre (from the days when spoken drama was allowed only in certain "patent theatres" until Parliament changed this restriction in 1843) but is no longer silent today (http://www.elta-project.org/theme-panto.html). Pantomime's long-time holiday-timed theatrical tradition has roots going back to the December Roman Saturnalia Festival (where the master serves the servant and the servant dresses as the master, etc.), as well as to the Medieval Feast of Fools or Twelfth Night Festivals—all of which emphasize elements of characters changing, or wearing costumes, masks or other "guises" during the festivals. For example, the Twelfth Night Festival begins on All Hallows Eve, or Halloween, which American children celebrate by dressing up, or changing into another character for a night (Broadbent http://www.gutenberg.org/files/13469/13469-8.txt). Pantomime features the transformation emphasized in all of these festivals.

[43]Pantomime's traditional elements include but are not limited to cross-dressing characters hailing from those older festival traditions described in the previous footnote, special stage effects (such as transforming scenery or the flying effects in *Peter Pan*), audience participation as in talking to the characters (booing the villain, etc.), characters dressed as animals, chase scenes, slapstick comedy, a fairy who effects transformations, and a plot usually loosely based on a fairytale. Scottish Playwright James Barrie's *Peter Pan*, with its cross-dressing hero and audience clapping to bring Tinkerbell back to life, has roots in Pantomime (Broadbent http://www.gutenberg.org/files/13469/13469-8.txt).

[44]*Improv Everywhere*, an improvisational theatrical group whose slogan is "We make scenes*,"* is attempting repeatable street theatre today (all over the world) by uploading theatrical performance to *YouTube* where it gains an ever-growing audience for their various performances (in the tens of millions for some of them), as discussed in

tying it into the even older, established medium of live theatre, while reminding the reader that the newer medium has its advantages as well (it is cheaper overall because it can be used repeatedly to present many performances). While such theatrical settings were not always used, they were prevalent enough to be an easily spotted presence in early collections of moveable books, especially if one includes the circus-themed books, such as Raphael Tuck & Son's Fun at

Figure 2.39.

the Circus [Figures 2.11.1 through 2.11.3], previously discussed, that contained harlequinade-type changing characters/pages with visual reference to marionettes and circuses, two more types of theatre. Theatrical settings for moveable books remain in use today, as in Pop-Up Theater Proudly Presents Cinderella, a Kingfisher picturebook published in 1994. This book features a cover image of a stage full of actors, and, inside, a pop-up theatre, orchestra, audience and pop-up attendants selling programs and food, a pop-up prop trunk full of character stick puppets, changeable scenery, and the Cinderella story in play form (with staging directions) in a small book [Figure 2.39 shows some of these features.]. Even the backdrop, still a feature in many double-spread pop-ups as well as a frequent page-framing device in early paper-engineered

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Chapter Five, an attempt to use *current* technology to extend theatrical performance life, as do these theatrical picturebooks using the codex book form, which was the "new technology" of that time period.

picturebooks, is reminiscent of the stage-framing devices and backdrops used in a theatre (Modern paper-engineered picturebooks are less constrained by this device than many of the earlier moveable picturebooks and often rise from the page with no backdrop[45]).

Like paper-engineered picturebooks, *e*-picturebooks also tend to emulate life; and they also often tend to imitate an older medium. Just as the paper-engineered book, that had its roots in the Eighteenth Century, emulated the older mediums like theatre that pervaded that society (including the traditional proscenium arch-type theatre, street theatre, marionettes, harlequins, circuses, etc.), so the *e*-picturebook appears to be following a similar pattern and imitating the existing mediums that pervade society currently. There happen to have developed a broader selection of publishing mediums to choose from today, two and a half centuries later, for the *e*-picturebook form to emulate. It is noteworthy that the focus of technological publishing forms now seems to be the imitation of *printed* forms such as the codex or paper-engineered book as some of these forms have gained the legitimacy of acceptance in society; whereas earlier society's placed more emphasis on oral- and performance-based forms such as theatre, or puppetry. Sometimes the older medium that *e*-picturebooks emulate is the classic printed picturebook, or sometimes it is an illuminated manuscript, a comic book or television cartoon. Often, with regard to this Chapter's focus, it imitates the paper-engineered picturebook.

For a prime example of both the imitation of the classic picturebook and the paper-engineered book, one can turn to the thoughtful imitation of the classic Beatrix Potter picturebook, Pop Out! The Tale of Peter Rabbit. This book was discussed in recent pages, touching on its use of Potter's iconic images and text, as well as the designer's imitation of classic tab and wheel-type moveable parts [Video 2.26.2]. This book is both imitating the

[45] Theatre has moved in a similar direction over the last several decades, with greater variety in the types of sets used, and more creativity in designs to create faster set changes--more minimalist sets, theatre-in-the-round, and technology like drum revolves rising and sinking into the stage to change a set immediately, often moving away from the traditional backdrops in many situations.

previous medium/technology and it is also experimenting with what this technology can accomplish that is different, with its touch screen used by the reader to enlarge leaves and berries and then virtually crush them against the screen.

While this Peter Rabbit example imitates the flatter moveables of the paper-engineered picturebook—the wheel, the tab and the slide tab, among others; in certain aspects, *e*-picturebook applications often imitate the older medium/technology of the three-dimensional theatrical stage. For example, frequently scenes in paper-engineered pop-up books in particular are presented with three-sided staging or dimension as opposed to 360 degree three-dimensionality. This is similar to a proscenium arch type of theatrical stage modeled in the pop-up stage shown in Figure 2.39, where one can view the front of the stage with a bit of a side view as well, but no view from back-stage. This partially-dimensional modeling is described in animator and illustrator Ed Bryan's demonstration of how he created Nosy Crow's award-winning Cinderella *e*-picturebook application in Video 2.29 [in the List of Videos; view at http://www.youtube.com/watch?v=NIz52OZMwFI]. Bryan discusses how he used Adobe Photoshop and the 3D animation program, Autodesk Maya, to create artwork with a three-dimensional feel. Viewers can rotate the image slightly clockwise or a little counter-clockwise and view some three-dimensional modeling of the background and other elements of the set, but one cannot rotate the set anywhere approaching 360 degrees [Review the Cinderella app, itself, in Video 2.26.4, List of Videos; view at http://www.youtube.com/watch?v=Mu0QmR7giM0]. It is important to note that the characters of these Nosy Crow fairy tale *e*-book applications appear to be flat, two-dimensional animations layered in front of the background setting. This is an intriguing choice for the animator, because Maya is a three-dimensional animation program, and full 3D-animated characters and sets could have been modeled, and do exist in other *e*-

picturebook apps. This two-dimensional modeling keeps all movement on the display screen within a predominantly two-dimensional context, and keeps the animations and camera views less complex than three-dimensional modeling. The two-dimensional design aspect of Nosy Crow's *e*-picturebook apps appears to be a design *choice* rather than an effort to eliminate extra work, because Nosy Crow definitely invested effort working to incorporate extra unusual features in other areas (i.e., the ability of the reader to interact with the narrative, as when the reader collects the pumpkin and other items to help the Fairy Godmother create her magic, or when the reader chooses the music at the ball in Cinderella; or features that make use of the technology, such as the reader being able to help blow the pig's houses down in the Nosy Crow version of The Three Little Pigs by blowing into the *iPad).* As to the point of this discussion, however, the designers of this *e*-application along with other fairytale adaptations by Nosy Crow and many other current *e*-picturebook applications now on the market have created settings for their *e*-picturebooks that offer obvious similarities to the theatrical staging of both the performance theatre and the traditional paper-engineered picturebook. The characters in this and many current *e*-picturebooks imitate the flat pop-up characters in most paper-engineered picturebooks (or possibly the two-dimensional animation in many television cartoons of the last few decades). Also, the *e*-picturebook applications from Nosy Crow could be said to imitate, in part, the older comics or comic book medium, as well, in that the characters sprout *speech bubbles/balloons* when touched (that display a character's words). And, if touched multiple times, these display multiple, varying messages—a creative use of the older print design device. This, in combination with the fact that the narration is enclosed in a rectangular caption box as used by comic books, also helps bring the comic book form to mind as one inspiration for this

style of *e*-picturebook format (http://www.readwritethink.org/files/resources/lesson_images/lesson1102/terms.pdf).

Perhaps most intriguingly, some of these *e*-picturebooks emulate the paper-engineered picturebooks that existed centuries before the advent of *e*-picturebook technology. One classic example of this was Ideal Binary's *e*-picturebook adaptation of Grimm's Rumpelstiltskin, discussed previously in this Chapter [Video 2.14 in the List of Videos; view at http://www.youtube.com/watch?v=9mLR1F4ISmI]. All of the fairytales introduced by Ideal Binary have the distinctive look of a virtual paper-engineered picturebook, as in this example. Although there are some floating elements such as the clouds that move when dragged by someone's touch on the display screen, the entire setting on every other page virtually springs up into position like a grand, double-spread pop-up as shown in Figure 2.40.4, and the character figures are two-dimensional as in nearly all paper-engineered picturebooks as well. Once again, Ideal Binary has made a few alterations to make use of the digital medium: In addition to the floating clouds that can be manipulated by touch (a new effect), floating speech bubbles are also utilized in obvious imitation of comic book stylings as shown in a comparison example (a page from John Stanley's classic *Little Lulu* comic book from Issue No. 72, June 1954) shown in Figure 2.40.3[46] (http://www.britannica.com/ EBchecked/topic/127589/comic-strip/278930/The-first-half-of-the-20th-century-the-evolution-of-the-form). In the Grimm's Rumpelstiltskin example in Figure 2.40.4, traditional *thought bubbles* are used that contain the subject's thoughts. However, the design and intent of both of these examples is clearly similar. One could probably adapt both of these devices into a print paper-engineered book, but would have to use

[46] Yellow Kid, created by Richard F. Outcault, is widely regarded as the earliest American comic strip personality. At first what Yellow Kid said would appear on the clothes he wore, but very soon, in fact as early as 1896, Outcault began using speech or word balloons very similar in appearance to those used today (Kunzle http://www.britannica.com/EBchecked/topic/127589/comic-strip/278930/The-first-half-of-the-20th-century-the-evolution-of-the-form).

some product like transparent acetate to achieve the floating effect, because, in the paper medium, nearly every feature has to be physically connected in some way to work or to be manipulatable. In fact, clear acetate is used in paper-engineered picturebooks for similar reasons—see Sabuda's Alice in Wonderland tunnel in Figure 2.29.3 where Alice falls down the rabbit hole and is mechanically suspended on acetate to look as though she is falling through space. Occasionally a book feature, such as an invitation in an envelope, might be physically unconnected, but will be secured in some other fashion to the book design. In this example, it is secured by the envelope. Still, other than for a few experimental *e*-devices as have been described here, this *e*-picturebook example is, in appearance, very much like a classic paper-engineered picturebook: It begins with a three-dimensional view of the book, reminding the reader visually that it is as legitimate a medium as a printed picturebook. Every second double-page spread, as previously discussed, imitates an illuminated book, as shown in Figure 2.40.1 from the book and Figure 2.40.2 of an actual illuminated manuscript page (from a 13th Century Bible from England). The virtual page's colorful initial capital letters and other decorative typographical devices once again tie this new e-medium into the style of the older accepted print medium (http://www.hrc.utexas.edu/educator/modules/ gutenberg/invention/familiar/). And the in-between double-page spreads each display a virtual two-page pop-up scene that allows various touch manipulations on the part of the reader while imitating, in looks, the traditional paper-engineered picturebooks [Figure 2.40.4]. Figures 2.40.4 and 2.40.5 show the similarity in style and format between a double-page spread from the virtual Rumpelstiltskin and the printed paper-engineered Alice in Wonderland by Sabuda. Both examples offer the appearance of a three-dimensional open book. The double-page pop-up rises up from the back of the page and acts as a theatrical-type backdrop to the entire scene in both examples. The characters are two-

dimensional flat characters that also pop-up from the page. And there are even parallels between the extra features. In the case of the virtual picturebook, the reader touches various elements and speech bubbles pop-up (into virtual space) or other items such as clouds or characters move and bobble about. In the case of the printed Alice in Wonderland, the extra features include a smaller codex book that contains other moveables that move and "bobble about" as the pages are turned, as well as an interactive tunnel that pulls out from the page and offers a special view through a central hole. I would judge the appearance and behavior of the Rumpelstiltskin to be an obvious imitation of the look and behavior of the print moveable picturebook, a fact that is reflected in the title of the book, a "3D Interactive Pop-Up Book."

Figure 2.40.1, 2.40.2, 2.40.3, 2.40.4

2.6.2. *Thoughts on Why Paper-Engineered Picturebooks and e-Picturebooks Imitate Older Mediums*

Recall that, in the Introduction to this Dissertation, this intriguing point regarding why a newer medium often seems to imitate an older one is discussed by Noël Carroll, in his chapter, "Medium

Specificity Arguments and the Self-Consciously Invented Arts: Film, Video, and Photography," from *Theorizing the Moving Image*. In this discussion, Carroll posits that new mediums first undergo an initial phase where each, "attempts to legitimatize itself as art by aping the conventions, forms and effects of pre-existing arts. Film initially imitates theater; photography painting . . ." (3). With this theory in mind, it should not be surprising for *e*-picturebooks to imitate an older medium like the picturebook or the paper-engineered picturebook. A good example of this principle of imitation in the early development of a new medium is demonstrated in Loud Crow's *e*-picturebook (just discussed), Pop Out! The Tale of Peter Rabbit. This *e*-picturebook first appears in closed form on a Victorian desk with other Victorian pictures casually strewn about—and this desk operates as the reader's homepage with different tools available from this view. The *e*-picturebook features a view of the outside of the book that appears identical to the classic text cover, page turns that look very realistic, and the original Beatrix Potter presentation of images and text on the inside, as shown in Figure 2.37. Most intriguing are the occasional virtual versions of paper-engineered features such as wheels and pull tabs that appear to operate mechanically, as shown in the video review of the *e*-picturebook. Why imitate the mechanical devices when this e-picturebook application also contains devices that are *not* imitations of the mechanical devices? For example, the reader has the ability to touch pictures and cause images of leaves, nuts and berries in the classic Potter illustrations to enlarge and bounce around the screen; or, in the case of the berries, to be squashed against the screen when touched with a finger. Readers can also cause some image characters to move by means of imitation paper-engineered tabs, while other moving parts of images are animated. The creators of this *e*-picturebook appear to be purposefully imitating a previous form of moveable

picturebook—the paper-engineered picturebook—as if to claim the legitimacy as a print medium that the paper-engineered picturebook has earned over its centuries of existence.

The form, parts and functions of the book—the front and back covers, for example—are imitated in many virtual picturebooks. Page turning is also becoming an important element for imitation in some, but not all, *e*-picturebook applications that have been developed thus far. There are two primary variations on page turning in the e-picturebooks developed up to this point: the pages that peel off of each other like a stack of manuscript pages, and the scrolling movement—both of which could be viewed as older forms of reading illustrated narratives, the unbound manuscript and the scroll. Even an abrupt change from page to page could be seen as an imitation of slide show presentations such as those created in PowerPoint, or a film cutting from scene to scene—but, thus far, most *e*-picturebooks attempt some form of transition from page spread to page spread. The interactivity, tactility and movement offered by the paper-engineered picturebook pop-ups and moveables are also important elements imitated by the newer medium. And many *e*-picturebooks imitate the three-dimensional aspects of the paper-engineered picturebook, as discussed regarding the examples created by Nosy Crow [Cinderella, The Three Little Pigs, and Little Red Riding Hood, reviewed in Videos 2.26.3, 2.26.4 & 2.26.5, in the List of Videos].

Carroll goes on to state that, in stage two of each new medium, the purists begin to specify the range of effects peculiar to that new medium. During this phase, artwork will abound that explores those effects that are possible in that medium that were not easy, nor possible, in the previously imitated medium. Thus, for example, the *e*-picturebook application for The Tale of Peter Rabbit adds the splatting berry effect as was shown in Figure 2.37, where the young child can, by touching the screen, cause the berries on the page to appear to quite realistically

and juicily squish under their own fingers. Also, such *e*-picturebooks can include video clips—and while movement is possible in paper-engineered picturebooks, life-like movement is nearly impossible to reproduce in that form.

Recall that this writer called Carroll's phase one the *justification* of the medium. Phase two was tagged as the *exploration* of the new potentials of the medium.

Finally, recall the postulation of a third phase that occurs, possibly as a result of even newer media emerging. Alice for the iPad, introduced at the Chapter's beginning, added picture elements that shift around realistically when the *iPad* is shifted due to the inner workings of the accelerometer that allows the *iPad* to shift orientations from vertical to horizontal. It is difficult for a paper book to allow unfastened bits of illustrations to remain separate from the page (Recall Matthew Paris' "fugitive sheets"--so-called because, unbound, they get lost). Still, I can picture future picturebooks figuring out how to mimic this effect possibly using clear acetate overlays to sandwich loose illustration parts—i.e., the pills in Alice's bottle-- above the main illustration without losing them. Moving the book about would allow parts of the image to move about as well. Such an innovation in printed picturebooks, that is clearly imitating a special effect introduced by a newer medium, the *e*-picturebook application, would be fulfilling phase 3 of a medium/technology's development. This third phase could be called the *reinvention* phase. Whenever newer media enter the playing field, so to speak, an older medium will often take a long hard look at itself and wonder if it can accomplish some of the fresh effects that those newer media are achieving. At this stage the older medium may begin to imitate these fresh effects "borrowed" from newer media, such as film adding the sounds that phonograph technology introduced. They may also just appropriate other effects for themselves and begin crossing medium boundaries altogether, or "cross-breeding," so to speak. Thus, when film began to add

continuous movement and on-location effects to what theater had offered prior to film, then live theater began to move off the stage into the audience and began to be more innovative with set design, adding movement and speeding up set changes with revolving turntables and the use of scrims, etc.. Theater even began to add screens and moving image video to their set designs. Hypertextual narrative began by imitating the footnotes and endnotes of printed narratives on a screen. Next, however, designers of hypertext began generating new ways to include extraneous information that was previously constrained to foot or endnotes as in traditional codex-form books—adding pop-up windows or hyper-linked maps and images instead. Designers of such hypertextual narratives began experimenting with multiple plot lines and viewer-generated content. These, in return, are even now spawning new codex novels that experiment with plot possibilities, multiple endings, and viewer-generated interaction that remind the reader of hypertext; such as books that incorporate a treasure hunt into the narrative, while marketing the book with the idea that there is a real treasure to be found in the real world if the readers follow the clues in the narrative. These various media, both the newer and the older, have now begun feeding off of each other, as well as being informed by other existing media surrounding them. It does not seem to matter *what* proponents of medium specificity tell practicing artists about the need to adhere to the constraints inherent in the medium and only focus on creating within those constraints. In the end, some artists will not abide by such constraints, and seem, instead, to agree with Noël Carroll's view:

> . . .we should look to . . . the utopian pictures of Fourier and Marx in which the worker of tomorrow, a generalist to the core, pursues diverse activities, hunting in the morning and philosophizing in the afternoon. This picture corresponds better to the various sorts of freedom the arts are thought to enshrine both in their consumption and their production. Applying this metaphor to media, unfettered by the claims of efficiency, one would envision each medium exploring all available effects, including those achieved in other media (Carroll 17).

Artist/creators of this sort seem to thrive on attempting to break the figurative bounds of their medium as defined by medium specifists in their field. Thus, artists in various mediums across the spectrum, after those mediums have established themselves as legitimate art forms, begin moving towards other neighboring mediums, borrowing from them and incorporating features from them. Sometimes a number of features from a number of different mediums may be incorporated, such that the new creation is both a combination of media, or "multi-media," and also incorporates behaviors from those other media. They may introduce features that would be much easier to produce in those other media, such as three-dimensional, or 3D, effects, continuous motion, sound effects or a soundtrack. They could offer features demanding an interactive audience. They might even develop features that take advantage of the prevalence of Internet connection in today's theatre audience—perhaps asking audiences to make choices with their smart phones regarding the plot choices followed in a play performance, for example.

2.7. To Summarize

After an introduction of some examples of the emerging genre of *e*-picturebooks, this discussion reviewed a much older form that appears to be trying to accomplish some of the same special effects as the new *e*-picturebooks. A presentation of a history of the paper-engineered picturebook touched on this technology's various innovations and their innovators. An overview of the genre's terminology, particularly with regard to special effects, revealed similarity of purpose to other surrounding technologies. Finally, the previous section called attention to at least six parallels between the paper-engineered picturebook form and the emerging *e*-picturebook form. To review: First, both attempt to create "real" illustrations through the three-dimensionality of the paper-engineered images in the pop-up book and the virtual three-

dimensional images in the *e*-picturebook. Secondly, both introduce movement in the books' images and sometimes this movement is used to direct the narrative forward or to add to it in some way. Thirdly, both share a "mechanical" aspect necessary to their function. Fourth, both include an often inherent interactivity in their designs. Fifth, there are often game-like elements built into both forms. Finally, both forms contain an inherent fragility—they are easy for young hands to break. After reviewing these similarities in both forms, it becomes clear that today's emerging *e*-picturebooks appear to be attempting many of the same feats that paper-engineered picturebooks have been trying to accomplish for centuries.

CHAPTER THREE

From The Hole Book to The Book With a Hole,
Viewing the Children's Picturebook as Artist's Book:
An Examination of Whether Some Picturebooks Fulfill the Criteria of this Emerging 20th Century Publishing Form

"If a method of Printing which combines the Painter and the Poet is a phenomenon worthy of public attention, provided that it exceeds in elegance all former methods, the Author is sure of his reward."

– William Blake[47] –

This chapter will examine the idea that some children's picturebooks could be considered candidates for the Artist's Book Field, a form that has only recently developed in the mid to late Twentieth Century, although precursors exist from long before that date. To be able to conduct such an examination, it is necessary to first define a field that has porous boundaries and includes works that frequently cross borders into neighboring fields as well.

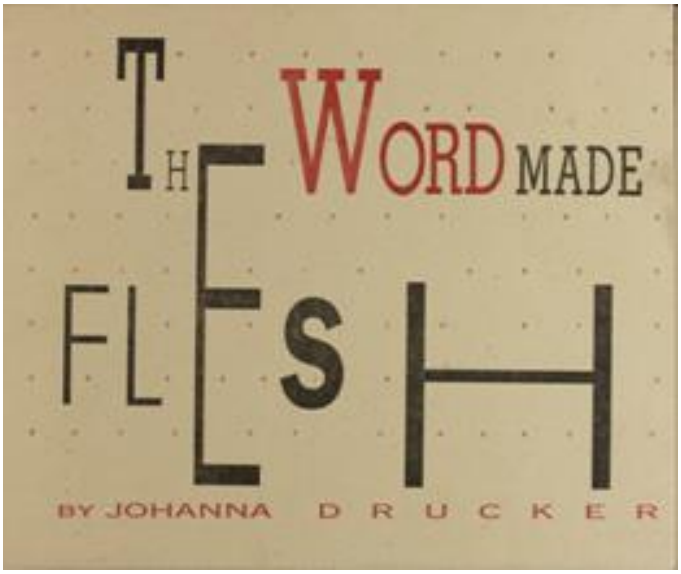


Figure 3.1 (top); Figure 3.2 (bottom).

3.1. Introduction to the Artist's Book

To better understand the perimeters of this genre, I look to the ideas of an expert in the field, Professor Johanna

[47] (*Prospectus* 1793).

Drucker, the Martin and Bernard Breslauer Professor in the Department of Information Studies at the Graduate School of Education and Information Studies at UCLA [Figure 3.1]. Dr. Drucker is critical writer on the subject, the author of The Century of Artists' Books (from Granary Books), and of a selection of artists' books. The front cover of one of her artists' books, The Word Made Flesh, is shown in Figure 3.2. In Drucker's words, "this book attempts to halt linear reading to call attention to the physical, visual materiality of the page" (http://epc.buffalo.edu/authors/drucker/chron.html). So, this text was an attempt in 1989 by Drucker to introduce non-

Figure 3.3 (top); Figure 3.4 (bottom).

linear reading in a printed book—she is experimenting with expectations about the book form. In her article, "The Artist's Book as Idea and Form," from A Book of the Book, Drucker appears willing to negotiate on questions of whether an artist's book creation could be created in multiple copies, or printed or bound by the artist or by someone else (such as by a publishing company). It is, however, Drucker's judgment that artists' books *do* need to interrogate, "*the conceptual or material form of the book* as part of its intention, thematic interests, or production activities" (378) [italics, my emphasis]. In the same article, Drucker discusses artists' books as existing at the *intersection* of different disciplines rather than at their limits, comparing and contrasting the artist's book to the livre d'artiste, the deluxe edition, fine printing efforts, concrete poetry books, and handmade or crafted books. While Drucker admits that many artists' books encompass "activist" political, social and cultural themes, and that they are often printed by the artist or a small independent press on shoestring budgets, these criteria do not seem to be cast in stone for Drucker. It *is* important to her, however, that artists' books "are almost always *self-conscious about the structure and meaning of the book as a form*" (378) [italics, my emphasis]. These ideas, particularly those in italics, define a view of artists' books that will be used as a yardstick when considering picturebooks that might be considered as artists' books in this chapter.

At least one powerful early connection exists between the two fields. While artists' books are a primarily 20th century art form, one early mentor commonly cited as an inspiration by many current artist's book creators is also considered an early practitioner in the then emerging Children's Literature Field. William Blake, who lived from 1757 to 1827, acted as designer, author, illustrator and publisher for his self-published and hand-colored, small print-run books of poetry specifically for children, Songs of Innocence (1787*)* and Songs of Experience (1794) [Figure 3.3, 3.4]. Blake experimented with the technology of the time by developing the

technique of *relief* etching directly onto the copper plates to create his text and illustrations, rather than using the accepted intaglio method of image transfer. To accomplish this, Blake needed to create his images and text backwards, but this new process did allow him to create a book with the text and images integrated in a way that had become difficult with metal-type presses. With type creating a raised profile for printing and intaglio engraving creating an incised image—this technological difference helped create a separation between image and text creation in the printing process, while Blake's relief process of image creation reunited these two forms in the printing process, allowing text and type's integration. Joseph Viscomi, Editor of the on-line William Blake Archive, in his article, "Illuminated Printing," from that archive states that, "Fifteen of Blake's 19 illuminated works were executed in a relief-etching technique he had invented in 1788." Viscomi continues to inform us that in Blake's prospectus of 1793 Blake called the process "Illuminated Printing," and announced that he had "invented a method of Printing both Letter-press and Engraving in a style more ornamental, uniform, and grand, than any before discovered, while it produces works at less than one fourth of the expense." Viscomi shares that Blake defined it as "a

Figure 3.5 (top); Figure 3.6 (middle); Figures 3.7.1 (third down); 3.7.2 (bottom).

method of Printing which combines the Painter and the Poet" (Prospectus, E 692-93). Viscomi describes Blake's process, stating, "In practice, Blake wrote texts and drew illustrations with pens and brushes on copper plates in acid-resistant ink and, with nitric acid, etched away the unprotected metal to bring the composite design into printable relief. He printed the plates in colored inks on a rolling press and tinted most impressions in watercolors. . . ." Viscomi continues to comment that, "the combination of word and image is a prominent feature of illuminated printing . . ." (http://www.blakearchive.org/blake/about-blake.html).

Dieter Roth (1930-98), is frequently credited with defining the *modern* artist's book, producing a series of works in the 1950s to '60s that deconstruct the codex book, as shown in *Literaturwurst* [Figure 3.5, *Literature Sausage,* 1968, 52.5 x 42.5 x 12 cm], a creation that looks like a sausage, but is made up of a cut-up novel combined with water, gelatin and spices in a sausage casing (http://neb64.wordpress.com/2008/06/21/halbzeit-wurst/). Roth was the first artist to re-purpose found books such as comic books, and newspapers as shown in Figure 3.6, the *Daily Mirror Book*, published in 1961 [2 x 2 square cm] (Drucker CofAB 71-76, Image source: http://en.wikipedia.org/wiki/File:Daily_mirror-roth.jpg).

I discovered a personal favorite in the Special Collections of Cabell Library at Virginia Commonwealth University in Richmond, Virginia. Absence, created by J. Meejin Yoon and published in 2003 in New York by Printed Matter, Inc., and the Whitney Museum of American Art, was the 2004 winner of I.D. Magazine's Design Distinction Award. This solid chunky book of white cardstock consists of 120 pages that are blank except for a die-cut pin-hole leading down to a thick section of pages that have only two square die-cut holes in them in exactly the same location for page after page [Figure 3.7.1]. The last page gives the viewer the necessary clues to decipher this artist's book, revealing the footprint of the entire site of the World Trade

Center die-cut into a "delicate lattice of absent structures," as the publisher describes it. Finally the viewer realizes the entire book is a ghost or negative-space, three-dimensional sculpture of the World Trade Center, even to the number of pages correlating with the number of floors. Finally the title, *Absence*, the book title die-cut out of the all-white cardstock cover, suddenly makes a profound impact [Figure 3.7.2]. This is an artist's book whose power lies in its restraint.

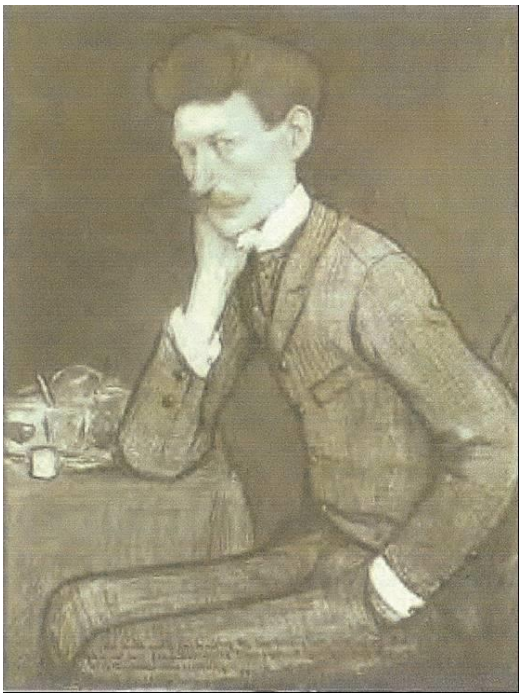


Figure 3.8.

3.2. American Illustrator, Peter Newell, A Place to Begin

So, with Drucker's views as a practicing artist's book creator and some background research on artists' books in mind, it is time to explore the idea of the *artist's book* in the field of Children's Literature, researching the emergence of children's picturebook creations where the book creators play with the book form and design as a integral part of the book's meaning and purpose. My own research has revealed one late Victorian-era American author/illustrator, Peter Newell, whose self-portrait is shown in Figure 3.8. Although Newell (1862-1924) is largely forgotten today, he created, in my judgment, several of the earliest American examples of this type of children's picturebook, before the modern incarnation of the Artist's Book Genre even existed. Peter Newell was the creator of novel children's books that explored the book form as an essential part of the narrative. Newell earned the following description by Michael Hearn,

Trinkett Clark and H. Nichols B. Clark in Myth, Magic & Mystery: One Hundred Years of American Children's Book Illustration:

> Perhaps the most *inventive* American children's book illustrator of the period was Peter Newell. Like Frost, Kemble, and Birch, he made his way through the magazines. He also worked primarily in black and white but, unlike these colleagues, Newell relied on tone rather than line. He was *one of the few artists of his generation who took full advantage of the new half-tone process* with his rich velvety grays . . . . He was also *one of the first* artists to *recognize the picture book as a unique object* [italics, my emphasis] (16-17).

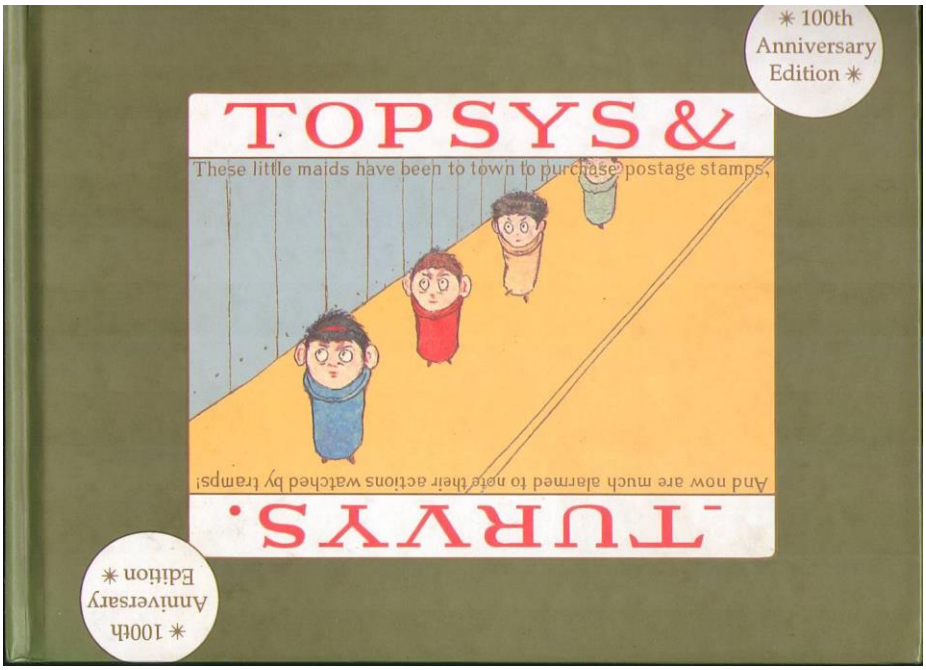
Newell deserves careful consideration when discussing possible picturebook crossovers into the Artist's Book Field because of the way he creatively interacted with the book form; because he crossed disciplines in creating his books by writing, illustrating and designing them himself; and because he consciously utilized new media and methods of art production in developing his style, as displayed in several of his picturebook creations that he created wholly through his own efforts as writer, illustrator and book designer. In fact, the Newell book creations that will be discussed here could almost be viewed as miniature *Gesamtkunstwerks.* [48]

In a slightly different way, some picturebooks could be viewed as "total works of art" with their combination of art, text and design creating a whole that is often greater than the sum of their parts. This idea of a picturebook that is a "total work of art" appears particularly applicable when considering those picturebooks that could also be considered "artist's books" precisely because of that extra effort the designers of such books expend in exploring the interaction between the book form and the designed narrative it contains. To explore this idea more extensively several potential examples will now be explored.

In this discussion, I will first examine the work of Peter Newell; draw comparisons with several examples of picturebooks created by other *current* book creators that show a similar

[48] Richard Wagner's term for a "total work of art" ((http://users.sky net.be/johndeere/wlpdf/wlpr0062.pdf).

design focus; while considering the idea of whether certain children's picturebooks fit into the category of picturebooks as artists' books. I will start the discussion with several of Newell's earliest children's book creations, specifically those that he wrote, illustrated and designed himself; including, Topsys and Turvys and Topsys and Turvys - Number 2



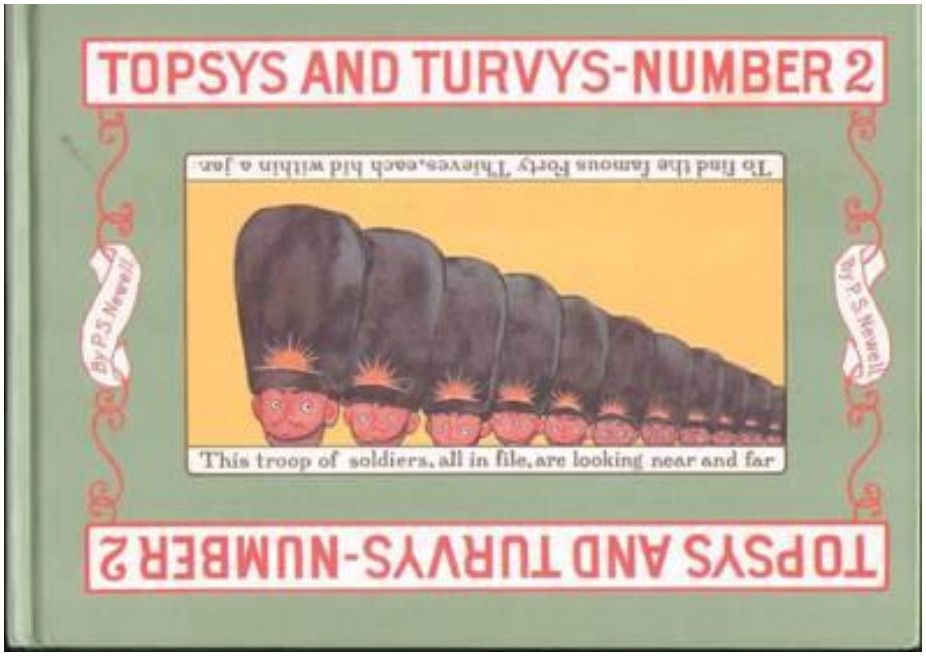


Figure 3.9.1 (top), Figure 3.9.2 (bottom).

*(*1893, 1894); A Shadow Show of 1896; The Hole Book of 1908; The Slant Book of 1910; and The Rocket Book of 1912. While Newell illustrated over forty books and nearly two hundred magazine articles for other authors, he was perhaps best known in his time for these six novelty children's books, listed here. Not only did he write and illustrate these six books himself, but he also exhibited consistently creative and innovative design throughout each of these examples. This exploration of Newell's efforts, along with a selection of other related picturebooks that will be discussed, comprise a mere starting point for a broader discussion regarding the types of books in the picturebook field that could be viewed as artists' books.[93]

3.2.1. Extending the Narrative: Designing Picturebooks with Pages that Evolve as They Revolve

Peter Newell's book, Topsys & Turvys, published by Century Press in New York City in 1893 [Figure 3.9.1], was followed shortly thereafter in 1894 with a second similar book, Topsys & Turvys - Number 2 [Figure 3.9.2]. This pair of books display plate after plate of full-color illustrations—an unusual feature at the time accomplished through use of the new

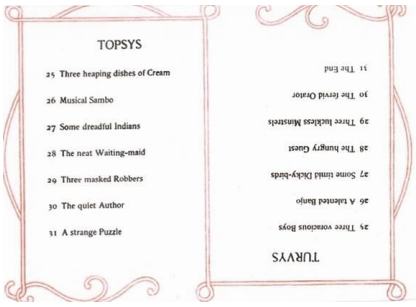


Figure 3.9.3.

[93] Interesting Note: Peter Newell's son-in-law (for a time), Alfred Zantzinger Baker (1870-1940) also published creative picturebooks. I have been unable to procure any copies of his rare books, but they are discussed in the Overview of the Peter Newell Family Papers. His picturebooks include The Moving-PictureBook (1911) that used stereoscopic eye-holes in a cover box, a hand-cranking, color-coded viewer, and out-of-register images to create the illusion of movement (this sounds similar to recent "Scanimation" books such as Gallop! by Rufus Butler Seder, listed in the Works Consulted); The Moving-Picture Glue Book (1912); and The Torn Book (1913), with a cover obviously meant to copy Newell's picturebook cover style. The page corners in this book appear torn, unifying different images on different page spreads in clever ways. A.Z. Baker also experimented with images that are readable upright and upsidedown. While the influence of his father-in-law is clear, he appears a creative designer in his own right (http://www.nonsenselit.org/).

chromolithographic printing process. In both of these books, the child reader can first read each page rightsideup, then turns the book in order to complete reading the page upsidedown.

Newell does not merely use his special rightsideup/upsidedown technique on the interior pages. He applies it to the book covers and to an index of images at the front of the books [Figure 3.9.3] in which the images are listed twice: once rightsideup, and then again upsidedown—each time with a different title. Even his end page displaying the words "The End," illegible and upsidedown at first, includes the rhyming couplet "And now appears a mystic word, but if it be inverted," that is completed after turning the book, "We find the ending of this book, in plainest text asserted." Newell does not incorporate the text *into* his illustrations, keeping them separately displayed just under and over each illustration against a white page background. Still, the text *is* incorporated with the design in the respect that the text follows the rules set by the images with part of the text readable with the rightsideup image and the other half of the text on each page upsidedown like the upsidedown image so that both become readable as the book page is spun upsidedown. Michael Patrick Hearn, in his forward, "Peter Newell (1862-1924)," the Introduction to *The Hunting of the Snark* that Newell illustrated, made this comment on the format of the Topsys & Turvys books:

> The proud father was often inspired by his own children. Once, when he found one of them struggling with a picture book which was turned upsidedown, Newell decided to create a children's book which could be read at either angle . . . . A child need only turn over this book of chromolithographed pictures to transform an elephant into an ostrich . . . . Newell explained in the second volume: "This book is like a tumbler. It's thus that you begin it. / but till it is inverted, there's always more within it" (xxvii).

So, Newell not only used great creativity in conceiving of thirty-one plates of pictures that could be read both rightsideup and upsidedown. He also created an unusual mode for reading the book and revealing the hidden words and pictures—a book that was meant to be tumbled as it was read like a spinning pinwheel.

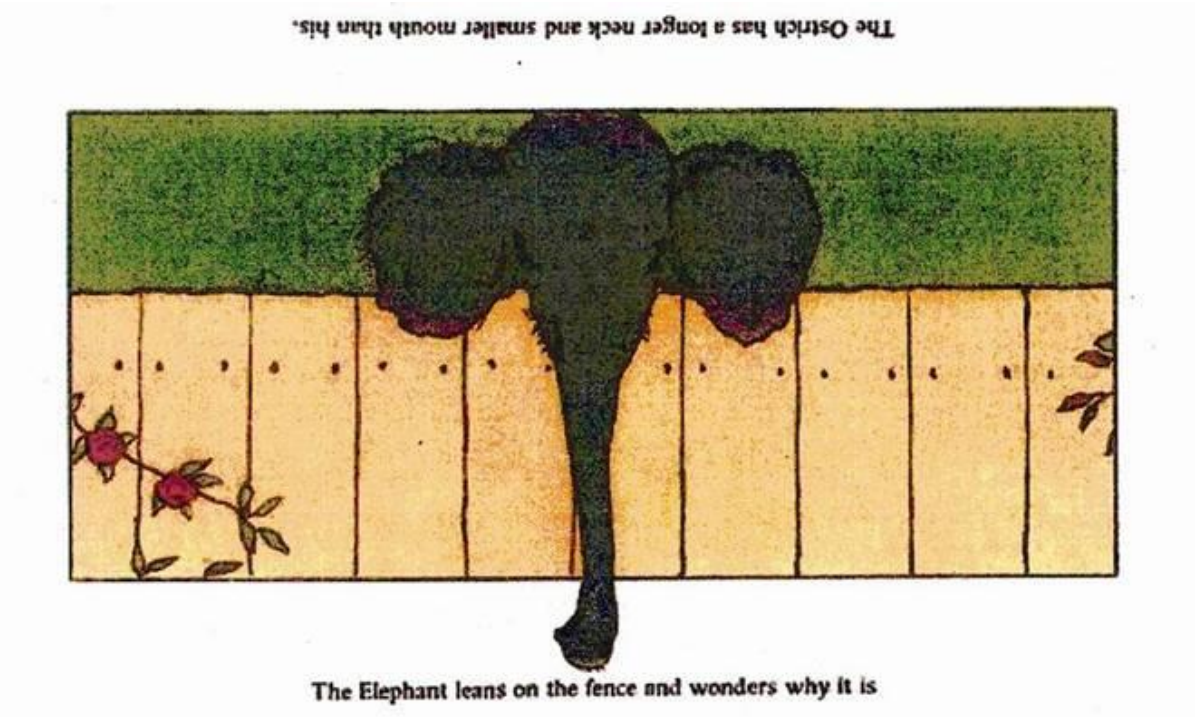


Figure 3.9.4.

Each morphing picture is paired with a two-line narrative written in couplet form. On page 2, for example, [Figure 3.9.4] the reader reads, "The Elephant leans on the fence and wonders why it is," while viewing an elephant peering over a fence. Turning the page upsidedown, the text continues, "The Ostrich has a longer neck and smaller mouth than his." The reader now sees a transformed picture of an ostrich. For each page illustration, Newell connected his text to his images and his images to each other. In the Topsys & Turvys books, Newell did not create the longer, book-long narrative that readers have come to expect from a picture book today, although he did do so in some of his other books. Instead, Newell created multiple brief sequential narratives, keeping each narrative only as long as the page on which the narrative's text is paired with its morphing illustrations.

Just as Edward Lear was the creator of the Limerick, but it took others to refine the form and infuse more punch into the limerick form's final line, so Newell may have created his tumbling illustrations that work within a codex format, but it would take others to push the form to its limits. Still, it has remained to this day an unusual form for picture books to explore. As Hearn tells us in his forward to The Annotated Alice, "surprisingly few other artists—notably Rex Whistler's illustrations accompanied by brother Laurence's narrative poems in Oho!; Hilary Knight in Sylvia the Sloth (1969); and Gustave Verbeck in his early comic strip "The Upside-Downs of Lady Lovekins and Old Man Muffaroo"—have attempted this clever and challenging form of pictorial storytellings" (xxviii).

Figure 3.10.

After locating and reviewing the examples mentioned by Hearn, one initial observation that can be made of all of these is that the primary merit of this type of illustration is in the idea behind it. Illustrations that make sense both rightsideup and upsidedown frequently look odd from both directions and seldom make great stand-alone art.

Of the three examples mentioned above, two of them were created half a century later or more. The Whistler brothers' picturebook began as a series of drawings by Rex Whistler for some Shell Oil Advertisements that were accompanied by poems written by Edith Olivier.

These were later gathered into picturebook form titled Oho*!*, published in 1947, with a later first American edition, AHA!, published in 1979, that included even more illustrations and poems written by Rex's brother, Laurence Whistler [Figure 3.10]. The Whistler's books display many pages, including the cover, containing a single large image of a head that morphs into another head by turning the page upsidedown. Each head is accompanied on the opposite page by two short poems, one laid out rightsideup and the other, upside down, telling a story about its accompanying head image. According to the Introduction of Aha!, Rex took his inspiration from a certain Peter Berault who published a book in 1682 called The church of Rome Evidently Proved Heretick with a frontispiece of the Pope "very smooth and smiling, which, when turned the other way up, proved His Holiness to be entirely repellant and . . . heretick. Naturally this fold-out is nearly always missing from copies of the book—itself quite a rarity—but there was one copy that still retained it, and this copy belonged to Roger Senhouse, a partner in the firm of Secker; which firm was often visited by my brother because he was illustrating books." The Whistler's book does not contain a continuous narrative, nor a background setting for the head images. Instead, these are displayed against the white of the page.

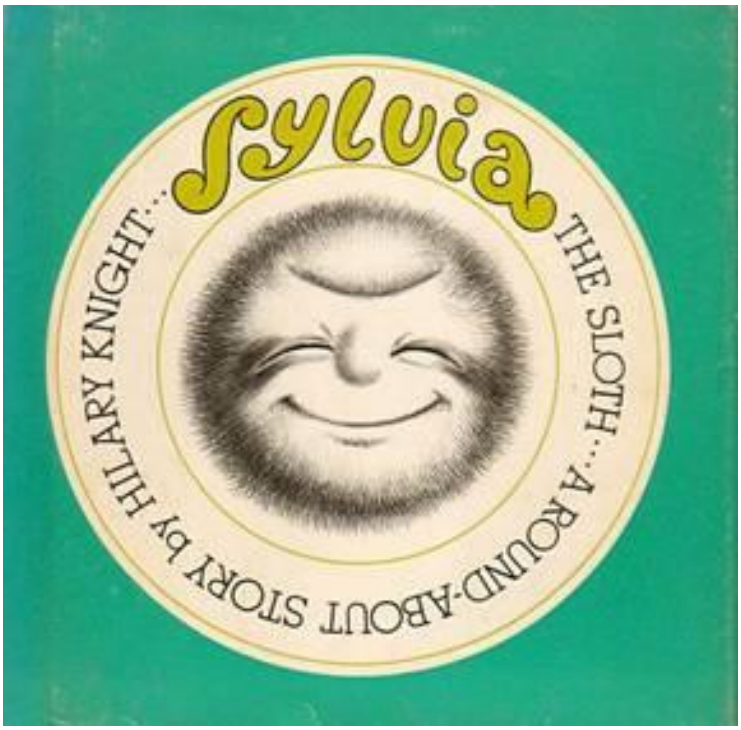


Figure 3.11.

The second example expands the idea further in several ways, is a two-color book that was created by Hilary Knight, well-known illustrator of Kay Thompson's Eloise 1955 classic. Knight created Sylvia the Sloth, published in 1969 by Harper and Rowe, featuring a *book-length* narrative illustrated by black and white line art. His illustrations are circular, and the typography begins horizontally at the bottom of the left-hand page of a double-page spread and then continues to creatively wrap the circular illustration positioned on the right-hand spread, leading the viewer's eye naturally from the rightsideup illustration around to the upsidedown view of the same illustration that has changed in content simply by being viewed from a different angle. Even the cover accomplishes this feat, with the text revolving and the illustration morphing from a happy to a sad sloth face [Figure 3.11]. The typography in this type of layout actively engages

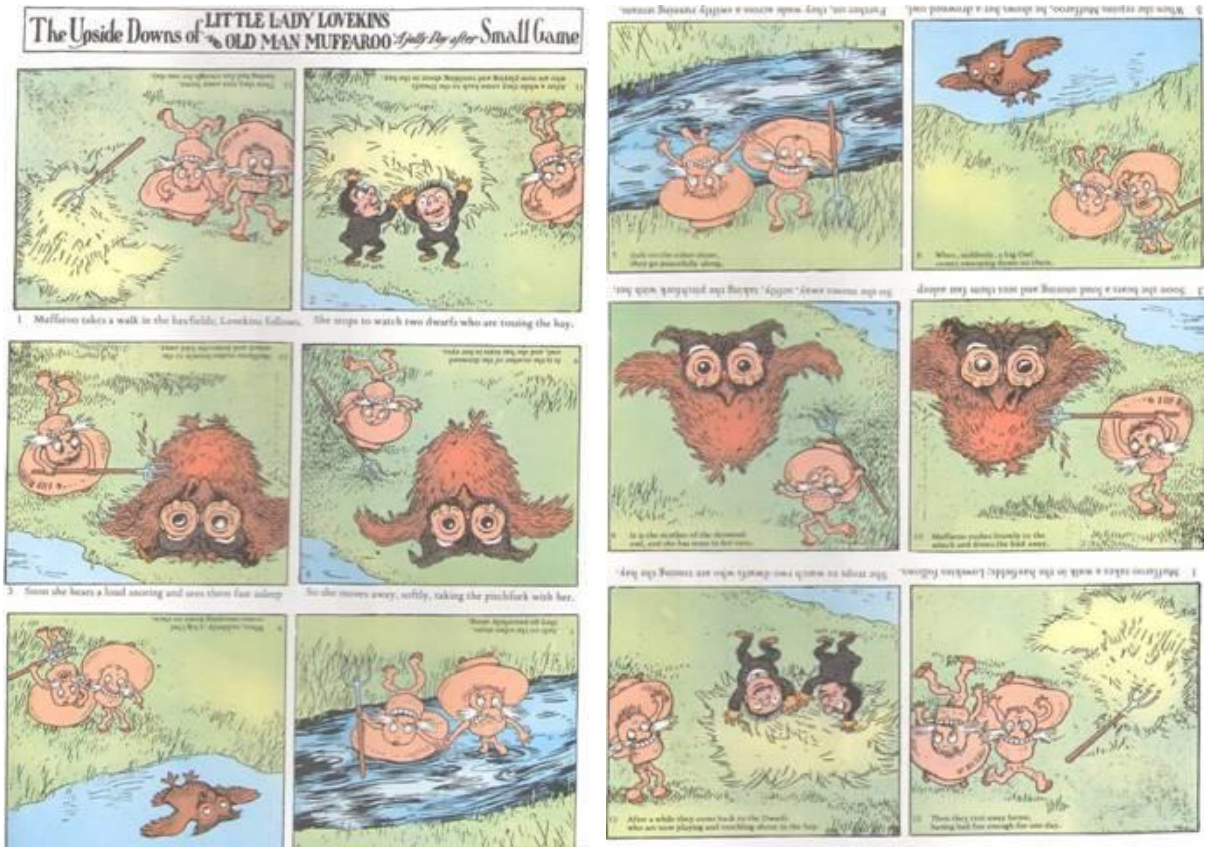


Figure 3.12.1 (left): Figure 3.12.2 (right).

the reader with the morphing images and is integrated with the design of the illustrations in a more unified manner than the previous examples. The story is simple, focusing on a sloth named Sylvia who decides to view the world more creatively, and Knight's illustrations include a setting and full character figures in the illustrations. All in all, innovation pervades this deceptively simple book.

The third example features a certain complexity and is a much older example than the previous two examples. By Gustave Verbeck [1867-1937, or Verbeek, an alternate spelling.], this published narrative was never a children's picturebook and was created just a few years after Newell's Topsys & Turvys books. Gustave Verbeck was a contemporary and colleague of Peter Newell's. They collaborated on a project, Nursery Rhymes for Grown-Ups, and Verbeck no doubt (when taking dates of publication into account) borrowed Newell's idea and expanded upon it to produce sixty-four weeks of comic strips that began appearing in October of 1903 in the *Sunday Herald*. One has to wonder if perhaps the two of them discussed this type of narrative when they were collaborating on Nursery Rhymes for Grown-Ups. Verbeck's rather oddly illustrated series is titled, "The Upside Downs of Little Lady Lovekins and Old Man Muffaroo." In the series Verbeck tells a twelve-panel story in just six panels. His readers first read half the story rightsideup [Figure 3.12.1], then turn the page upsidedown to complete the second half of the tale [Figure 3.12.2]. Rightsideup, the text runs below and outside of each panel. Upsidedown, the text runs within the panel, undoubtedly to clarify which text went with which reading. While the images undoubtedly look rather strange from either position, Verbeck still managed to accomplish an unusual feat in creating an illustrated narrative that reads continuously through, first, an upright reading, and then completes itself with a reading continuously through the inverted comic strip images and accompanying text.

This concept of creating a narrative with images and text that are read both upright and inverted positions, encouraging a reading of the book that requires turning it in a tumbling motion as one reads, is still quite rarely used. In addition to these three examples of this concept mentioned by Michael Patrick Hearn, I will share three very recent examples. The first is a book created by Janet Stevens (illustrator) and Susan Stevens Crummel. Published by Harcourt in 2001, the picturebook is titled, And the Dish Ran Away with the Spoon. The cover is shown in Figure 3.13.1. This fractured nursery rhyme has the dish and the spoon running away each time a book is read and always returning before the next book reading session. When they don't return after one reading session, the rest of the characters in the rhyme go in search of them. As shown in an interior spread [Figure 3.13.2 unpaged], Ms. Stevens plays with having the text completely encircle the illustration in select repetitive spreads throughout the book that feature a re-written version of the nursery rhyme for which the book is titled, requiring readers to revolve the book in order to read what amounts to almost a chorus interspersing the text. However, the *illustrations* on those spreads are only created to be read in one position—upright.

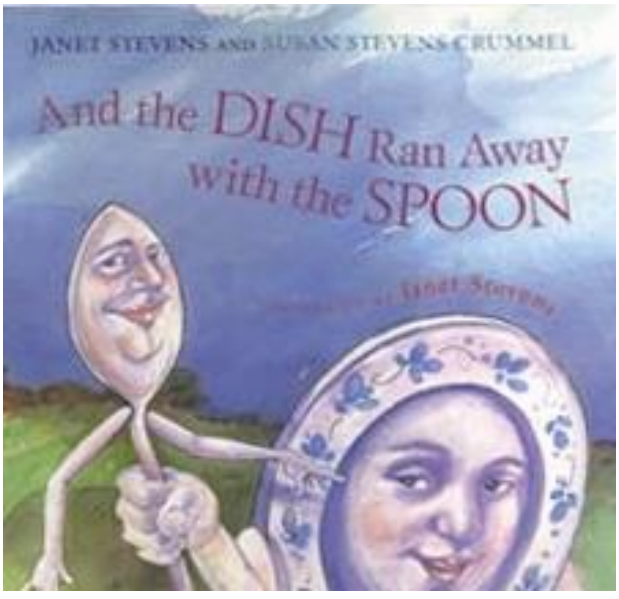
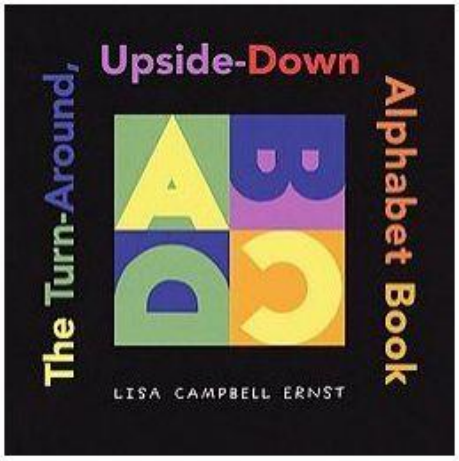
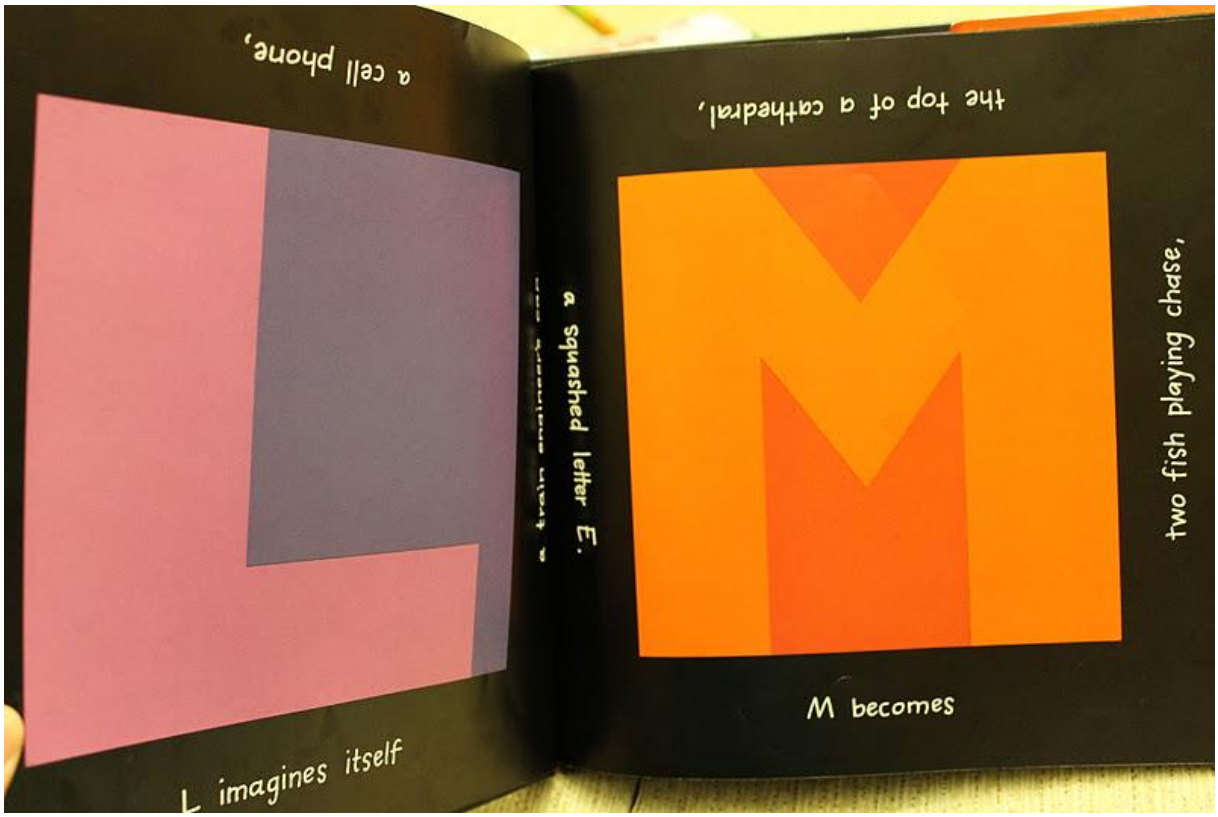


Figure 3.13.1 & 3.13.2 (left to right).

The second recent example is an *Abecedary*, or ABC book, titled The Turn-Around, Upside-Down Alphabet Book, published by Simon & Schuster in 2004 [Figure 3.14.1, front cover]. Created by Lisa Campbell Ernst, this alphabet book has a distinctly graphic quality to its brightly colored simple letter images centered on each page against a black border with white dropped-out text walking the perimeter of each page counter-clockwise starting at the base of the page. This picturebook may





Figures 3.14.1 & 3.14.2 (top to bottom).

look deceptively simple in layout, but the execution of this book idea is actually quite complicated, as each letter image has to transform into three other images on each page as the

reader reads around the central image [Figure 3.14.2]. For example, as one interior page reads, "M becomes . . . two fish playing chase . . . the top of a cathedral . . . a squashed letter E" I do have some minor reservations about consistency in design in this book, since the cover text revolves clockwise from the bottom left corner up the left side and around, while the interior text revolves *counter*-clockwise from the bottom up the right side and around—consistency might have been an improvement, and there is no reason this should not have been the case. Also, perhaps an alphabet book could have the manner in which each alphabet letter performs and the item it creates be comprised of a word that begins with that letter, such as "M *makes* a great . . . *mountain* . . . etc." Still, the innovative design positives of this book far outweigh the potential negatives.

Figure 3.15.1 and 3.15.2 show Ann Jonas' layouts from the first of Jonas' efforts to create two picturebooks that play with this particular spinning form in a longer narrative format. Jonas extends her narrative through the full length of the picture book and back again, using a concept similar to Verbeck's that was discussed earlier, except Jonas' finished product is a picturebook while Verbeck's was a simpler six-frame comic strip. Jonas' 1983 book, Round

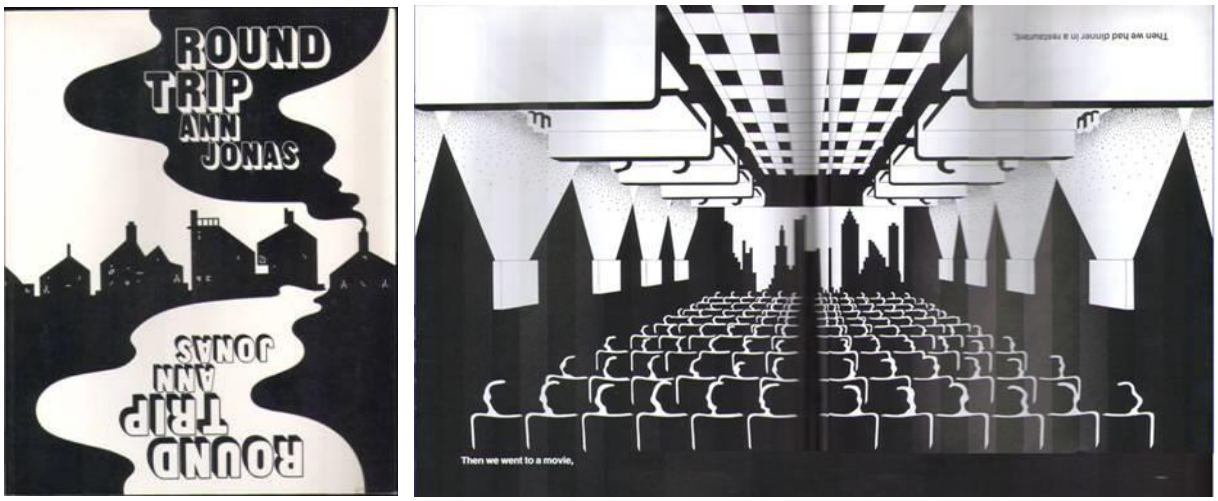


Figure 3.15.1 (left), 3.15.2 (right).

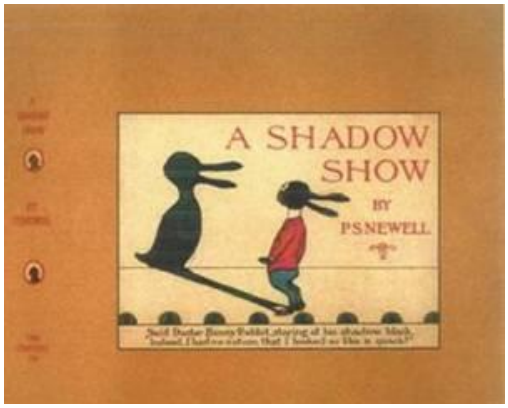
Trip, published by Greenwillow Books, is a black and white picture book about a trip from the country to the city and back to the country—as the title states, this is the story of a round trip [Figure 3.15.1, front cover]. The reader views the book, from first page to last, reading of a journey from country to city, then turns the book upsidedown and completes the narrative by reviewing the illustrations from last page to first page as they tell the story of the journey from the city back to the country. Simply laid-out text oriented to its half of the book accompanies both halves of the journey at the top and bottom of each page. In Figure 3.15.2 the text in the bottom left corner of the double-page interior spread states, "Then we went to a movie," describing the illustration, which is a simple image of the interior of a theatre with the heads of people showing above the theatre seats. If the page is flipped, the accompanying text (currently located upsidedown in the upper right corner of the double-spread) tells the reader, "Then we had dinner in a restaurant," a statement that accompanies the image that, in being inverted, has converted into the image of the interior of a diner. The illustrations are simple, but effective, and can be fairly easily read. Jonas probably originally chose to create black and white illustrations because of the difficulty of the task she had set for herself. But, in 1987, Greenwillow Books published Reflections, also by Jonas, that attempts the same concept—only this time in full-color. Thus, Jonas refines Newell's idea and expands it dramatically.

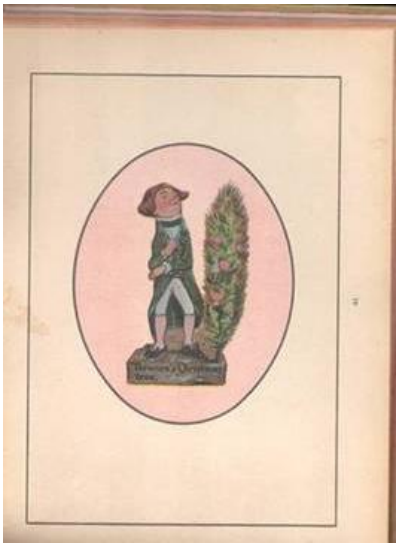
Creators of such picturebooks are playing with the form of the picturebook, using that form to create books that are read as though they were revolving wheels, rather than like a straightforward linear road. By requiring readers to tumble the books in order to read the revolving text and to transform the morphing images, creators are requiring engaged, active readers. These types of picturebooks require more involvement on the part of the reader and a more energetic reading effort in order to truly appreciate any narrative that has been laid out in

such a manner. In other words, this type of picturebook is not for the lazy reader—reading a book while revolving it and constantly trying to interpret morphing, odd-looking illustrations is not necessarily a cozy, easy experience. However, such a special feature as this unique way of reading the pictures and text could also fascinate readers, causing them to remember these particular texts, return to them repeatedly, and share them as favorites with family and friends.

3.2.2. Designing Books with Images Active Readers Transform Using Light and Shadow

In 1896, Newell followed the Topsys books with A Shadow Show, [Figure 3.16.1, front cover]. Oddly, while the cover uses a horizontal orientation, the interior book actually utilizes a vertical design, where the shadows of the illustrations' main images show an alter-image when held up to the light on the





Figures 3.16.1, 3.16.2 & 3.16.3 (top; bottom left to right, respectively).

reverse page [Figures 3.16.2 & 3.16.3]. Each illustration displays two different text captions—one title accompanying the original illustration, and a second title labeling the shadow of the image differently. There is no accompanying narrative. The first image is in four-color, bordered by a page-centered vertical oval [Figure 3.16.2]. There is no background page border image other than the illustration within the oval. The remainder of the page is white. Alternately, and as a mark of thoughtful design, the reverse side of the page features an *empty* central large oval frame surrounded by a black and white background image of a darkened wall with several children facing that wall at the bottom of the illustration so the book reader sees the children's backs. It is as if the children *and* the book reader are watching a shadow show inside the "projected" oval of light [Figure 3.16.3]. This page is supposed to be held up to the light so the alter-image can be viewed inside the blank central oval [The squirrel shape displayed in

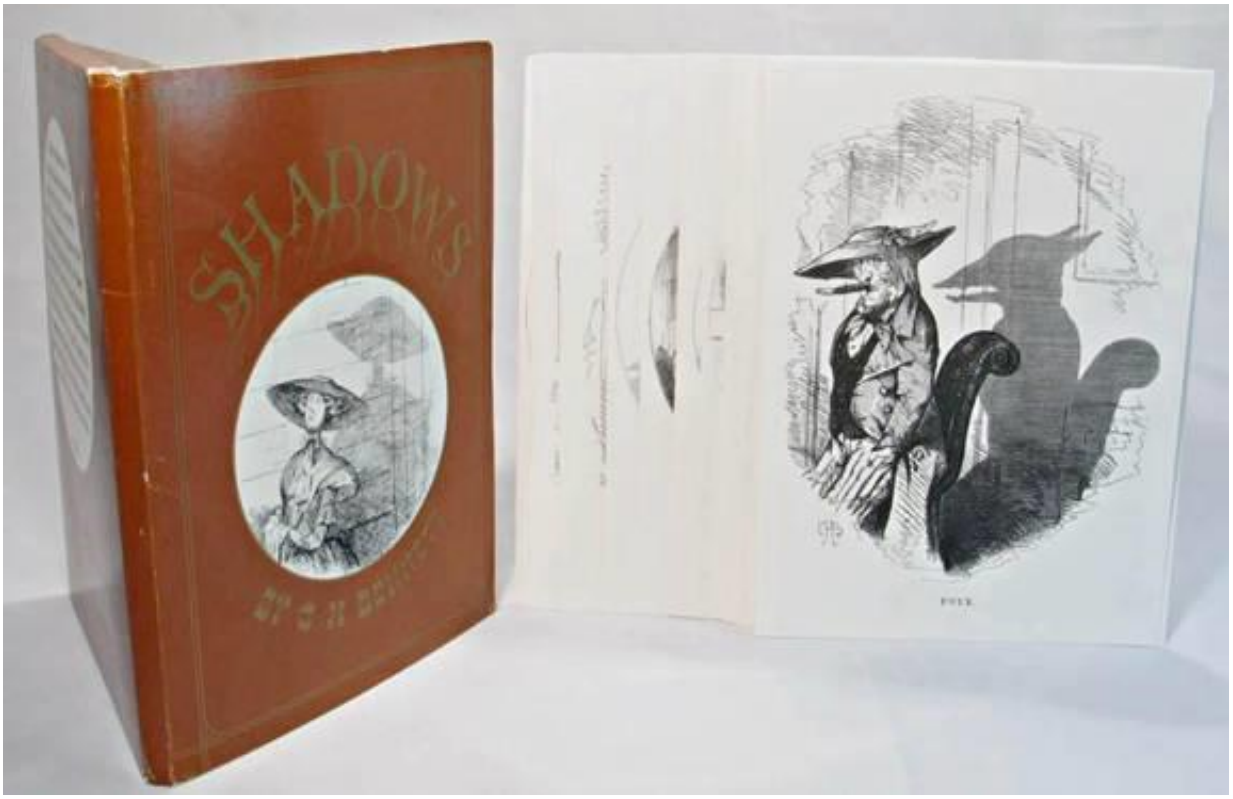


Figure 3.17.

Figure 3.16.3 is not actually printed on the page, but is only an approximation of what the actual shadow of the image on the reverse side of the page (a boy with a Christmas tree) would create when held up to the light. The actual book pages feature empty ovals on the reverse side of each central-image-page, requiring the child reader to create the dark shadowy shape by holding each page up to the light].

Michael Hearn asserts that A Shadow Show, while ingenious, is "an obvious imitation of Charles Henry Bennett's Shadows (two volumes, 1857 and 1858)" [and Hearn may have made this judgment because both examples are difficult to locate in print for close examination]. While Newell's *cover* imitates Bennett, inside his book Newell took Bennett's idea a significant step further. In Bennett's book shown in Figure 3.17 the objects or characters cast their own altered shadow on a wall, rather as the rabbit on the *cover* of Newell's *A Shadow Show* [Figure 3.16.1] casts a shadow image of a duck on the wall. But *inside* Newell's book, the *reader* creates the shadow image by holding the initial image up to the light. Newell's book does not provide solutions, as does Bennett's, but instead encourages the child reader to actively engage with the book form and to discover and create the alter-images, figuring out what they are on their own.

Once again, Newell has experimented with the format of the codex book to come up with a unique and create way to fashion a book that uses the form of the book to alter the narrative, while actively engaging the young reader in the transformation. His way of creating a shadow show works precisely *because* the pages in a codex book have two sides. Because of this paired relationship of front to backs, the shape of an image, if thoughtfully fashioned, on one side of a page can create an alternate image when held up to the light on the opposite side of the page.

This subject of actual shadow play within the form of a picturebook is still relatively uncommon today. There are a few books that show children how to create shadow puppets,

which is just a book subject, after all. Such books are not engaging with the book form in their concept. One recent picturebook creates illustrations in which an occurrence within the illustration creates an alternate shadow, also within the illustration, in much the same manner as shown in Bennett's Shadows in Figure 3.17. Sidewalk Circus, by Paul Fleischman and Kevin Hawkes, was published in 2004 by Candlewick Press. In this picturebook, the shadows created by workers in a city street create a circus for a young girl who is waiting for a bus, as well as for the book's readers—the shadows being transformed from everyday workers to the shapes of Big Top acts. For example, in Figure 3.18, the book's cover, a man hanging posters transforms into a circus master of ceremonies in his shadow on the wall. Still, while a creatively illustrated picturebook based around an intriguing premise, this book is not engaging or exploring the book *form* in the creation of the narrative, so would not be a candidate as an artist's book.

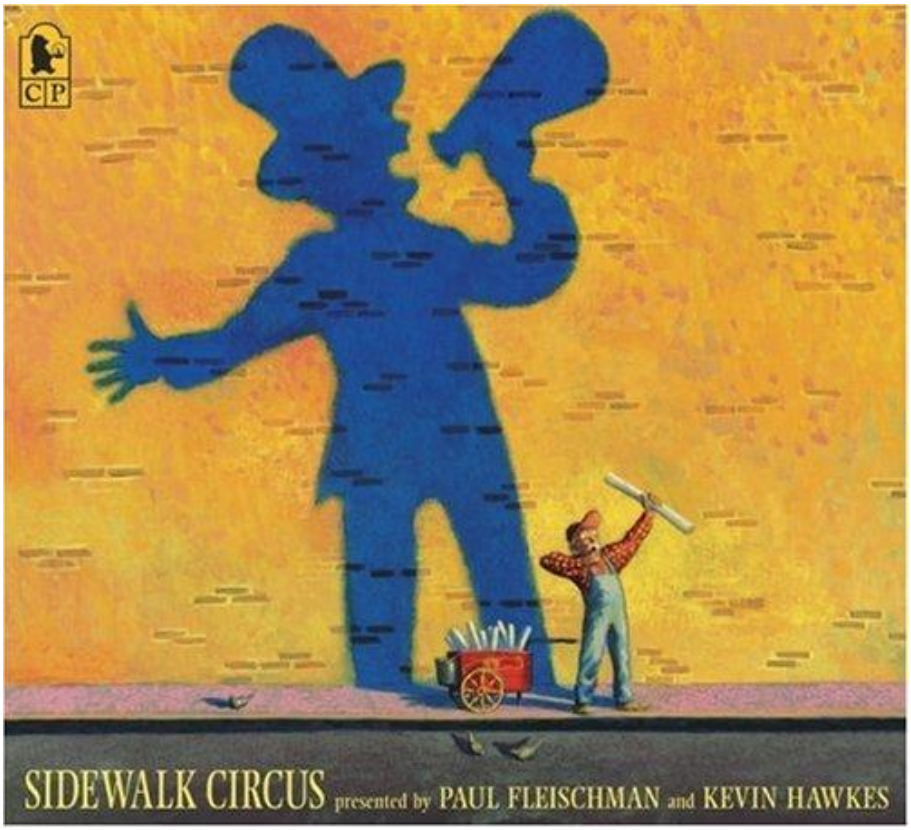


Figure 3.18.

A second example comes closer to the experimentation and concept behind Newell's A Shadow Show. This book adds features outside of the codex book form and is rather busy and mass-market-feeling in execution of its design, but is close enough in concept to be included for discussion. Flashlight Adventure Kit: Storybook & Shadow Play Cards, by Susan Hood and illustrated by Shirley Beckes, was published in 1997 by Reader's Digest and, in addition to the storybook, comes with a flashlight and several cards printed with illustrations on both sides with die-cut shapes cut out of them. These accessories are attached to the inside back cover of the board book, with the small flashlight tucked into a built-in sliding drawer, to prevent its loss when being played with by young children, no doubt. The book has cardstock pages and the child reader has the choice of reading any of four adventures in the storybook. A pocket contains the four cards, one to match each story, with the die-cut holes in them. When the flashlight is directed through each card towards a wall, the picture the child sees on one side of the card casts a different image as a shadow on the wall. If the child has trouble identifying the transformed picture, they may turn the card over and the solution is on the other side. So, in the museum adventure story, a card that shows children visiting a museum on one side of the card transforms into an image of dinosaur skeletons when the card shapes are projected on the wall with the flashlight. Still, while the idea behind this book is similar to Newell's, the loose gadgets and illustrations that are not part of the book's form push this book, in my estimation, toward the toy book category rather than toward the artist's book direction.

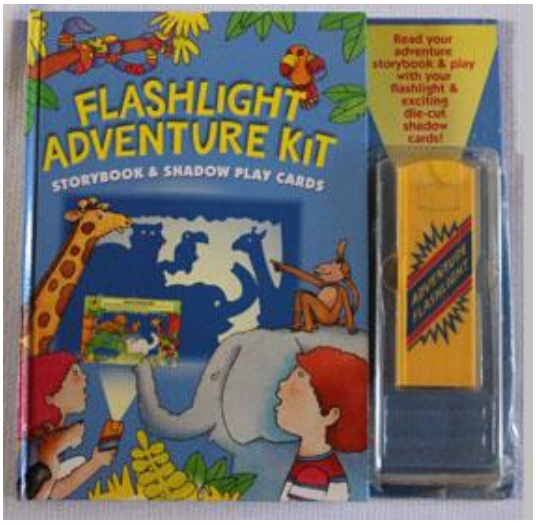
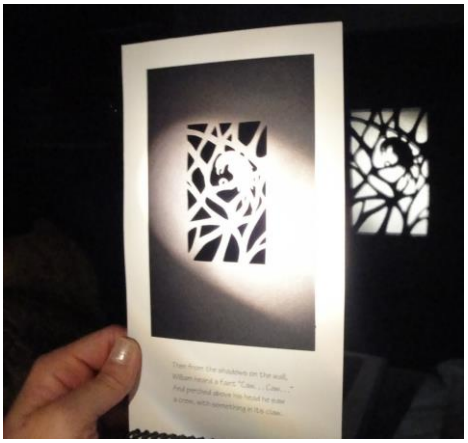


Figure 3.19.

One final candidate for this section is by Laura Robinson and was published by the Museum of Fine Arts in Boston in 1998. Titled William and the Magic Ring: A Shadow Casting Bedtime Story, this picturebook is a vertically-laid-out, similar to Newell's A Shadow Show. It is a fine paper cardstock book with a spiral-binding across the top. The pages are white cardstock layered with simply elegant black cardstock images created solely with die-cut shapes. A small pen-light is attached horizontally to the bottom of the book's back cover with Velcro attachments, once again trying to make it easy to keep light and book together [Figure 3.20.1, front cover]. When the light is directed through each page's black die-cut illustrations towards a wall, a monochromatic slide show of the book's illustrations is basically created on the wall. Figure 3.20.2 and 3.20.3 show two of the three sorts of illustrations used in this picturebook. There are a couple of framing illustrations at the beginning and end of the narrative that do not contain die-cut holes. Figure 3.20.2 shows one type of illustration in this book that is simply mounted and centered on the page and framed



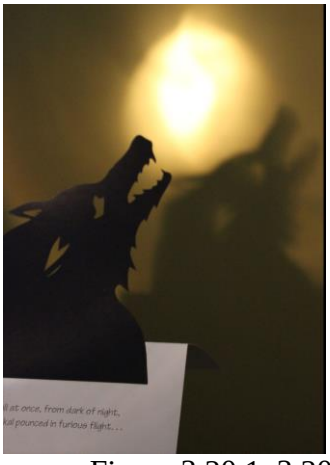


Figure 3.20.1, 3.20.2 & 3.20.3 (top to bottom).

within a defining vertical rectangle. The flashlight shines light through this type of image to throw the image shapes against the wall as shadows defined and framed by the bedroom window mentioned in the narrative. In this case, the image is of a raven holding a ring in its claw as it is seated among tree branches and framed by the window. The raven is not really holding a ring. The ring is really the pull on the window shade. But it is this image that sets the main boy character William's imagination running outside of the boundaries of the window frame. The third sort of illustration in this picturebook not only contains die-cut-shaped holes inside the image and rectangle, but is also cut into a die-cut shape along the outside of the image. In Figure 3.20.3, the head of a wolf is cut along the outside shape of the head and contains interior die-cut shapes of the wolf's eyes and ears. The black image is mounted on a white page that bends in the center so the wolf's head can rear above the page of the book. When the flashlight is directed at images such as this, the outside shape of the image is thrown against the wall, as well as any holes within the image, and becomes an important part of the image. In this case, the circle of light around the wolf's head contributes to the impression that the wolf is howling against the moon. These shaped and unframed images contribute to the part of the story where the boy's imagination begins to get out of hand and scare William. Unframed images represent unconstrained imagination. William is finally able to conquer the fears his imagination creates by pulling the ring on the window shade and lowering the shade, then falling asleep.

This picturebook is beautifully created. The die-cut illustrations display a laser-cut intricacy. Should such a book that, on the surface is merely offering the child reader a way to project the book's images on the wall, be considered an artist's book? It is my judgment that this picturebook should be considered as such, perhaps, in that the narrative is about a child's fear of the dark and of the scary forms that appear in shadows at night—and the book has been created

to allow the images on the page, that are not that scary when small, to be transformed into looming, shifting shapes on a wall. The book's creators have also created three types of images within the constraints of die-cut illustrations that represent different stages in the child's consciousness and mind-set. The child reader is able to experiment with this narrative and see for themselves that what appears large and frightening at night is often really as non-frightening as small illustrations on the pages of a picturebook. So, the narrative in this example is using the form of the book to demonstrate and tell its story while reinforcing the ideas behind the narrative—such as the idea that shadows are just shadows and, as such, should not generate fear [Note: Hervé Tullet's The Game of Light, *just* published in 2012, is one final addition to this section that will be discussed at the end of this chapter, as part of a series of books that could possibly be designated as part of the Artist's Book Genre].

3.2.3. On Newell, Carroll, and Tenniel: What Can Be Learned from Newell's Treatment of Carroll?

Newell followed A Shadow Show with several more books that are worth mentioning. Newell was asked to illustrate for noted authors such as Mark Twain and his Innocents Abroad. And Newell's most ambitious work, and perhaps his most controversial, was created when Harper and Brothers Publishers asked Newell to re-illustrate Alice's Adventures in Wonderland (1901), Through the Looking-Glass (1902), and The Hunting of the Snark (1903). This was the first American re-interpretation since Sir John Tenniel's iconic illustrations. Newell, by this time, was becoming a much-loved American illustrator appreciated for his sense of whimsy and humor, as demonstrated in Newell's view of the King and Queen from Alice's Adventures in Wonderland in Figure 3.21.1, that is reminiscent in composition and characterization, other than the difference between Newell's shaded, half-toned image style and Tenniel's line art, of

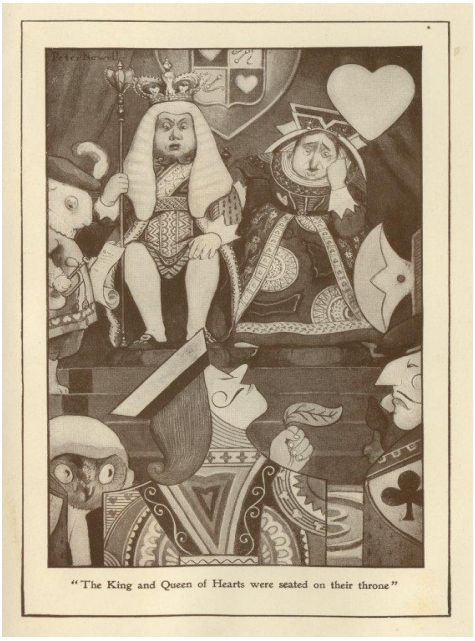
Tenniel's image of a similar scene [Figure 3.21.2]. Still, the public's extreme loyalty to Tenniel's illustrations [Figure 3.21.4] did not leave much room for a public appreciation of Newell's reinterpretation. Newell based his dark-headed Alice on his own daughter, Josephine, and the public did not appear to embrace that change either [Fig. 3.21.2].

Another point worth noting is that Newell did not play with the form of the book in these book examples. The text of the Alice stories is full of such whimsy that this is surprising on the surface. Shouldn't playfulness in content inspire playfulness in treatment of form, especially with a book designer who is known for such interplay between and book form? This might, at first, appear a logical conclusion. However, when the subject was not his own, or was already a classic or well-known narrative, Newell may have felt too constrained by conventions or his public's expectations to create such interplay. As Hearn observes:

> Newell on occasion had illustrated travesties of nursery books; for example, Guy Wetmore Carryl's *Fables for the Frivolous* (1898) was an elaborate parody of La Fontaine's work, his *Mother Goose for Grown-Ups* (1900) a take-off of traditional nursery rhymes. Newell, however, in interpreting such selections as "The Gastronomic Guile of Simple Simon" and "The Opportune Overthrow of Humpty Dumpty," played it straight; his pictures in *Mother Goose for Grown-Ups* were appropriate for any conventional edition of Mother Goose rhymes (xxxii).

So, Newell reserved interplay with the book form to those cases where he, as creator, held nearly complete control of the book design; but, when he did choose to play with the book form, he truly broke ground in his field. As Hearn judges, "More than any other American illustrator of the day, Newell explored the possibilities of the form of the picture book. So inventive were his novelty books that *he sometimes had to take out a patent rather than the usual copyright to protect his literary curiosities*" (xxviii) [italics, my emphasis].

Compare the illustrative approach in Figures 3.21.2 & 3.21.4 by Tenniel from 1865, to that of Newell in Figures 3.21.1 and 3.21.3 four decades later. Notice Tenniel's line art versus



Figures 3.21.1; 3.21.2; 3.21.3; 3.21.4.1 & 3.21.4.2; 3.21.5 & 3.21.6 (clockwise from top right) (Photo Sources from top right clockwise: (Carroll & Gardner MAA 133); (Carroll & Gardner AA 2); (Carroll & Gardner MAA 192); (Carroll & Gardner AA 85 & 112); (http://www.artfund.org/); & (http://www.cwrl.utexas.edu/~bump/349S12/w/13/project%201%20FINAL%20webpage.htm).

Newell's shaded approach. It is important to consider the innovations that were occurring within the publishing industry during Newell's time. Prior to the development of the half-tone, or screened photomechanical photograph, illustrations were mainly accomplished through wood-cuts using outline and little toning. As Hearn informs us:

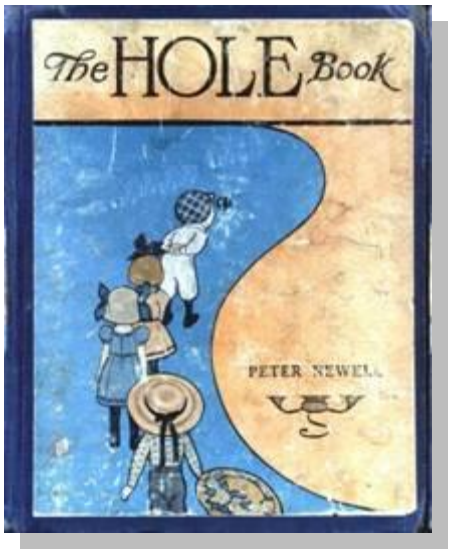
> Magazine and book publishing was then replacing the old, laborious method of reproduction by wood engraving with the relatively cheaper and easier new process of photomechanical printing of illustrations. Unfortunately, this new technology took some time to perfect, and in its early days it did not allow for a variety of tone. Artists were required to work almost exclusively in line. . . . because the camera as yet could not pick up the subtleties in gradation, errors could easily be corrected with white paint and then reworked in India ink. Another result of the limitations of this method of reproduction was that artists too frequently employed several lines where only one was needed (xxii).

Photographs were, at this point in time, limited to black and white. However, the new half-tone photographs eventually opened up a range of tones never before possible in printing. Newell was one of the first illustrators to embrace this new technological breakthrough and utilize it fully, using a broad range of tones in his illustrations. He studied the work of A.B. Frost and E. W. Kemble, two highly respected American illustrators, learning both from their choice of subjects and their use of clean, crisp styles. He also learned the art of simplification from Asian art. As Hearn observes:

> In the halftone, Newell found the proper medium through which to express his particular kind of comedy. He was well aware of what the camera could and could not do; he knew its limitations and profited by them. Indeed, Newell was one of only a few artists of the period who did not sacrifice the distinctive character of their illustrations when transforming their styles from line to wash. Newell . . . simplified his compositions by containing the forms within bold outlines, which in turn he filled in with richly varied flat tones, "I didn't do the first flat tones that were done in this country," he admitted. "Of course, the Japanese had done them before . . . ." (xxv).

3.3. Using Die-Cut Holes, Page Shape and Consecutive Image Position to Enhance and Extend the Narrative and to Simulate Video

The final three Newell books to be discussed, The Hole Book, The Slant Book and The Rocket Book, are grouped together because Newell utilized similar techniques to create the illusion of movement and video in each and to extend the narrative with three simple techniques: the use of die-cut shapes, the use of shaped pages (which can often be achieved with die-cuts), and the use of consecutive identical image position.



In The Hole Book, published in 1908, Newell combines alternating rhymed text on the verso pages with

Figures 3.22.1 (top), 3.22.2, 3.22.3, & 3.22.4 (bottom, left to right).

a square-framed *duo-toned* (or two-toned) image on the recto pages throughout the book [Figure 3.22.1, front cover]. While the book was only published in two-colors, Newell creatively alternated the second color on the pages throughout the book from red to green to simulate a

"full-color" look that can be seen by observing Figures 3.22.2 through d, showing just the right-hand sides of consecutive spreads to observe the effect of alternating the secondary printing color throughout the book.

The book's narrative tells of the consequences when little Tom Potter accidentally shoots his father's loaded pistol that is laying on the fireplace mantle, a politically-incorrect plot by today's standards [Figure 3.22.2]. Child readers would certainly not be presented with a book child character with access to a loaded gun and shooting that gun by accident in a picturebook for children. Newell acknowledges the seriousness of his subject when he writes, "Tom Potts was fooling with a gun / (Such follies should not be), / . . . Tom didn't know 'twas loaded . . ." (unpaged). Peter Newell also includes stereotypical images and dialect of minority populations throughout this book that would have been acceptable during his own time, but are unacceptable today [Figure 3.22.2].

The most memorable feature about this book is that the pistol shot actually creates a real hole through every page in exactly the same spot of each illustration [Figures 3.22.2, 3.22.3 & 3.22.4]. On each subsequent page the bullet pierces another scene so it makes narrative sense until the bullet finally lodges in cake frosted with "icings good and stout" (unpaged). Not only does the actual die-cut hole in each page in exactly the same position create the illusion that a bullet has been shot through every *scene* in the story, but it appears that the *book* has been pierced by an actual bullet as well. The only factor that does not support this illusion is that the publisher did not pierce the covers with a die-cut hole—perhaps the process was too expensive, or perhaps Newell wanted to surprise the reader with the special effect upon opening the covers. One additional effect that uses the form of the book for its success is that fact that the horizontal trajectory of the bullet reflects the horizontal linear layout of the pages of the book as they are

turned from left to right, page by page. This creates a believable path for the narrative bullet to travel in real space as the pages are turned by the child reader. Because of this repetition in illustration placement on right-hand pages and the perfect alignment and repetition of the die-cut hole, if the reader flips quickly through the right-hand pages by thumbing the edges of the pages, the effect is almost like a movie clip or a flip-book, and reader's almost see that bullet whizzing through the air and creating all of those holes.

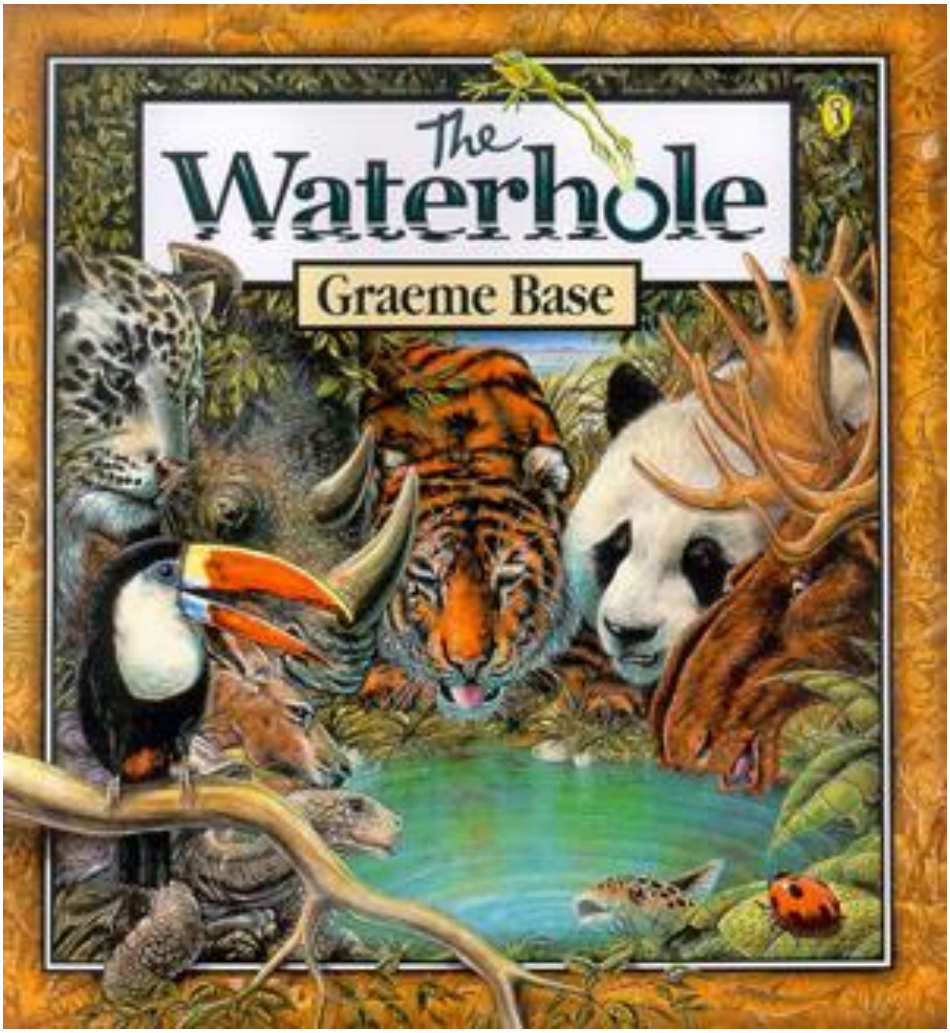
So, two crucial elements in the design of this picturebook and the two Newell examples that follow is, 1) the exact alignment of the codex book pages, one over the other. Due to this alignment, the book's creator has been able to set up precisely-aligned scenes, one after the other and one over the other, almost in the manner of a sequential film, in which the star of the film is the moving bullet as it flies through scene after scene, creating havoc along the way; and, 2) Taking into account the turning of the pages and the possibilities that reliable book attribute offers to extend the narrative.

The way Newell utilizes a precisely aligned die-cut hole on all of the pages in a book's format together with the page's own alignment to add significantly to the story and to create this unique cinematic quality to this narrative when the pages are turned, is mirrored by a couple of recent picturebook examples. These are both discussed in the next chapter as well. The first of these is by Graeme Base, titled, The Water Hole. It was published in 2001 by Penguin Books. In this counting book, decreasing numbers of frogs (indicating the decreasing health of the eco-system) and increasing numbers of jungle animals from ten locations from all over the world (as identified on the final page in an after concordance) visit a water hole as it is drying up. In choosing animals from different countries and habitats, the author/illustrator quietly emphasizes the importance of water and water holes for animals no matter where they live. On each double-

spread, the illustration hides ten animals from that particular eco-system, and small black and white images of those animals border the page along top and bottom to help the young reader find and identify them. So, this picturebook contains a lot of information on counting and on eco-systems from around the world, in addition to its design strengths, and many of these features interact and complement one another: i.e., the frog numbers decrease as the water hole decreases and the numbers of other animals increase—a point that makes scientific sense as well.

Graeme Base employs a concentrically- positioned and decreasingly-sized die-cut hole always in the same position on the right-hand page of each double-page spread to demonstrate the reducing size of the water hole, in a particularly thoughtful design statement similar in ingenuity to Newell's die-cut feature in The Hole Book,. So, the largest oval die-cut hole is on an early page featuring one rhinoceros from Africa. On subsequent pages the die-cut ovals decrease in size and, when the pages are closed, they all nest together. Once again, to support this design effect, the illustrations are always the same size and located in exactly the same position on the right-hand page of each double-page spread. The concentric circles of the shrinking die-cut holes, when stacked one behind the other, appear to be the circular ripples on the surface of a water hole. While the effect is similar to that painted by Base for his cover illustration shown in Figure 3.23—the effect of layered pages with concentric die-cut holes creates a more three-dimensional effect and helps focus the reader's attention on the star of this narrative, the water hole. Base's illustrations also reinforce the loss of water and the shrinking size of the water hole, until the hole has completely dried up on the spread showing "Ten Kangaroos / looking at the watering hole. / There was nothing to say. / The water was all gone." Once again, if the reader thumbs quickly through the edges of the right-hand pages, the

sequential images of the shrinking water hole take on, as in Newell's book, the dynamics of a short movie clip.



Figures 3.23.

Newell's The Slant Book, published in 1910, narrates a tale of a runaway baby carriage [Figure 3.24.1, front cover].[94] In this book, Newell uses both page/book shape and repeating illustration position to extend the narrative and create the effect of a movie clip when the

[94] A digital scan of the entire book is available in the Library of Congress Digital Collections from the Rare Book and Special Collections Division. You may view the book in its entirety online at http://lcweb2.loc.gov/cgi-bin/ampage?collId=rbc3&fileName=rbc0001_2003juv23925page.db.

Figures 3.24.1, 3.24.2 & 3.24.3 (clockwise from upper left corner).

pages are turned quickly. The book's rhomboid shape contributes directly to its conceptual success. The open book creates the shape of a pair of wings [Figure 3.24.2], a fact that is incidental to the book's design, and just happens to be the resulting shape from choosing to design a book with pages shaped like parallelograms. Newell uses the parallelogram shape

because it supports the textual narrative within its borders. Each page's rule-bordered (a rule is a design term describing a line used in the graphic design field) illustration mirrors the shape of the book's pages—the parallelogram. The text is set creatively for a period in history when there was no digital typography, with the lines of text slanting downhill to match the angle created by the page's top and bottom edges. With the text always placed on the left and images on the right, the runaway perambulator is *always* rolling downhill at a slant towards the front of the book, towards the beginning of the story. If the text had sometimes appeared on the right-hand page and the illustration on the left-hand page, the carriage would have sometimes been running uphill. Teachers of Design know that the right-hand pages of a book or magazine usually receives more viewing time than left-hand pages, and Newell's page layouts take full advantage of this fact with all images on the right, a choice he may have made for that very reason—which also reinforces the "sequential" affect of the image narration. Once again, if the reader flips through the edges of the right-hand illustrations, they view what almost appears to be a movie clip of the runaway baby carriage racing downhill through various settings as simulated in Figure 3.24.3 using consecutive page illustrations.

Note, however, that the carriage sequence is running downhill from the back of the book toward the front of the book. Remembering that books in our Western Culture are typically read from left to right, this particular book might have been strengthened by reversing the text pages and the image pages so that the images were always placed on the left-hand side of each page spread, or Newell could have reversed the slant shape so the right-hand page displayed the downhill slant. If Newell had made either of these design changes, as shown in the sequential images in Figure 3.24.4, the baby carriage would run downhill from the *front* of the book to the *back* of the book moving in the direction of the narrative and page turns, rather than appearing to

run backwards toward the beginning of the story, fighting the direction in which the reader turns the pages. Still, the book is highly innovative as designed for the times in which it was published, and remains so today. It is fairly easy to locate a bunny-shaped book that might be about bunnies, or a St. Nicholas-shaped book that might be a narrative with St. Nicholas as a character. Yet, a century after The Slant Book was created, it is difficult, if not impossible, to find a shaped picturebook with a similar, innovative type of concept that so totally integrates the

Figure 3.24.4.

narrative with the shape of the book to such an extent that that shape actively extends the narrative and moves it forward. The shape of Newell's The Slant Book is absolutely essential to the book's concept, identity and success.

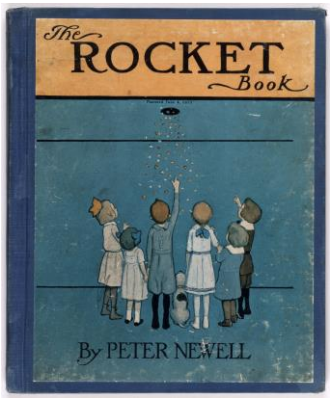


Figure 3.25.1.

Figures 3.25.2, 3.25.3, 3.25.4 & 3.25.5 (left to right, top to bottom).

The final picturebook of Peter Newell's to be discussed here is The Rocket Book [Figure 3.25.1]. Published in 1912, it was obviously inspired by a desire of Newell's to further explore the possibilities of a format similar to that used in The Hole Book.[95] The Rocket Book tells of the consequences when naughty Fritz launches a rocket in the basement of an apartment building [Figure 3.25.3]. As with The Hole Book, this story, today, would undoubtedly be flagged by an editor for its depiction of children playing with live rockets. With the prevalence of cautionary tales in pre-Victorian through mid-Twentieth Century Children's Literature, perhaps the plots of The Hole Book and The Rocket

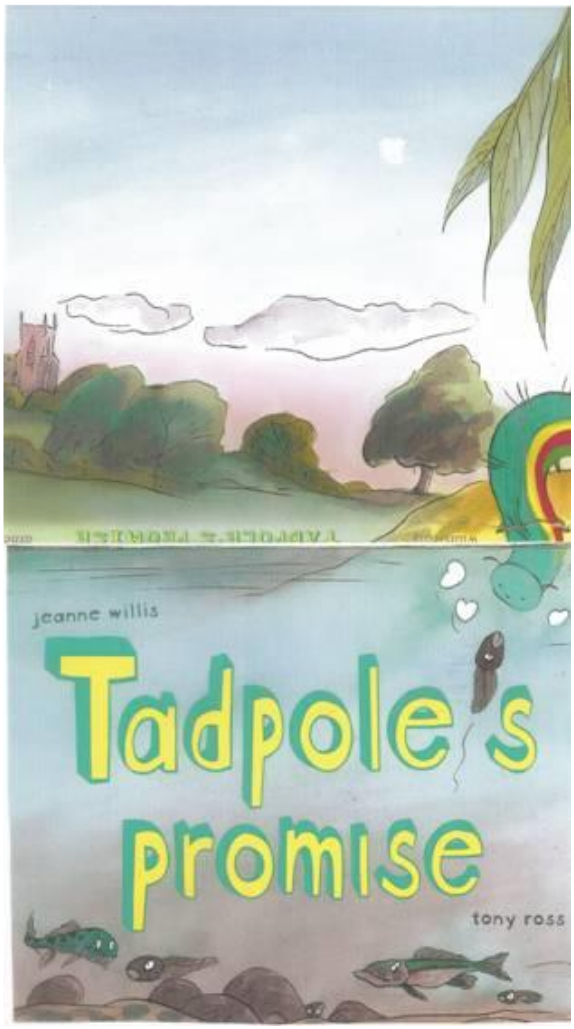
[95] A digital scan of the entire picturebook is available in the Library of Congress Digital Collections as part of the Rare Books and Special Collections Division. You may view the book online at http://lcweb2.loc.gov/cgi-bin/ampage?collId=rbc3&fileName=rbc0001_2003juv23925page.db.

Book were seen as part of the cautionary type of literature. If so, the acceptability of these plots would have been assured, despite the fact that both books *appear* to incite children to dangerous behavior. In this book, Newell innovatively cycles through orange, green, blue and yellow as the second tone in each duo-tone picture—perhaps purposefully emphasizing the changing floors with different color illustrations; and, possibly, the changing colors emphasizes the dramatic impact on each floor—for whatever reason (and they are all legitimate design decisions) Newell is again simulating a full-color look with less-expensive, two-color print passes. Interestingly, even though Peter Newell knew that many of his book projects would not be published in full-color, he usually painted his illustrations in full-color anyway (Hearn) [Figures 3.25.3, 3.25.4 & 3.25.5]. The hole the rocket makes as it shoots straight up through floor after floor is a die-cut hole through each page, this time in this book it is a flattened oval shape—an apparent attempt to show perspective—that makes narrative sense in each illustration. However, Figure 3.25.2 reveals that, although the die-cut hole in the page reads as a rocket hole blasted through a typewriter *within* the illustration; still, the die-cut hole shows on the text side of the double-page spread where it does not work as well—except as a sort of design statement.

One comparison observation that should be made here is that the die-cut hole actually supports The Hole Book narrative more realistically than it supports The Rocket Book. The Hole Book is about a *horizontally*-flying bullet, so it very naturally creates a hole in every page of a horizontally-page-turning book as the bullet visually "flies" from beginning to end of the narrative; and, thus, supports the secondary imaginary world of the book's narrative piercing every scene along the way. The Rocket Book, however, is about a *vertically*-flying rocket, so the movement of turning every single *horizontally*-turned page actually fights against and detracts from the secondary world this narrative creates. The images with their real holes support the

vertical-moving narrative on the right-hand pages; but on the back side of these pages is the text, and the holes on these pages reinforces the idea of continuous *horizontal* movement by continuing the holes or "connecting the dots" in a horizontal trajectory at odds with the illustrations' implication of continuous vertical movement of the rocket.

As in the previous book, the rhymed text is on the verso pages and the illustrations are on the recto pages. Newell might have consciously designed his books so that flipping through the right-hand pages of The Rocket Book, The Hole Book and The Slant Book works like a flip book—like a *Daumenkino*, or "thumb cinema" as the Germans called it—a type of book that had been patented in the United States by Henry Van Hoevenbergh in 1882, and somewhat earlier elsewhere in Europe (http://www. flipbook.info/ history.php). To view the effect of a flip book and the effect Peter



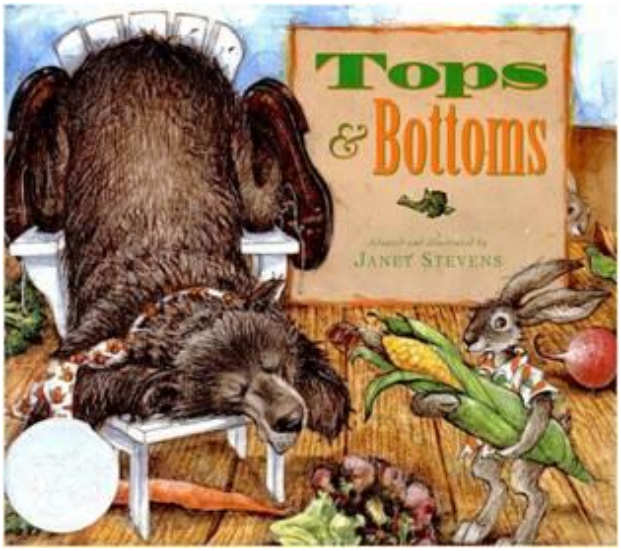


Figure 3.26.1 & 3.26.2 (top to bottom).

Newell may have pictured children discovering while experimenting with his picturebooks, view Video 3.1 [in the List of Videos; or view at http://www. youtube.com/watch?v=y PKjwKphEwQ]. The vintage flip book featured in this video clip can be found in the Arcade Museum in San Francisco. This particular flip book actually works in a calendar format, with the pages flipping vertically rather than horizontally, which could actually be an effective treatment for Newell's The Rocket Book.

In fact, with a little further tweaking of The Rocket Book format, by opening it up vertically like a calendar instead of horizontally as most codex books are read, Newell could have had his rocket shooting naturally up through each floor of the apartment building, creating the illusion of movement as the pages, or "apartment floors," flip up as simulated in the vertical arrangement o Figures 3.25.3, 3.25.4 and 3.25.5. If Newell had thought to use such a book layout, the vertical movement of the pages flipping could have helped create the illusion that viewers were traveling up the apartment building with each vertical page flip indicating another floor traveled, the reader viewing the passing scene as though from an elevator. Interestingly, elevators would have been a fairly new technology (the Otis Safety Elevator) had been introduced by Elisha Otis in 1852) and would have been familiar to Peter Newell. Although, as a relatively new technology, it might not yet have permeated the lives and minds of book designers looking for inspiration for their picturebook designs. Calendar format picturebooks are extremely rare, even today, probably because such books are more difficult to read comfortably—and, although Newell would have encountered calendars, their design may not even have occurred to him as a design possibility in the entirely different arena of picturebook design. It is a possibility, however, that such everyday sources could have influenced him in some way.

I am familiar with just two trade picturebooks that utilize this format: Jeanne Willis' 2003 Tadpole's Promise, and Janet Stevens 1995 Caldecott Honor Book, Tops & Bottoms [Figures 3.26.1 & 3.26.2]. In each case, the gutter is a defining symbol in the illustrations. For example, it might act as the pond surface or the ground surface (as it could have symbolized the floor between apartment levels in The Rocket Book). In each double-page illustration of these two book examples, what is above the gutter is above the pond or ground. What is below the gutter is below the pond or ground's surface. Once again, we have book creators who are playing with the codex book form so that it becomes a significant part of the narrative. In these books, the gutter, a necessary part of any typical codex book, becomes a vital part of the illustration design and meaning—and therefore a part of the narrative. Both of these books could be candidates for the Children's Literature Subsection of the Artist's Book Field as well.

3.4. Following in Newell's Steps: Current Picturebook Creators Who May Be Creating Children's Books as Artists' Books Using Standard Book Features Conceptually

3.4.1. *The Possibilities Offered by Page Alignment and Double-Sided Pages*

Several recent picturebooks that make excellent use of the way pages stack and align directly over one another (as did Newell in several of his books including The Rocket Book) include Istvan Banyai's 1991 picturebooks, Zoom and Re-Zoom, published by Viking, as well as his The Other Side, published in 2005 by Chronicle Books [Figures 3.27.1, 3.27.2 & 3.27.3, book covers]; and Hervé Tullet's Press Here, published in 2010 (in the U.K.) [Figure 3.27.6, book cover]. Zoom and Press Here are discussed in Chapter Four in greater depth.

With Zoom (and its sequel, Re-Zoom, also published in 1991), Istvan Banyai makes use of images of exactly the same size positioned in exactly the same position on the right-hand side of each double-page spread to set-up the illusion that the creator of these images is telescoping

3.27.1, 3.27.2, 3.27.3, 3.27.4, 3.27.5 & 3.27.6 (left to right, top to bottom).

out, away from the book page, continuously (similar to the way Newell set up his illustrations in precise alignment to look as though a bullet was passing through the scenes or a runaway carriage was rolling down a hill). View Figures 4.19.1, 4.19.2, 4.19.3 & 4.19.4 from Chapter Four, and imagine these images from Zoom in exactly the same position one behind the other, being viewed consecutively, page-turn after page-turn. Banyai reinforces this effect by coloring the opposite left-hand page of each double-page spread completely black, with no text, as if that part of the book that does not contain images is negative space—thereby providing no distraction so that the reader focuses solely on the right-hand pages. When leafing through the pages one after the other, it becomes impossible not to be caught up in the zooming out effect of this book treatment. You can view this effect in Video 3.2 [hyperlinked in the List of Videos; or at http://www.youtube.com/watch?v=IfQ-2RzrkCU&feature=related.

Banyai created a third book titled The Other Side that utilizes a different facet of the codex book—the fact that pages have a front and back side—to create the effect, once again solely through images with no added text, that the viewer is looking at the front and back side of illustrated scenes [Figure 3.27.3, front cover]. As Figures 3.27.4 and 3.27.5 show, on these two consecutive page spreads, first the reader views a stage from outside of the curtain from the audience's perspective (although it must be a rehearsal as only one audience member is present); while, on the other *side* of the page, the reader then views the stage curtain from the performers' perspective as the clown looks out a crack in the curtain. Once again, thoughtful use of the book format causes that format to become a powerful visual force and an integral part of the narrative.

With Hervé Tullet's Press Here, the exact position of painted buttons on one page are mirrored and then purposefully altered on subsequent pages after the text instructs the child reader to perform certain actions, such as touch or rub buttons, or shake the book [Figure 3.27.6, front cover]. The impact achieved is that the child's actions and the painted buttons are somehow powering the book images' transformations from page to page. To view consecutive images of pages from this book, see Chapter Four, Figures 4.27.1 through 4.27.5. However, since it is difficult to absorb the effect when images are side-by-side, you may view a video of this picturebook in Video 3.3 [hyperlinked in the List of Videos; or you may view the video at http://www.youtube.com/watch?v=Kj81KC-Gm64]. This example demonstrates the potential virtual "invisibility" of the pages as a framework for such picturebooks, a useful device that helps create the transformative illusion.

With many picturebooks, if a person took all of the images and blocks of text out and just laid them out next to each other along a table and read them consecutively, the reader would essentially absorb the picturebook's story without much loss of information (other than the loss

aesthetically, due to lack of a professional package for the illustrated narrative). But with the examples just discussed, with Banyai's three picturebooks and Tullet's Press Here (and several other picturebooks reviewed in this discussion), the book *form* is absolutely essential to any reading of these picturebooks. If the book format is not taken into account, something of great significance is lost in any reading. Even as viewers view the images of the theatre just discussed from Banyai's The Other Side, there is something lost in not turning the actual book page and physically viewing one image on one side of the page and then the alternate image on the flip side of the same page. Viewing and turning the page physically helps the reader realize that they are observing views of the same scene, just from different sides, from different perspectives. There is a mental connection offered by the shared page that acts as a grounded base linking both images. There is a certain knowledge created from a reader's innate understanding of the mechanics of a book and how its pages work that helps create the illusion. This mental connection is lost when the physical connection is taken away and flat unconnected images are viewed side-by-side [Figures 3.27.4 & 3.27.5]. The same is true of viewing the images from Zoom as they are shown side-by-side in Chapter Four [Figures 4.19.1 through 4.19.4]. The impact of viewing these images side-by-side is not nearly as powerful as viewing these images one after the other in the exact same position for page after page of Zoom. And, with Press Here, viewing Figures 4.27.1 through 4.27.5 side-by-side loses the magic that is gained when the reader is reading the book, touching the buttons, and then turning the page to find an apparently magical or computer-like transformation in exactly the expected position on the subsequent page. Without the designed form of these book and the layouts their creators designed, these books lose vital, conceptual, core elements. Without these elements, the books lose the rich reading experience their form helps create.

3.4.2. *The Possibilities Offered by Front and Back Covers*

The narrative and concept of each of the books discussed here is irrevocably bound up with the form and layout of the book. Understanding the importance of the book as a form that can be effectively utilized in picture*book* design and *narrative* design as well seems a consistent trait in those whose picturebooks appear to be qualified to be artists' books as well.

When my middle daughter was small, I began working on a picturebook project that is now in rough, mocked-up dummy book form. The idea behind the book was an original concept of my own—the idea of a circular story, inter-connected with plot and characters, written in two parts that would begin on one half of the book, with the reader turning the book upsidedown and backwards to complete the narrative. The plot itself would be of a circular nature, meaning that the book would end up where it started and the reader could theoretically read the narrative again and again and it would continue to make sense as an extended repeating narrative. The revolving nature of the story also means that the reader could begin the book with either the front or back cover, in theory at least. The idea of a story that never ends would amuse and confuse young readers and hopefully help such a picturebook be a success, as well as a book to which children return again and again. A screen-capture of that picturebook in its current state of completion can be viewed in Video 3.4 [hyperlinked in the List of Videos]. The title of my picturebook is In a Minute . . . Just a Second. The only inspiration I might have subconsciously had for this idea were a couple of double novels published by Grosset & Dunlap in their *Companion Library Series* that my parents gave to me as a child—one of these novels featured The Jungle Book on one side, and, after flipping the book, the reader is presented with The Wizard of Oz. The form was the same, but the novels were unconnected—and I do not think I remembered them as an inspiration. Several years after I started In a Minute . . . Just a Second, my mother picked up an

even older book at a book sale that exhibited a similar format for my historic children's picturebook collection. The Goody-Naughty Book was copyrighted in 1913 by Rand McNally Publishers. Written by Sarah Cory Rippey and illustrated by Blanche Fisher Wright, this book makes use of, in a more limited way, the same extremely rare format that I had come up with for my own picturebook. First, the child reader reads *The Goody Side*, with its selection of short tales about good children [Figure 3.28.2, front cover]; and then the child reader turns the book upsidedown and backwards and reads *The Naughty Side*, with its selection of stories about naughty children [Figure 3.28.3, back cover (or vice versa)]. This particular book contains two sets of narratives related by a pair of contrasting themes—children behaving well versus children behaving badly—but these are *not* inter-related narratives. Every tale stands on its own, and the two sets of tales do not share common characters or settings. So, at around the same time that Newell's The Rocket Book was published, this creative format was used by Sarah Cory Rippey, although the potential of the format she used was not fully developed yet. (She also used the format for at least one other book published in 1915 titled The Sunny-Sulky Book.). Both Rippey and Newell utilized unusual book concepts whose expanded potential is only being explored over a century later.

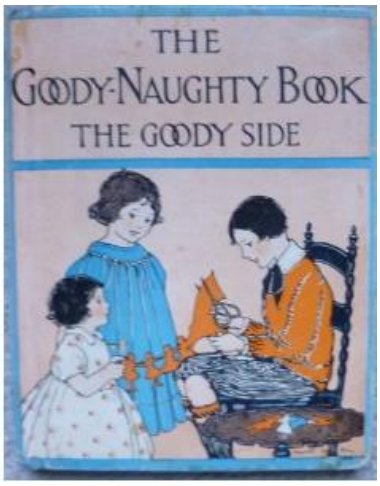
The only book I have discovered of recent publication date that utilizes this format is Diane Greenseid's And Then It Rained . . . And Then the Sun Came Out , recently published by Atheneum Books in 2003 [Figures 3.28.3 & 3.28.4, front and back covers, interchangeable]. Once again, the two narratives are thematically related, centering around an urban apartment building and what types of activities residents of the neighborhood engage in during contrasting types of weather. With this book the narratives share the same settings and the same characters,

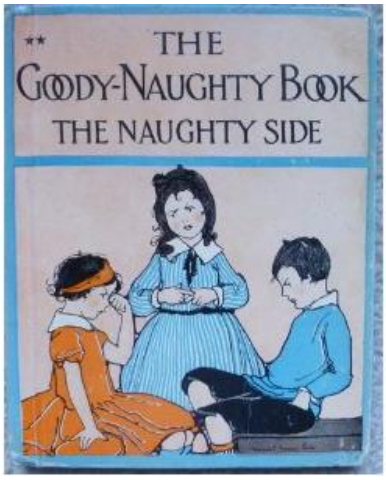
and they once again share opposite themes. The plots have been connected into a circular story that could be read in a never-ending manner by first reading And Then It Rained . . . , then flipping the picturebook, and finally reading And Then the Sun Came Out . . . ,

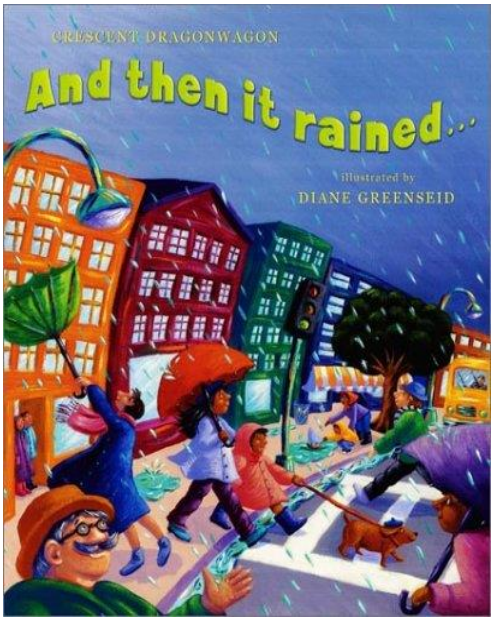
The book format becomes a vital element in picturebooks such as these. In the several examples discussed here, each one of the picturebooks has utilized the special format to present situations about opposites: i.e., good and bad behavior; sunny or rainy weather; messing up then cleaning up. The continued repetition of this oppositional theme may be reinforced by the design; for when the reader physically turns the book upsidedown and backwards, they are almost physically deciding to read the *other* "side" of the story. They have absorbed the story from front to back, and now they will take a look at it again from a fresh perspective; this time from back to front (while upsidedown). Consideration of other plot formats that would be supported by such a narrative might reveal other possibilities for the potential of this layout. Stories about the same situation, but told from differing points of view (such as a brother and a sister's version of the same situation) might work well with such a format, for example (perhaps even without the circular-shaped narrative). Time will tell if this pairing of opposites will remain a primary element of such a format, or if other uses of the format will make themselves apparent with further experimentation and exploration of the design's possibilities.

One point to consider: Is it possible that a certain *type* of narrative may be suggested by a particular *application* of the codex book technology? Could it be possible that the shape of the book, or a particular use of the book, might suggest the type of story the book could best modify? Marshall McLuhan was making the point, when he stated that the "medium is the message," that the medium or technology one uses can affect its users more than its content; that the stories we read, the movies we watch, the games we play are not as important as the technology with which

we ingest that content. But these several books, all using the codex format in the same creative way and all creating oppositional double stories, may suggest yet another possible interaction among medium, content and user. In this case, the parameters of how a medium is to be used might suggest the *type* of content its designers will likely pour into it. So, if several book designers were presented with a blank codex book and told to create a story, but the book had to be used in a calendar (vertical) format—they all might come up with stories that utilize the gutter in creative ways, as occurred in the two non-related examples shared earlier in this discussion.







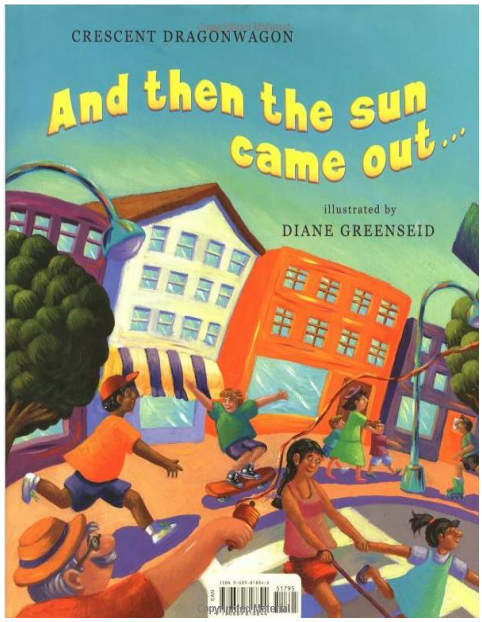
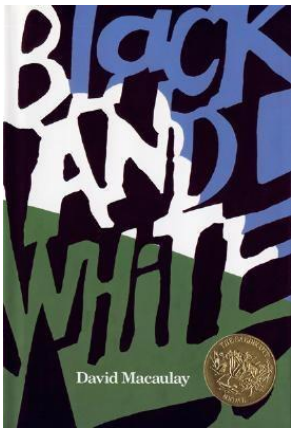


Figure 3.28.1, 3.28.2, 3.28.3 & 3.28.4 (top to bottom, left to right).



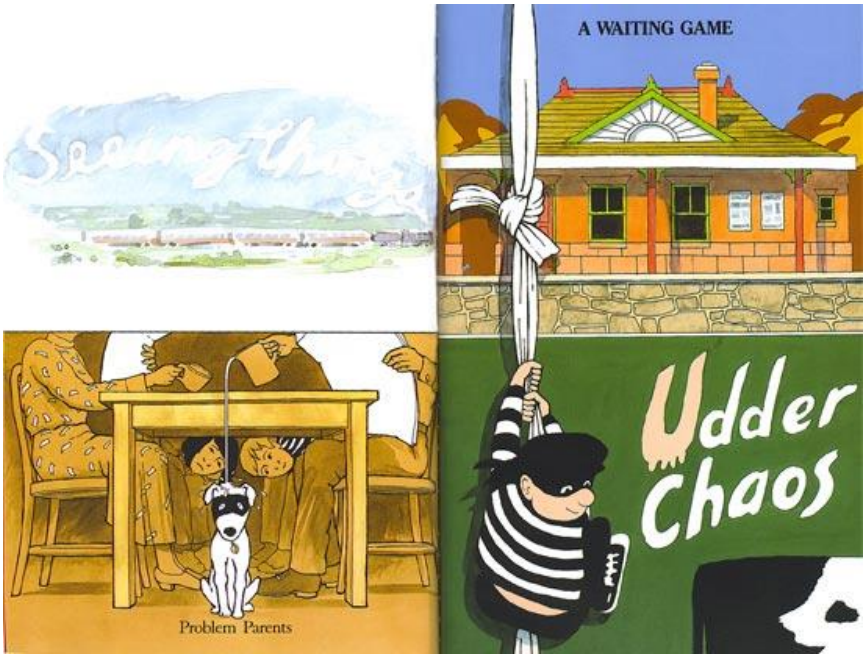


Figure 3.29.1 & 3.29.2.

3.4.3. *The Possibilities of Book Page Layouts That Support Multiple-Plotted Narratives*

Book formats that are utilized to support multiple stories in creative and unusual ways also have the potential to be considered for the Artist's Book Category. Chapter Four takes a look at David Macaulay's Caldecott Medal-winning Black and White, published in 1990 by Houghton Mifflin, in greater detail, the front cover of which is shown in Figure 3.29.1. Take a look at Figure 3.29.2, an image of the opened book format, specifically the title page. Notice

that four stories are being presented on one double-page spread from the picturebook—one story in each corner of the page-spread. The four stories are kept distinct from each other by several methods: (1) There is a distinct line separating them from the other stories; (2) They each are treated with their own illustration style and color scheme; (3) They each have their own typography style for the text; and, finally, (4) Each story has been introduced to the reader with its own title page as can be seen here. This one double-page spread is the title page for all four stories in the book (Macaulay 46). The titles include *Seeing Things, A Waiting Game, Problem Parents* and *Udder Chaos*. David Macaulay has devised one way to use the codex book format to tell more than one story (although the four plots interconnect eventually).

Many picturebooks print multiple stories, one after the other, in a collected stories format; but Macaulay has a purpose in presenting these four stories with visual simultaneity in such an unexpected layout.[96] The reason for this presentation is that all four stories eventually converge and then diverge again in a cat-whisker-shaped type of multiple plot pattern. Macaulay is able to encourage the reader to appreciate this format and understand it better—and he adds significantly to the artistry of the four narratives be presenting them in this way, rather than in the typical, one following the other in linear format. In addition, it is easier for the reader to comprehend that all of these four stories are occurring at precisely the same moment in time when they are all presented with equal weight and size simultaneously in full-view of all of the other stories on the same page spread. The idea of simultaneous stories is presented *visually* in Macaulay's picturebook with a much more immediate and dynamic impact than if he had just strung four stories one after the other and told the reader that they all occurred at the same time.

[96] A picturebook example of multiple plots strung together one after the other can be seen in Anthony Browne's Voices in the Park (Dk Ink). In this picturebook, Browne assembles four stories, one following the next, together in this 1998 picturebook. In reading the four stories, the reader realizes they are relating the same encounter from four differing perspectives or "voices." The type styles are different for each of the four stories, and all four viewpoints are illustrated. Only in reading all four perspectives does the reader get the entire picture.

While the reader of Macaulay's picturebook may not be able to physically read all four stories at one time, the reader can still immediately see that they are all there and of the same size and weight. In a way, as the picturebook intent is revealed, the reader *sees* that the stories are all occurring at the same time. The layout offers that information to the reader using visual cues. The only reason the reader might be slow to pick up this point is that Macaulay counts on the fact that his layout is an unusual narrative layout—one he created and one with which readers are not yet familiar. Macaulay plays on this unfamiliarity on the part of the reader and creates mystery in his story that the reader is required to unravel while reading the narrative and perusing the images and layout. Over time, as other picturebooks use this or similar multiple-plot layout devices, readers would become familiar with such layouts and accept their implications immediately.

Undoubtedly, other picturebook creators will, with their own exposure to books such as Black and White, begin to experiment with other ways to present multiple plots simultaneously in picturebooks. Not only will layouts such as Macaulay's be copied, but new possibilities will emerge intended to achieve similar results.

3.4.4. *The Possibilities of Designing the Picturebook Page to Imply Extensions of the Illustration Into Space*

Steve Jenkins has created a niche for himself in designing clever picturebooks with a scientific theme using simple, effective layouts and collages of art papers (in a similar style to Eric Carle, but Jenkins uses various art papers, where Carle paints the paper he uses). The ideas behind his various books are uniquely creative; none more so than his picturebook titled Actual Size, published by Houghton Mifflin in 2004. Jenkins does a masterful job in this picturebook of utilizing the shape and size of the book page, as well as the cropping of his images, to help his

child readers grasp the concept of the actual size of a wide variety of animals, from the most miniscule to the most massive. Actual Size is a large-format, vertical picturebook of 10.25 inches wide by 12.25 inches tall. In this picturebook, Jenkins introduces his young readers to the actual size of everything from the pygmy mouse lemur sitting on the hand of a gorilla on the front cover (also featured individually in the book's interior) [Figure 3.30.1]; to the world's smallest fish, the dwarf goby, that is only 1/3 of an inch; to a spread featuring a giant squid so large that only one immense eye glaring out from the pages can fit on the two-page spread [Figure 3.30.2]. The double-spread featuring the saltwater crocodile, the world's largest reptile, contains a horizontal fold-out, a third page, so that the crocodile's entire face/mouth profile can impressively stretch out over three page widths for the reader, emphasizing the total length of the beast by dramatizing the width of the jaws alone. What is important here is that Jenkins conceived of the idea of the importance of the page frame and of drastic cropping of an image to carry off this concept and impact the young reader. The reader sees how large the giant squid must be, if only one eye can fit on a double-page spread in a large picturebook. The child reader begins to understand how large a gorilla must be when the child places his or her own small hand on the palm of the gorilla pictured on

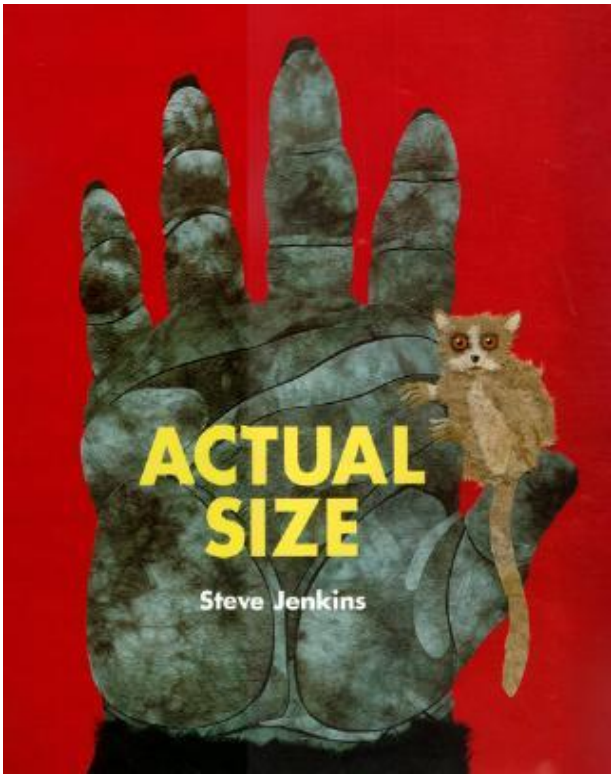
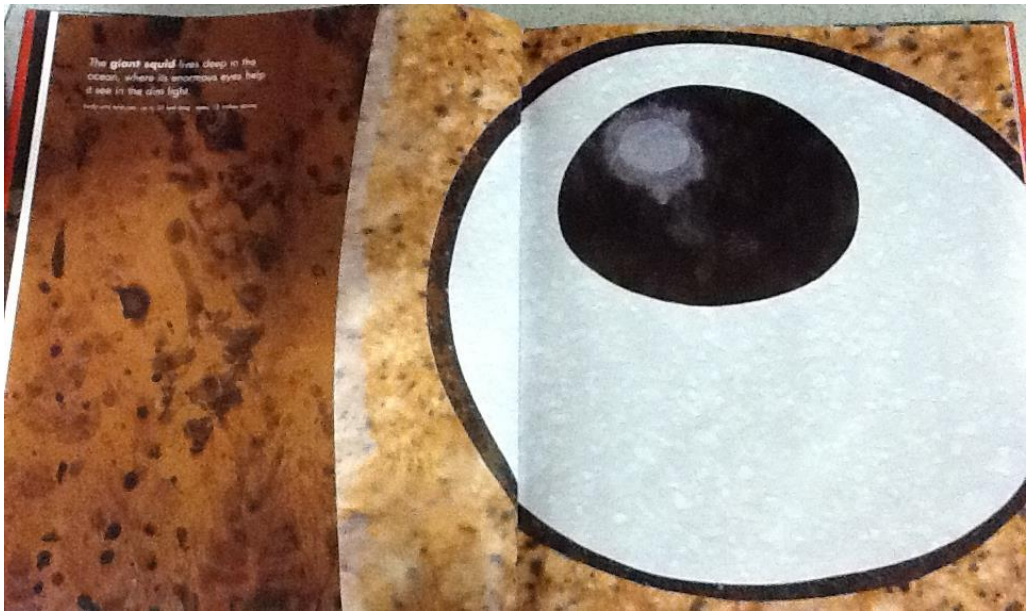


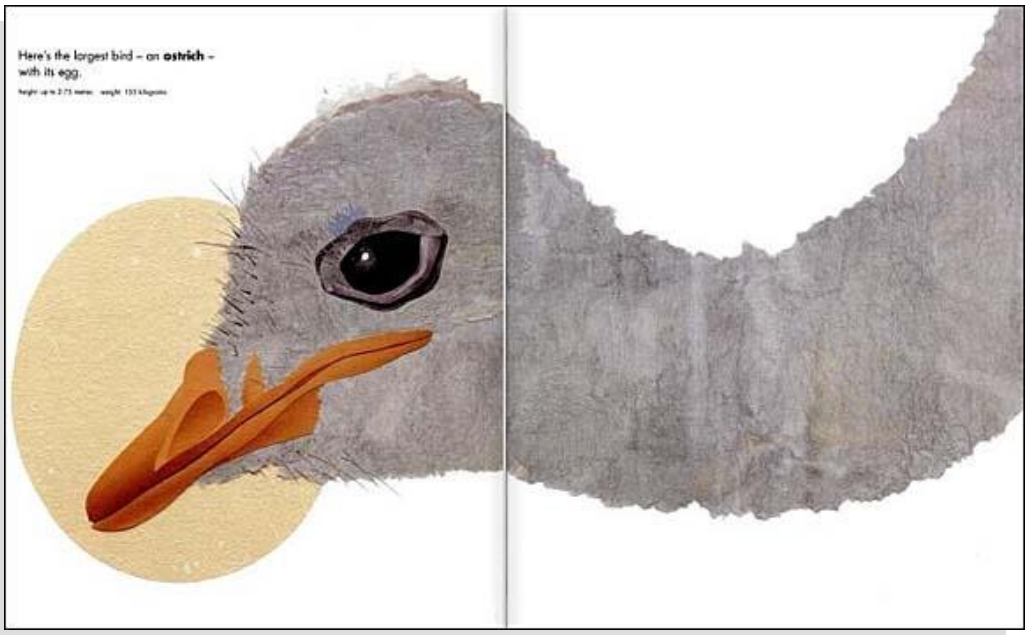
Figure 3.30.1.

the book's cover and compares their sizes. The child sees how large an ostrich must be when only the ostrich's head will fit on a two-page spread [Figure 3.30.3]. In addition, the end of the book features a concordance with pictures of the animals in their entirety plus more information about them for the interested reader. In this way Jenkins is able to intrigue the reader and give them the feel of each animals' actual dimensions, while still allowing them to see what the entire animal looks like at the end of the book. The creativity behind this concept of actually using the edges of the page, the page frame, to crop images drastically in a way that imparts a profound idea easily to the young reader may be enough to qualify such a book as an Artist's Book; but this technique actually accomplishes at least one other important task. This drastic cropping of over-large images implies that the images continue into space beyond the book page. There is a virtually-continued page layout beyond the dimensions the reader sees printed on the page. Beyond the edges of the crocodile page-spread, the reader can mentally complete the crocodile's entire length. And beyond the double-spread of the eye of the giant squid, the squid image continues far into virtual space in readers' minds.

This idea of the implied larger layout than what is actually presented to the viewer is emerging in the *e*-picturebook field as well. *The First Witch* is being marketed as an application for the *iPhone* and *iPad* as a *tilt comic*, and I used it as an example previously in the Chapter discussion. To review, a tilt comic is a sequentially-illustrated and framed story that is created for an electronic reading device in which more of the comic is revealed as the reader moves or tilts the electronic reader around in space. In this type of virtual *e*-layout, the images are designed to be larger than the reading device's screen area, so the reader can explore hidden corners of the comic by experimenting and moving the reading device around in space to see what is revealed "off the page," so to speak. In the case of *The First Witch*, the reader moves the comic up and

down to reveal subsequent frames in the narrative. You may view a demonstration of this *e*-narrative for the *iPad* in Video 2.19 [hyperlinked in the List of Videos, or you may view the video at http://www.youtube.com/watch?v=wPUBeJerD_g,]. With the expanding influence





Figures 3.30.2 & 3.30.3 (top to bottom).

and presence of books such as Jenkin's Actual Size, readers may, over time, see more and more

books (and *e*-books) using the page edges to crop images and imply larger layouts than what the viewer actually sees. In addition, with more exposure to these types of creative book layouts and concepts, readers may become more accustomed to the use of experimental types of layouts in picturebooks and develop into more educated, advanced visual and literary readers.

Figures 3.31.1, 2.21.1 (introduced in Chapter 2), & 3.31.2 (left to right, top to bottom).

3.4.5. The Possibilities Offered by Die-Cut Holes, Page Shapes, Page Sizes & Page Fold-Outs

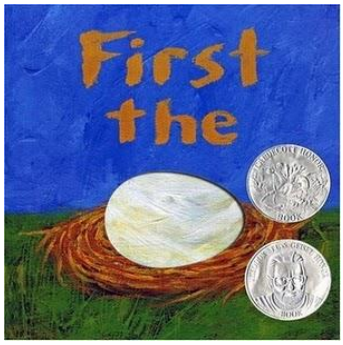
A select few current picturebook designers are using the die-cut shaped hole and die-cut pages in creative ways that emulate the purpose behind Newell's use of die-cuts in his The Hole Book and The Rocket Book over a century ago. While the field of such picturebook designers still remains sparse a century later, all three of those book designers introduced below, in my estimation, deserve the designation of Artist's Book creators.

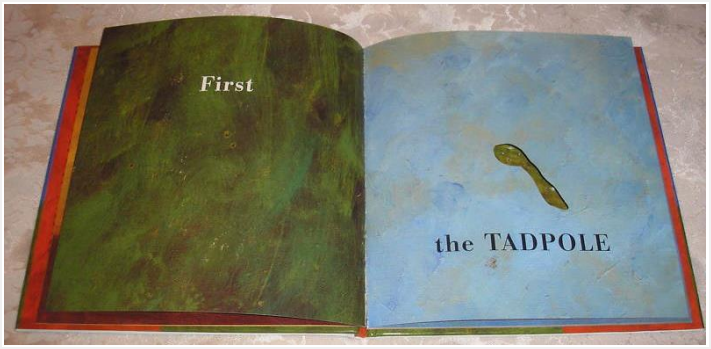
The first name has been around for awhile and is iconic in the field. Eric Carle, creator of more than 70 picturebooks for children (many of them best sellers, often written as well as illustrated by Carle), is probably most famous for his picturebook, The Very Hungry Caterpillar,

that is now forty years old and has been translated into over 500 languages [Figure 3.31.1, front cover]. Eric Carle's background encompasses Graphic Design and his designs have a clean, modern feel even decades after he created some of them. His collages that feature hand-painted papers are immediately recognizable, and were ground-breaking when he first introduced them. His backgrounds are often stark white, and his text is simple, yet effective; and his clean design and conceptual outlook reveal his commercial design roots. What makes his books so special is the obvious thought that goes into the book's format in direct support of the narrative and subject. The Very Hungry Caterpillar remains the classic book to showcase Eric Carle's unique way of utilizing the codex format in support of the book's contents.

The Very Hungry Caterpillar tells the story of the life-cycle of a caterpillar that eats his way through his world until he is big and fat, then wraps himself in a cocoon, and emerges as a butterfly. In this book, Carle also teaches the days of the week and numbers, as the caterpillar eats his way through the week while eating food that increases by one piece each day. On Monday the caterpillar eats one apple; on Tuesday, he eats two pears; on Wednesday, three plums; and so on. As the amount of food grows and the days pass, the pages grow larger as well. In Figure 2.21.2 (introduced in previous chapter), the page talking about the caterpillar eating one apple on Monday is an extremely narrow page (at full height though), with each subsequent page growing wider in size to accommodate more pieces of food. Carle also shows the back side of the food on the back side of each page (i.e., the left-hand side of the double-page spread), this time with the caterpillar crawling out of the food toward the next day's supply of food on the right-hand side of the double-page spread. The back side of the pages just described can be seen by control-clicking http://www.youtube.com/watch?v=3Oa5EV6U8F4&feature=results_video&playnext=1&list=PL8D89F69E6A03991B to view a video showing a reading of this book [or

in the Video 3.5 hyperlink in the List of Videos]. Saturday's page is a double-page spread [Figure 3.31.2], for on Saturday, the caterpillar eats a virtual cornucopia of food products. He grows enormous, and gets a stomach ache. On Sunday he eats a leaf to settle his stomach and ends up in a cocoon, from which he emerges, transformed, two weeks later. Another significant design feature used here, in addition to the ever-growing pages that grow with the amount of food shown on them, is the small hole, caterpillar-sized and child-finger-sized, that Carle has cut into every leaf and piece of food that the caterpillar eats through. These holes invite little fingers to act as caterpillars and to explore the food as the book is being read [the video review uses an over-sized book, so the die-cut holes are larger than they would normally be]. While this is perhaps Carle's most enduring picturebook, he has many others, often with similar themes, that show the same thoroughness in creating unique design concepts intertwined with the book form and the book's narrative in both word and picture, using and playing with the book form to extend the narrative. One final note, Carle was instrumental in bringing about the opening, in





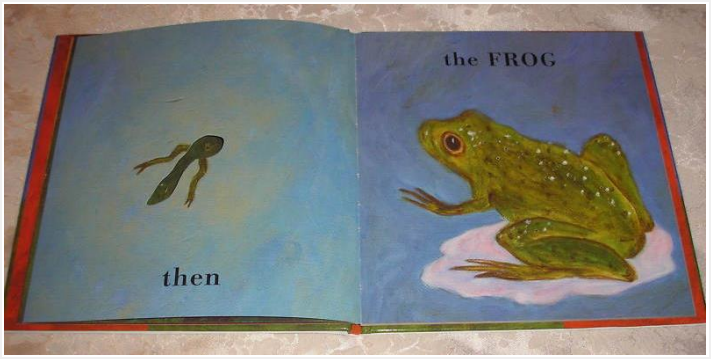


Figure 3.32.1 (left), 3.32.2 & 3.32.3 (top and bottom).

2002 in Amherst, Massachusetts, of the Eric Carle Museum of Picture Book Art, the first museum of its kind in the United States.

Laura Vaccaro Seeger recently received both the Theodor Seuss Geisel Honor Award and the Caldecott Honor Award for her book, First the Egg / Then the Chicken), or it could be titled, First the Chicken / Then the Egg (the first halves of each title appear on the front cover and the second halves appear on the back cover). The book jacket states it the first way, and removing the book jacket reveals that the book cover states it the second way. In addition, the egg on the book jacket is actually a die-cut oval showing white in color [Figure 3.32.1]; but when the jacket is removed and the die-cut is no longer present, the reader sees that the white of the egg shape was really part of a white hen painted on the cover of the book—hence, the title morphs, on the actual book, to match the changed illustration. The die-cut that creates the egg shape shows that there is something painted on the cover beneath the jacket, enticing the reader to take a peek and discover the second version of the title. First the Egg was published by Roaring Brook Press in 2007. Seeger's books tend to look, on the surface, deceptively simple in concept. However, further study reveals interesting levels of complexity beneath the surface. Seeger's illustrations contain vibrant color and rough textures and her text is short and simple. What makes her books outstanding are frequently her double-sided die-cut shapes, for in Seeger's books her die-cut shapes in pages frequently work no matter which way the page is turned—and they change in meaning with the turning of the page. For example, two consecutive double-page spreads from First the Egg are shown in Figures 3.32.2 and 3.32.3. In the first double-spread, the text reads, "First / the TADPOLE." The tadpole is a die-cut shape, colored green because whatever is on the page behind the die-cut is a mottled green. When the page is turned, the tadpole shape (still a die-cut shape with green from the previous page coloring it now) has now grown (painted) legs

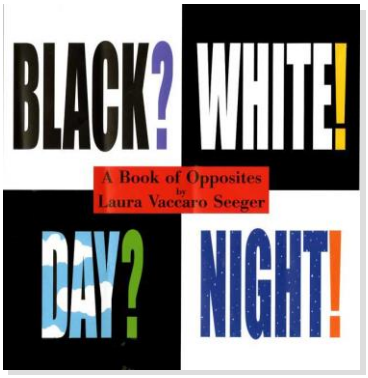
and the text reads, “then / the FROG,” with a large green frog on the opposing page. Seeger has managed to show the growth cycle of a frog with one die-cut that demonstrates two life- stages combined with the final frog image.

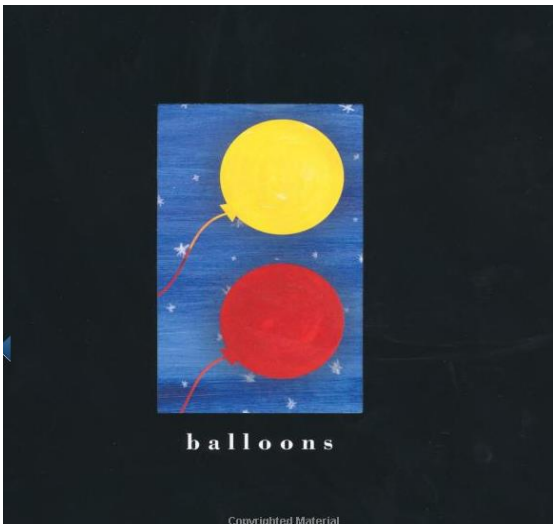
To demonstrate this double-sided die-cut technique repetitively used in an entire book, view her new book, Green, published by Roaring Brook Press (Macmillan Children) in 2012 at http://www.youtube.com/watch?v=lVQeY8bodYs [or in the Video 3.6 hyperlink in the List of Videos]. In this book about the color green in all its various meanings, die-cut shapes on every page morph from one image and meaning to another as the pages are turned. Die-cut leaves on the “forest green” page spread change into fish on the “sea green” spread. A die-cut lime section on the “lime green” pages changes into a brown spoon on the “pea green” pages. Seeger makes design use of the light flickering through the die-cut shapes to add life and sparkle to her illustrations. Two peas on the “pea green” page spread flash as they change into two tiger eyes on the “jungle green” spread. The light on the barn flickers on as the die-cut light shape drops into place on the left-hand page of the “glow green” spread, and then the fireflies flicker on the right-hand side of the same spread as the page is turned forward to the “shade green” spread.

Seeger has published other books that demonstrate this same distinctive use of the book to support the narrative. Among these are Black? White! Day? Night! A Book of Opposites, published by Roaring Brook Press in 2006 [Figure 3.32.4], and The Hidden Alphabet, published by Roaring Brook Press in 2003. The book’s publisher describes Black? White! Day? Night! on its web-site: “Through a series of ingenious die-cut pages, the reader discovers things that are the opposite of what they seem: A black bat transformed into a white ghost, a sunny day that becomes a starry night” (http://us.macmillan.com/blackwhitedaynight/LauraSeeger). The book

is set up as a series of brief questions and answers (as in the title) reinforced by clever, transforming illustrations.

The Hidden Alphabet, published in 2010, is a personal favorite *abecedary* (alphabet or ABC) book. It uses page fold-outs in combination with die-cuts to turn an image *beginning* with a letter into that letter—quite an extraordinary effect. For example, first the viewer sees floating balloons (a word that starts with the letter B) surrounded in the sky, framed by the thick black border of the page with the word, "balloons," printed beneath the picture [Figure 3.32.5]. Upon lifting the black border upward, a flap that contains the die-cut rectangular shape that framed the balloon image, the remainder of the previously hidden illustration is revealed, and the reader realizes that the balloons were simply a part of the letter B [Figure 3.32.6]. Seeger uses die-cuts





Figures 3.32.4, 3.32.5 & 3.32.6 (left to right).

and the basic idea of page-turning to transform her images in ways that inform young readers and create magic.

Figures 3.33.1, 3.33.2, 3.33.3, 3.33.4 & 3.33.5 (left to right, top to bottom).

For the third book creator that utilizes the die-cut and book format in book-stretching ways, we turn once again to Hervé Tullet, creator of Press Here, previously discussed in this chapter—a book that uses simple page positioning to create image transformations. Tullet has very recently published a number of board picturebooks that use die-cuts and innovative book concepts to encourage young readers to play with the book in transformative ways—whether it is to transform illustrations, the narrative, or the book itself. In order to create books that encourage interaction and play on the part of the book' readers, Tullet, himself, had to expend some effort exploring the form of the books while working through their creation and design.

The first book to be mentioned here is The Scribble Book, published by Tate Publishing in 2008 [Figure 3.33.1]. The art in this book appears as though it were doodled by a child, and the purpose of the book seems to be to empower young artists to draw without worrying if they are messy or if the picture is perfect or looks like a masterpiece. And, in scribbling through this book, its readers can triumphantly realize that even scribbles can create images with meaning, and that even messes can be masterpieces in the right location. The interior spread shown in Figure 3.33.2 shows first a large plate on which the child is supposed to draw a spaghetti dinner, then some spools upon which the child is requested to draw the thread. In my view, however, one obvious and easy adaptation to the book's design that would add to its effectiveness and longevity would be to have printed the book with glossy cardstock pages that were wipeable so the scribbles could be removed, the pages cleaned for the next reader to use (perhaps with a safe-to-use dry-erase marker or set of markers included). This simple design change would extend the life of the book so it could effectively by used by multiple young readers. Still, with their own added drawings, child readers of this book are participating in this narrative and extending it in ways limited only by their own imaginations.

The Book with a Hole, published by Tate Publishing in 2011, has a huge hole in the middle of the book's spine, so the hole is half on the front cover and half on the back cover, so the face on the front and back covers appears to be in profile and with an open mouth when the book is closed. When the book is closed, a half-circle hole (representing the mouth of a man's face that graces the cover) is cut through the center of the book—completely through the spine and pages. Figure 3.33.3 shows the covers opened with two young readers peering through the hole. Opened, the covers of the book show the face in its entirety with a wide open mouth that is the giant hole in the spine. One spread, [Figure 3.33.4], features a dragon-like monster's open mouth surrounding the die-cut hole, with the printed question for the young reader, "Do you dare put your head through this hole?" Another page spread asks the young reader what the man in the illustration sees through his telescope—the telescope, naturally, is the hole and can be trained on anything in the surrounding landscape that the child reader wishes to view. The background of this page spread is black, focusing all of the reader's attention on what can be viewed through the "telescope" [Figure 3.33.5]. And, in both of these examples just described, the doodled aspect of Tullet's images is a stark contrast to the reality of what can be seen through the large hole—the fantastic drawings invite the real child to step into their imaginary world, and the hole is the portal through which the child reader can achieve this goal.

Tullet has also just released, in 2012 through Phaidon Publishing, the *Let's Play Games* series of picturebooks—playful picturebooks that actively engage the child with the book form while exploring a particular topic. As all reader's know, games require interaction and play—and these picturebooks inspire both. View a video overview of Tullet's *Let's Play Games* picturebooks at http://www.youtube.com/watch?v=8TVIQ1GK4uE [or view the Video 3.7 hyperlink in the List of Videos section in References]. The initial picturebooks in the series

included: The Game of Let's Go!, The Game of Mix-Up Art, The Game of Mix and Match, The Game of Red, Yellow and Blue, The Game of Patterns, The Game of Finger Worms, The Game of Sculpture, and The Game of Light, with several more launching later. As the video makes apparent, children reading these books will not just be listeners. They, themselves, will be actively engaged with the books, sticking their wiggling fingers through holes and creating the characters as in The Game of Finger Worms, or flipping partial pages back and forth to mix-up illustrations or artwork as in The Game of Mix and Match and The Game of Mix-Up Art—using a partial page device similar to the harlequinades of early paper-engineered picturebooks discussed previously in Chapter Two. The Game of Light encourages the children to experiment with light and shadow, using glow-in-the-dark paint and die-cut shapes in the book's pages that cast light patterns on the walls when light is shown through them. The Game of Sculpture unfolds like a zigzag book with die-cut shapes that pop out of the book and can be slotted into slits in the book's pages, holding pages together in angular ways and building upward and outward from them. Children can build incredible three-dimensional creations, completely transforming this book into a brightly colored sculpture; and then, by replacing every piece into its original page space, they can reform the book once again into its familiar codex book shape. This book's charm is partly in the element of the unexpected—the fact that even young children realize that traditional books are not normally able to undergo such transformations. All of the books in this series show creativity in their concept and design, they use die-cut shapes in pages in creative ways to aid in the child's exploration of the book's topic, and each picturebook engages the young reader in the book-reading experience and in an exploration of the book form itself. In addition, these books are educational as they encourage knowledge of a subject such as patterns through exploration and play, much as the child would experience through play and

exploration in the real world. These books encourage *interactive* exploration of the topic at hand, as well as of the book form.

As a series, these books try to re-invent what books are and, in doing so, they challenge young readers to question their own expectations of the book form and what it can effectively achieve. These picturebooks are so engaging and fun to explore that they almost appear to be challenging this upcoming generation of young readers with the idea, "You want hyperlinks and flashing lights, instant changes, windows to elsewhere, the excitement of the unexpected—wait, we can do that, too!" This attitude recalls the third stage in the stages of a medium's development, as interwoven throughout this Dissertation discussion. From Noël Carroll's Theorizing the Moving Image, briefly, to review: In the first stage there is the justification of a new medium through imitation of an older established medium; then the new medium explores, in its second stage, all it can do; a third stage is the process of repurposing and reinventing itself after being challenged by a newer medium, in order to demonstrate that it, too, can offer effects similar to those the newer medium offers (Carroll 3). Tullet manages to achieve this goal without the pop-ups and moving parts that are part of most paper-engineered books, a subject that has been discussed in the previous chapter. While some could argue that Tullet's board books could be simply toy books or paper-engineered books, I would argue that they have the potential to also be considered for designation as artists' books. For the most part, Tullet's special additions to the codex form are simple—slits in pages, die-cut shapes cut into pages. Peter Newell used die-cuts as well and as effectively, and Newell achieved groundbreaking results, especially for the time period in which he lived. But it is not the simple added effects that really make Tullet's books a success—it is the way Tullet uses these effects with great thought to their purpose. The giant hole cut into the very spine of The Book with a Hole is an inspired idea. Tullet was able to

create page-spread after page-spread of diverse layouts using that one simple shape—a shape that is large enough for a child's head be framed or through which the child could view the neighbor's yard. I see in the work of this picturebook creator someone that is reinventing his version of the codex picturebook, perhaps due to the influence of the emerging *e*-picturebooks and other *e*-media around him. He is rethinking what a picturebook can do and should be.

Tullet's Press Here is already a *New York Times* best-selling book; and so, not surprisingly, there is already a *Press Here* application for the *iPad* and *iPhone*, previewed at http://www.youtube.com/watch?v=BAv4f0mHt8c [or view Video 3.8 hyperlink in List of Videos]. This application is getting good reviews and will undoubtedly delight young children, but I find myself enjoying the *books* more, precisely because books do not typically behave in the ways Tullet makes them behave, while the computer application behaves more like a video game, and like computer games typically behave. The books, therefore, display a trait that the video application by its very nature and medium cannot have, and this book trait will delight the young reader—the delight of the unexpected. Children today now know that computers behave differently than books, and that it is far easier for computers to achieve certain effects that are not typically achievable in printed books (and these effects are achieved in the *e*-application). Yet, in his picturebooks, Tullet has innovatively managed to achieve difficult, extraordinary effects in *printed* picturebooks—a physical medium that has physical constraints. It is *because* of those constraints that readers of Tullet's picturebooks are so delighted when he turns readers' expectations of the book upsidedown and makes them rethink this medium.

Tullet's work could be considered reminiscent of the work of Peter Newell in some ways. Tullet's books focus on playing with the book and do not include stories, while Newell's did. Tullet's texts do, however, support play and exploration of the book form. His texts also work to

foster a child's imagination. And Tullet's consistently innovative approach to the form of the book as a vehicle for the children's narrative in a significant number of his creations, as well as his fresh use of die-cut holes and/or pages so they become an integral part of his illustrations and an important part of the narrative focus—both of these techniques are consistent with Newell's approach a century earlier. And, after all, with his obvious interest in exploring the book form, Tullet is almost certainly aware of Peter Newell's previous The Hole Book, as it was a fairly well-known picturebook in its time that can still be acquired today through reproduction reprints. Prior knowledge could explain Tullet's variation on Newell's title, The Book with a Hole, instead of the more direct, The Hole Book. For Tullet's own book also showcases a hole, as did Newell's. One main difference is that Tullet's hole pierces the entire book, including the cover, while Newell's stops at the covers. In both books, the hole is the star. In Tullet's case, however, the hole has been super-sized, and its location has been dramatically shifted to straddle the book spine. In doing so, Tullet has dramatically increased the possible size of the die-cut hole, because only half of the hole has to appear on each half of a double-page spread (or, each page). He also produced a quite unusual book cover design that is an eye-catching shape when closed, and that changes when opened from half of a face with an open mouth to a full frontal image of an open-mouthed face. Whether or not Tullet may or may not have been influenced by Newell's previous experimentation, Tullet has expanded the possibilities of using a hole in a book as a main thematic element, and continues to expand and play with this idea in significant ways.

3.4.6. The Possibilities Offered by Utilizing the Margins to Support, Predict, Extend, and/or Further the Narrative

There was a time when margins of manuscripts were filled with delightful ornamentation and lllustration. This magical time was the Middle Ages. An example of margins during this

time period is evidenced in the *Luttrell Psalter*, created in the 14th Century in the diocese of Lincoln for Sir Geoffrey Luttrell (1976-1345) [See Figure 4.5, introduced in next section]. This illuminated manuscript displays the highest stage in the East Anglian School of manuscript illumination. In this Psalter,[97] not only are the large initial capitals illuminated and the text decorated, but the page margins team with images of 14th Century life. Today, scholars know more about that time period by studying these marginal images. Sir Geoffrey's household is pictured, as well as common dress styles of that period, foods they ate, household activities they engaged in, among numerous other events. Grotesque creatures are also included in the margins. While some images relate to the text, many do not. There is much to see and speculate on when perusing the margins of this text, and they most definitely add to the understanding of the text, to an appreciation of tis beauty, and to an insight into that time period—expanding he overall narrative experience. This is an example of the strength of medieval manuscript marginal illumination. One can view the book virtually, in its entirety, in the Turning the Pages exhibit of the British Library at http://www.bl.uk/turning-the-pages/?id=a0f935d0-a678-11db-83e4-0050c2490048&type=book [also hyperlinked in Video 3.9.1, List of Videos, although this is not a video, but a virtual tour of the book that is directed by the viewer].

It is important to remember that medieval marginal illumination was not always this complex and informative. Its later complexity as displayed in the Luttrell Psalter evolved over centuries of medieval manuscript illumination. While a handful of children's picturebook illustrators today experiment with illustrating the margins of a picturebook, the vast majority, up until quite recently, leave the margins clean and white, like the white walls of many museums that allow one to contemplate the beautiful paintings hanging there in pristine splendor. This has

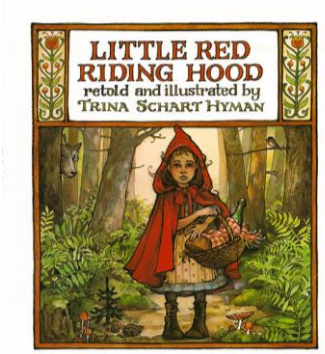
[97] In the Middle Ages this was a manuscript containing the *Book of Psalms* by Jewish King David and other devotional material; commonly used by the wealthy layperson to learn to read (http://www.bl.uk/turning-the-pages/).

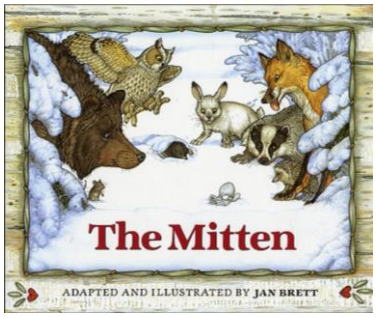
been the case since Gutenberg's moveable type press effectively separated the text sections of a book from the image sections. As Michael Camille comments in his Image on the Edge: The Margins of Medieval Art, "The demise of the marginal tradition might be attributed to the printing press, which used repeatable blocks to frame pages of Books of Hours and limited the newly discovered Grotesque decorations to another 'modern' invention, the title page" (158). Metal type was "set" into blocks in a certain position on a page, and, for a long time, wood block images were set, often above or beside a text block or on a separate page entirely—but always separate from the text. Martin Salisbury tells us in Illustrating Children's Books that "anonymous illustrations were often randomly or approximately applied to texts, just as today stock imagery is used for some editorial illustration. This practice was prevalent in the 18th Century when, for the sake of saving money, various engravings of limited relevance to the text, and of varying sizes and shapes, were recycled from the publisher's stock" (9). As the illuminated manuscript gave way to the printed book, the margins of the books began to disappear, as mass production and distribution of books demanded that they be produced economically to conserve paper. Text stretched to the margins and illumination disappeared from the margins. And, because of the technological need to separate type from image, when margins did exist, post-Gutenberg, they were most often left as clean, white canvases framing the text and image. By the time William Blake first printed his seminal Songs of Innocence and of Experience together in 1794, the idea of illuminated books, illustrated in glorious color and making full use of large spacious margins had largely disappeared. In the field of Children's Literature, that state of affairs has remained and rarely been tested to a large extent until recently. Today, infrequently, one will run across a picturebook where the illustrator has drawn the margins into the activity of the book design, incorporating marginal art around the text, rather in the style of Blake, who was described in the

beginning of this Chapter as a possible father-figure to the artist's book concept, in part because of his integration of image and text at a time when it was extremely difficult, technology-wise, to accomplish this feat. In order to bring text and image together again, Blake literally created both his text and illuminations backwards, directly on the metal plates, to interweave the images around and through the text of each page so they became a cohesive whole [Figures 3.3 & 3.4, earlier in chapter] (http://www.blakearchive.org/exist/blake/archive/biography.xq?b= illum&targ_div=d1).

Because it is my view that utilization of the margins in order to enhance, support and move the narrative forward has the potential to create an artist's book from the simple codex form as well as being one of the ways picturebooks are *e*-volving "on the page," this point will be covered in this Chapter as well as in Chapter Four. I will first discuss, in this Chapter Three, the idea that margins of some picturebooks are being "illuminated" to not only enhance and support the narrative, but to actually move the narrative forward; proposing that this innovation alone may qualify such books as possibilities for the "picturebook as artist's book" category. Chapter Four will continue this point by taking a look at the recent developing use of the margins to support the narrative in informational ways.

Award-winning American illustrator Trina Schart Hyman (1939 to 2004) could be judged the first of the modern-day picturebook illustrators to approach children's picturebook illustration by exploiting the power of the margin, expanding on the techniques developed in manuscript illumination of the Middle Ages; although a few earlier Golden Age illustrators such as Walter Crane also experimented with border art. In Crane's case, he was influenced by the pre-Raphaelite interest in the decorated page that filled the margins with images. Trina Hyman illustrated over 150 picturebooks for children, often collaborating with another author, and





Figures 3.34.1, 3.34.2 , 3.35.1 , & 3.35.2.

occasionally working by herself. She is renowned for her new adaptations of fairy and folk tales; but she also illustrated a number of classic children stories. She always worked to actual size, meaning that her pocket-sized marginal art required extremely fine brushes. Hyman received the

1984 Caldecott Honor Award for her 1983 Holiday House picturebook, Little Red Riding Hood which she both retold and illustrated[98] (This was Hyman's favorite story as a child and she recalls spending a year of her childhood wearing a red cape) [Figure 3.34.1, front cover]. In fact, Hyman illustrated her favorite childhood story exquisitely, filling each two-page spread with a block of text on one page accompanied by a large, detailed illustration on the other page; with both of these wrapped with marginal illustrations in much the manner of medieval illuminated manuscripts. Hyman is known for illustrating her picturebooks in a style reminiscent of medieval manuscripts; and, in an endnote in her 2004 book, Merlin and the Making of the King, she credits inspiration for her work in that text to her exposure to the *Farnese Hours* (Italian c. 1546) and to the *Luttrell Psalter* just described. In her own picturebooks Hyman fills the borders of her images with picture snippets and motifs that support the secondary world of the narrative. Marginal art focuses on close-up details of the larger image, or elements mentioned in the text or larger image. They weave in folk art and wall-paper patterns, or flowers common to the cottage gardens present in the central illustrations, etc. Hyman extends her use of the margins significantly, however, by not just adding decoration and supportive details. Hyman carries the narrative forward by including pictures that move the plot forward. In the figure shown below, for example [Figure 3.34.2], readers first view a block of text describing Red Riding Hood's journey through the woods to see her grandmother. The borders of this text are decorated. Among these decorations are wallpaper images, images of flowers the girl found along her jouney's path, and a picture of an apple that the girl may have eaten on the way (as the fruit is first shown whole and then again with a section cut out of it). The right-hand page of the

[98] Hyman also received the Caldecott Medal for her 1984 St. George and the Dragon, retold by Margaret Hodges and published by Little Brown of Boston. She went on to win two more Caldecott Honor Awards: In 1990 she received it for Eric Kimmel's Hershel and the Hanukkah Goblins; and in 2000 her images for John Updike's A Child's Calendar again received the Caldecott Honor Award (http://www.ortakales.com/illustrators/Hyman.html).

double-spread has a full-page image of a wary Red Riding Hood peeking through the open cottage door with her arms full of the wildflowers that she picked along the way (and one of the wildflowers is of a type shown in the marginal art on the previous page). But this is where Hyman began pushing the boundaries of what margins can do. Looking back to the previous page, the reader sees an image in the marginal art of what Red Riding Hood was doing just before she arrived at her grandmother's cottage. She is seen walking the woodland path with her arms filled with the flowers she has just picked and heading in the direction of Grandmother's cottage on the next page. Taken in tandem, this marginal image and the full-page image on the next page can be viewed as stills of a film clip: First the viewer sees the walk through the woods, then the arrival at her destination—a clear example of where Hyman's marginal art not only supports the text but also moves the narrative forward. Throughout her career and with various other projects, Hyman continued to experiment with the type of extra narrative information she could include in her marginal images (http://www.ortakales.com/illustrators/Hyman.html).

American illustrator and author, Jan Brett (born 1949), trained at the School of the Museum of Fine Arts, Boston and began illustrating books that were almost entirely written by others and that were published from 1978 to the present. In 1981, however, she began writing and illustrating her own books, beginning with the Houghton Mifflin Fritz and the Beautiful Horses. She, as does Hyman, has made an art of utilizing the margins of her page layouts to not only decorate and introduce visual motifs that fit in with each particular tale, but, more importantly, to actually move the narrative forward and to add extra details not revealed in the main image. One of Brett's most famous books is her, The Mitten, a Ukrainian Folktale published by Putnam in 1989 [Figure 3.35.1, front cover]. Brett spends time researching a

different world culture that features in each of her books. She tries to faithfully represent the architecture, clothing and motifs of that culture throughout each picturebook. In the case of The Mitten, not only the main images on each page spread, but also the margins, are filled with details and decorative motifs indicative of the Ukrainian Culture. But Brett's use of her margins extends beyond just decorative motifs that support the location of the narrative. Observe the double-page spread shown in Figure 3.35.2. Notice how the large central image shows a fox entering the stretched-out and animal-filled white mitten, while in the margins on either side (inside the mitten-shaped "holes" Brett has painted on a bark-like border around the main image) Brett features other events that are happening simultaneously with events in the main image. On the left, her main character slides down a snow-covered hill (mittenless) perhaps waking a bear who appears from below and inside of the hill of snow. On the right side, Brett's marginal art (again, as seen through the mitten-shaped hole) reveals the bear lumbering toward the mitten.featured in the larger central image. The central text block describes the action happening in the large, central image, telling the reader, ". . . The fox poked his muzzle in. When the mole, the rabbit, the hedgehog, the owl, and the badger saw his shiny teeth, they gave the fox lots of room" (Unpaged). However, the text mentions nothing about what happens in the marginal images. The text only refers to the main character, a boy named Nicki, at the beginning of the story when he is busy talking his grandmother into knitting him white mittens, and follows him until he goes out to play in the snow and promptly loses one of the newly-knitted, white mittens in the white snow. Then the text diverges to follow the star of the story (the mitten), and, in the process, all of the animals that discover the mitten and crawl inside. The text begins to follow Nicki again only when he is making his way home and sees the mitten flying through the air (after all of the animals have exploded out of it), grabs it and meets his grandmother again with

both mittens—one now a very different size from its mate. Throughout the book, however, although Nicki is not mentioned while the written narrative follows the animals' adventures, the reader can still follow Nicki's adventures visually through the marginal art. The marginal art is, in fact, providing a secondary wordless narrative for the reader that adds significantly to the overall story. In addition, the right-sided marginal art foreshadows what will happen next. For much of the book it accomplishes this by following the animal that is about to enter the action in the central image following the next page-turn. In a Scholastic interview, Jan Brett answers questions from school children from various schools, and speaks to her reasons for including this foreshadowing in her picturebooks, "When I was little, I always looked at the last page first because I would get worried about the characters. So now I put hints to tell you [the child reader] what's going to happen next. I guess I was a scaredy cat!" (http://www.scholastic. com/ teachers/article/jan-brett-interview-transcript). In Brett's view, foreshadowing through marginal art allows the child reader to read a story with less stress because they are given hints as to what could happen next. In this case, the foreshadowing of a large brown bear shown in much smaller marginal art first could help little readers to accept its presence before it becomes an enormous shape in the next page's central image. So, to summarize Brett's marginal innovations present in this spread, while the central text and image follows the fox as he finds and enters the mitten, the left-side marginal art is following Nicki's path, and the right-side marginal art shows the readers the approaching bear—although Nicki is not mentioned in the text at this point, and the bear is not mentioned in the text until the next page, when he becomes the focus of the large, central image. In fact, the reader is really viewing three tales simultaneously, all of which are related to each other because of the mitten that interweaves throughout. All of the double-page layouts, including their marginal art, can be viewed in their entirety in a video clip that shares a visual

and audio reading of The Mitten [Video 3.9.2, List of Videos, or view at https://www.youtube.com/watch?v=M-8wFTlphCU]. Jan Brett continued to follow and explore this design pattern that she established in The Mitten throughout a number of her subsequent books, including, for example, her Denmark-inspired, The Hat, a similar story, published years later in 1997 (http://www.scholastic.com/ teachers/article/jan-brett-interview-transcript).

.Thus, early illuminated manuscripts made use of marginal art to decorate and illuminate the text, as well as often to reflect the culture in which the manuscript was created. However, since the advent of the moveable-type press in Western Culture in the mid-1400s effectively separated text and image and continuing up to the present, illustrators have rarely made use of the margins. Trina Schart Hyman and Jan Brett are two of the most noteworthy (and perhaps the earliest) of modern picturebook creator/illustrators who both consistently make use of the margin to move the narrative forward, turning this technique into an art form. In addition, they often are able, through creative illustration in the margins, to present multiple threads of the same narrative simultaneously. When the usually relatively empty and quiet margins are pulled into the design process, they can become powerful tools in contributing to creative and excitingly designed narratives. For these reasons, one could view these types of books that utilize marginal art in narrative-enhancing ways as contenders for the "picturebooks as artists' books" designation.

3.5. Some Concluding Thoughts on Creators of "Picturebooks as Artist's Books"

In reviewing what has been reviewed, and because the subject of this chapter is already focused on picturebooks that push the boundaries of what is expected, it is important to consider

those who create such books. Several observations might be useful regarding how they seem to function or should optimally function, as observed from the overview conducted thus far.

The first point is that these book creators discussed here have all experimented with creating innovative designed picturebooks by taking advantage of the "invisibility" of the functioning parts of the codex book form; including standard elements such as the spine, the front and back covers, the dust jacket, the precisely stacked pages that open in linear sequence, two-sided pages and the page turn, the book's gutter or margins, and so forth. Readers in Western Culture have been using the codex book form for so many centuries now, that these book parts have been rendered invisible to a certain degree. This offers thoughtful book designers the potential power to create unexpected magic for the reader, and to help them reawaken the reader's understanding of the power of the codex book form.

The second point that could be made involves the dangers and temptations available when trying to design an effective children's picturebook that is also an artist's book. It can be tempting, as a designer with countless new media emerging with all of their attendant fun and flashy bells and whistles, to see something new and to use it because it is different and not because it is necessary to the form and function of the final product. One encounters examples of superfluous use of special effects by designers all the time in every day life—the utilization of too many over-loud sound effects in movie previews; the excessive use of unnecessary frills detrimental to the design of too many prom dresses; Photoshop effects, in plural, used indiscriminately and for no good reason by an inexperienced print designer; and innumerable and distracting dancing icons jiggling across the electronic pages of today's websites. The list could continue endlessly.

It is my view that the most powerful contenders for the term "artist's book creator" are careful to use their "special effects" because they are necessary and integral to the concept, content and function of the picturebook being designed. They do not do so just because such features are fun to play with, or because there is room on a page, a hole that needs filling; or because the designer spotted the technique used elsewhere and just wanted to try it out. The principle of using effects because they are *necessary* to the book's form and function ultimately leads to clean design and often to more reader-friendly, durable and longer-lasting books. Such books are often quite beautiful as well—because the designer/creator has carefully thought through all of the ramifications of using the various special effects and variations on the book form and so has created a final product where every element in the book's design contributes cohesively and sensibly to the overall book, integrating seamlessly with all other elements.

That is one reason why I sometimes take the time in my discussions of a picturebook to consider how an already innovative book could have been improved by correcting a slight flaw in the design. It is often better design to push a concept beyond its initial conception to a more carefully developed conclusion; to ensure that all elements work consistently with the book's overall conceptual design; and, finally, and perhaps most importantly, to strip away all of elements unnecessary to the overall concept. It is understandably often difficult to undo what has already been done. Artists and writers have trouble uncreating once the word or design is on the page. They are naturally invested in their own creative children. But perfection cannot be achieved without a little careful "parenting" or "grooming" of one's creations.

Antoine de Saint-Exupéry, renowned French children's book author of the classic, The Little Prince, once observed that, "*Il semble que la perfection soit atteinte non quand il n'y a plus rien à ajouter, mais quand il n'y a plus rien à retrancher,*" or, as translated by Lewis Galantière,

". . . perfection is finally attained not when there is no longer anything to add, but when there is no longer anything to take away. . . " (page 59). The point has been made earlier in this discussion that picturebooks, even the simplest and most traditionally presented, are already a complex form combining several different media. Picturebooks that could be considered as artists' books invariably showcase an even greater degree of complexity and extra features than traditional picturebooks. Because of the complicated design of the final product, this concept of *necessary and functional* design is a core concept that is vital for the creators of such picturebooks to grasp. If an element is unnecessary, it should not be utilized for various reasons: It could render the book more difficult to read or decode by creating pages that are more confusing and too complex for the child reader to easily grasp; or it could create a more fragile book that is too easily breakable for the child reader, and so forth. If an element is necessary to the function of the book or its concept, on the other hand, designers should not hesitate to use it, while incorporating that element to integrate well with all other elements of the book. Louis H. Sullivan, leading American architect and mentor to Frank Lloyd Wright, stated this idea quite effectively:[99] "It is the pervading law of all things . . . . / That the life is recognizable in its expression, / That form ever follows function. This is the law" (http://www.scribd.com/doc/104764188/Louis-Sullivan-The-Tall-Office-Building-Artistically-Considered).

A third point could be made about all of the book creators discussed in this chapter: The books that Newell created that could, in my own estimation, qualify as Artist's Books, are the ones in which Newell had complete creative control—specifically these six books that Newell designed, illustrated and wrote himself. Newell was immersed in the creation of these books. He was intimately involved with all aspects of their concepts and designs. The same is true of

[99] The quote is from his seminal 1896 article in *Lippincott's Magazine* titled, "The Tall Office Building Artistically Considered."

the rest of the picturebook creators discussed in this chapter. It is true that several of them may have occasionally created picturebooks in conjunction with someone else, and Newell certainly created illustrations for many books he did not write himself. The books that were discussed in this chapter, however, were created by people who, like Newell, were completely immersed in the creative process and end product. From William Blake all the way forward to David Macaulay, Laura Vaccaro Seeger, Steve Jenkins, Istvan Banyai and the others—all of these book designers worked with the text, the book design and the art (Janet Stevens works with her sister on some book projects, and husband and wife teams are sometimes similarly successful. Being closely related appears to help lead to design success, and very occasionally a team of compatible friends also appears in print consistently together). For the most part, it is clear that these creators played a strong hand in not only creating text and illustrations, but also in laying out the design and function of the books. While Eric Carle early in his career also collaborated with others, his uniquely innovative style emerged with his now iconic picturebooks for which he was the sole creative voice. This is a typical process for artist's book creators, as discussed in the Introduction to this chapter. Power over the entire creative process seems to be a frequent catalyst, almost a necessity, for the creation of artists' books; and this trait seems to cross genre lines into the Children's Picturebook as Artist's Book Field.

One final point pertinent to this discussion is that a good selection of those people that create the types of picturebooks that have been the focus of this discussion have a strong background in the Graphic Design Field. Eric Carle, Istvan Banyai and Steve Jenkins, to name just a few, all studied or worked in the Graphic Design Field before beginning to create their books—a field known for creating designers who are taught to be comfortable with technology as an aid in creating professional, creative, marketable designs. Laura Vaccaro Seeger also

trained at Art School and worked in television animation before beginning her picturebook designing career. In a 2008 written interview for the TeachingBooks.net Website, Seeger freely admits the influence of her technology training on her picturebook design projects:

> TEACHINGBOOKS: Where did the concept for your acclaimed alphabet book, The Hidden Alphabet, come from?
>
> LAURA V. SEEGER: Neal Porter, my editor, is an alphabet junkie, and he encouraged this book. As for me, I think of everything in terms of cameras—close-ups, wide shots, pans. I was thinking about the idea of zooming into part of a letter and concentrating on its negative space. Sometimes I look at things that most people don't pay attention to.
>
> . . . .
>
> LAURA V. SEEGER: I almost see my books as animation, and the storyboard frames as the pages. I conceive my books on storyboard paper. I take out a storyboard pad, which is the same one that I used for television, and make really rough sketches. I sketch the whole book.
>
> TEACHINGBOOKS: What is your process for creating a story?
>
> LAURA V. SEEGER: I am fascinated by graphic design challenges. I usually become intrigued by a design concept, and then I made a whole book about it. So a book for me is more of a design project at first. Then all the other components get intuitively worked in (http://www.teachingbooks.net/interview.cgi?id=70&a=1).

Note that Laura Seeger speaks of looking at things that most people don't pay attention to, like the negative space in letters. She speaks of sketching out the book as a whole. She is not just illustrating or writing parts of these picturebooks; she is designing the entire thing. She speaks of the technology in her background that helps her to think in camera shots such as zooming in for a close-up, and to view her picturebook projects as "animation, and the storyboard frames as the pages." She discusses creating her books by treating them as a design challenge and then working all the other components into the design solution.

Traditionally, in the Children's Picturebook Field, authors and illustrators are most often different people, unrelated and unknown to each other throughout the process of publication, with necessary but often minimal contact with each other through the editor. Writers care that

their narrative is illustrated well, but may not be aware of the potential power of the book form, itself—and, with many narratives, interacting with the form of the book is not necessary and may be actually detrimental to the effective presentation of the narrative. Illustrators, as well, often need only to be aware of being able to plan and paint illustrations that illustrate the text well. They may design where their illustrations go, how large they are or even how they are laid out on a page, but they often do not need to make use of the margins or gutters or the form of the book, and this makes many illustrators treat these book parts with little regard, other than learning to avoid placing a character's face in the middle of the book gutter.

It is perhaps unsurprising that those picturebook creators with Graphic Design backgrounds have made a strong showing in this discussion. Graphic designers are trained to lay out magazine spreads, newspapers, advertisements, websites, etc. They pay attention to the background color of the page and whether or not the color runs to the margins in a full bleed or whether it stops short and leaves a white margin. They are trained to think about positive and negative space of a page layout and to make use of that space creatively. They are familiar with weights and styles of paper or cardstock used for printing their piece. They are trained to care about whether the gutter margin running down the center of a double-page spread is of use in the design, or if something important in an image will get lost in the fold. Graphic designers frequently have to prepare and build dummies or mock-ups of the projects for presentation to clients and to see where the inherent design challenges might reside so these can be resolved. Graphic designers also care about text—but it is often concise copy intended to create a maximum impact with a minimum number of words (similar to the use of text in a children's picturebook). In design, text is frequently brief, for use in a brochure or advertisement or a caption for an image, and the designer will also consider how the text will make the greatest

impact using various typestyles and type sizes, weights and placement. Designers produce art, but sometimes farm it out and have someone else illustrate or create photographs to fit the requirements of a particular piece—meaning that the designers have to consider the style of the art and what would fit with their particular design and purpose. And graphic designers have to care about producing results for their paying customers—so thinking about their audience and the functionality of the piece is a core element for consideration in any of their designs. Since they have been trained to pay attention to the form and function of the parts and pieces that make up the whole of their produced pieces, it would actually be surprising if training or experience in Graphic Design were *not* present in a strong selection of these early contenders for the designation of creative designers of the Artist's Book within the Children's Picturebook Genre.

3.6. Children's Picturebooks as Artist's Books, Then and Now: Summary of the Discussion

Finally, having explored the picturebook creations of several recent creators in the field whose work might also qualify them as Artist's Book creators, we return, full circle, to the ground-breaking efforts of Peter Newell. After a carefully examination of Peter Newell's Topsys & Turvys I and II, A Shadow Show, The Hole Book, The Slant Book and The Rocket Book, those picturebooks over which Newell had nearly complete creative control, it becomes clear that Newell's creativity permeates all aspects of these books, down to even his signature acting as a self-portrait [Figure 3.36]. Newell literally thought carefully about everything that comprises these picturebooks. These works by Newell, as well as by the other picturebook creators discussed in this chapter, really are, to revisit Johanna Drucker's words, "self-conscious about the structure and meaning of the book as a form" (378). It does seem important to remember that applicable book projects by such creators are frequently the artistic effort of one creative mind

(or sometimes a husband/wife team, or a team that has worked together on several projects such that they are comfortable with one another's ideas and work). In such a way, the artist/designer remains involved in all aspects of the project so the final vision remains their own.

Peter Newell, therefore, deserves consideration as an early forerunner of the artist's book creator in the Children's Picturebook Field, because he was so thoroughly immersed in the creation of his picturebooks, performing as author, illustrator *and* book designer; because he consciously played with utilizing the form of the book as an important element in his picturebook narratives as evidenced by his need to patent them; and because he embraced emerging technologies like half-tone photography in their creation. Newell produced multi-media picturebooks that consciously played with the "technology" of the codex book form in ways that had not been previously explored. In doing so, Peter Newell truly did turn the American Picture Book industry topsy-turvy.

In similar ways, a select few picturebook creators today are learning from Newell, Eric Carle and other leaders in this area and in the Twentieth Century adult literary art medium, the artist's book. They are exploring the power of the technology of the book form itself to extend narrative and create magic. They are beginning to create picturebooks in which the book form, with all of its various performing parts, becomes the star and fulfills the leading role.

Figure 3.36.

PART THREE

Children's Narratives Take Flight[100]

[100] Figure 3. 37. I first viewed this aerial illuminated sculpture on a recent trip to San Francisco. Titled, "Language of the Birds," this street sculpture, conceived by artists Brian Goggin and Dorka Keehn, was selected as one of the best public artworks in the U.S. at the 2009 *Americans for the Arts Convention*. The "flock" of twenty-three flying, illuminated books is located at the junction by City Lights Bookstore [the building with the wall mural]. The LED lights within each book, that cause them to glow at night and to cast intriguing light patterns on the street below, are powered by solar panels on the bookstore's roof (making this the first solar-power-offset public artwork in California). Phrases are embedded in the street below as though they have slipped off the books' pages, reflecting the neighborhood's layered literary history, including contributions from over ninety local authors. This photograph (an improvement on my own attempts) appeared on the cover of the Fall/Winter 2009 *San Francisco State Magazine*. Photo Credit: Gino De Grandis.

Books have long been credited with helping readers' imaginations take flight, but, in this application, I use this image as a metaphor for the evolution of the published narrative into forms that have "taken flight" from the traditional printed codex book form—changes taking place both on and off the page, inside and outside of the book form.

CHAPTER FOUR

e-Volving "On the Page"—
How Printed Picturebook Forms are Adapting to Influences of New and often Non-Linear e-Media within the Codex Book Form

4.1. Review of the Discussion: While Not Required for Change, the Right Technology Can Catalyze and Make It Happen Easier and Faster

The most technologically efficient machine that man has ever invented is the book.
– Northrop Frye –

"A picturebook is text, illustrations, total design; an item of manufacture and a commercial product; a social, cultural, historic document; and foremost, an experience for a child. As an art form it hinges on the interdependence of pictures and words, on the simultaneous display of two facing pages, and on the drama of the turning of the page. On its own terms its possibilities are limitless."
− Barbara Bader, children's literature critic −

. . . we should look to . . . the utopian pictures of Fourier and Marx in which the worker of tomorrow, a generalist to the core, pursues diverse activities . . . . Applying this metaphor to media, unfettered by the claims of efficiency, one would envision each medium exploring all available effects, including those achieved in other media
−Noël Carroll[101]–

Thus far, the history of Children's Picturebooks has been considered briefly from a technological perspective. Emerging digital picturebooks and the special effects they encompass have been compared and contrasted with those effects developed for their much older precursor—the paper-engineered picturebook form. The idea has been explored that some picturebooks could be judged to be part of that 20th Century genre, the Artist's Book, with some discussion of technology's influence on that development. After examining the impacts of technology on some of its primary forms, it is now time to turn the discussion to questions

[101] (17).

raised in the Introduction of this Dissertation by examining the present and future of published children's narratives and the impact of new and developing digital and computer technology. Chapter Four will examine the changes that technology is catalyzing *within* the traditional format of the codex book—linear pages between front and back covers.

It is only recently, within the last few years, that such dramatic changes have begun occurring in the picturebook field, but, despite this recent advent, these changes are now occurring with almost exponential rapidity. While changes in forms of the children's published narrative *outside* of the codex book format would understandably have to develop *after* the development of the technologies they require (an *e*-picturebook designed for an *iPhone* or *iPad* obviously cannot exist before the development of those devices), what of the changes *within* the codex book form? Were creative evolutionary variations of the printed picturebook codex similarly constrained by the development of surrounding technologies? After completing the examinations in the previous chapters it has become clear that this is not necessarily the case. For example, the paper-engineered book developed centuries before the technologies for 2D and 3D animation or for the digital "pop-up" or "mechanical" book that, at least for the moment as discussed in Chapter Two, frequently imitates the paper-engineered picturebook's innovations. Offering a second example, computer-generated animation basically recreates a virtual digital representation of the traditional puppet theatre and marionette puppet. Also, Chapter Two made clear that elaborate color printing was used in at least some children's picturebooks—especially in the gift, toy and paper-engineered picturebook areas—long before color printing could be seen as cost effective or easily achieved—accomplished first by means of hand-coloring and then through the use of chromolithography, a long and complex, multi-step, stone plate printing technique. In each of these cases, the creative development of new children's narrative forms

and presentation techniques—paper-engineered picturebooks, marionette puppet theatres, and full-color picturebook printing—did not require the later, more advanced technology to spur the development. Their creators instead worked around the constraints of concurrent technologies, and the forms that were developed are still remarkably effective and efficient enough to be used as models for new *e*-picturebook forms.

While these examples show that it was *possible* for innovation to create new published children's narrative forms despite the limitations of concurrent technologies, these examples were the exception rather than the rule. As a whole, the general form of the children's printed picturebook has remained fairly standard and static for centuries. Front and back covers, a linear narrative reflected by linear pages, and illustrations to enhance the text, but often separated from the text—these standards have been the hallmarks of children's printed literature since its inception, despite the progression of technological development especially during the Industrial Revolution. So, why is it that only recently, within the last few years, the format of the published children's picturebook has begun to shift and to display a broad range of radical changes? If these examples demonstrate the possibility of innovation, why was there not more of it, more widespread radical innovation, over the centuries of this field's history?

4.2. INTRODUCTION: Emerging from a Linear Culture

> *. . . the place of writing is again in turmoil, roiled now not by the invention of print books but the emergence of electronic literature. Just as the history of print literature is deeply bound up with the evolution of book technology as it built on wave after wave of technical innovations, so the history of electronic literature is entwined with the evolution of digital computers . . .*
>
> −Katherine N. Hayles[102]–

[102] (EL 2).

The above quote by Katherine Hayle from Electronic Literature implies the importance of first looking backward to understand the implications of Gutenberg's Print Revolution on Western Culture to aid us in understanding the implications of the current Digital and Computer Revolution on the future. With that in mind, Chapter Four will first examine some of the implications of Gutenberg's Print Revolution before examining and considering if the current technological revolution is having any effect on the forms, content and function of children's published narratives *within* the codex printed book form—or, *on* the printed page.

The codex book form, with its front and back covers enclosing a set of pages that are read in linear and orderly fashion, has been identified by scholars such as Marshall McLuhan as a major catalyst for the linear writing and sequential processes pervading all aspects of life in most Western societies for centuries, to the extent that Western humans began to see this as the "natural order" of all aspects of existence. However, McLuhan, in his book, Understanding Media: The Extensions of Man, goes back even further in time to identify another perhaps even more important culprit:

> Only alphabetic cultures have ever mastered connected lineal sequences as pervasive forms of psychic and social organization. The breaking up of every kind of experience into uniform units in order to produce faster action and change of form (applied knowledge) has been the secret of Western power over man and nature alike . . . . This procedure, manifest even in the Graeco-Roman phase, became more intense with the uniformity and repeatability of the Gutenberg development" (121-122).

So it is the phonetic alphabet in addition to Gutenberg's printing press that McLuhan sees as directly contributing to the development of linear-oriented cultures:

> As an intensification and extension of the visual function, the phonetic alphabet diminishes the role of the other senses of sound and touch and taste in any literate culture. The fact that this does not happen in cultures such as the Chinese, which use nonphonetic scripts, enables them to retain a rich store of inclusive perception in depth of experience that tends to become eroded in civilized cultures of the phonetic alphabet. For the

> ideogram is an inclusive gestalt, not an analytic dissociation of senses and functions like phonetic writing (McLuhan 120).

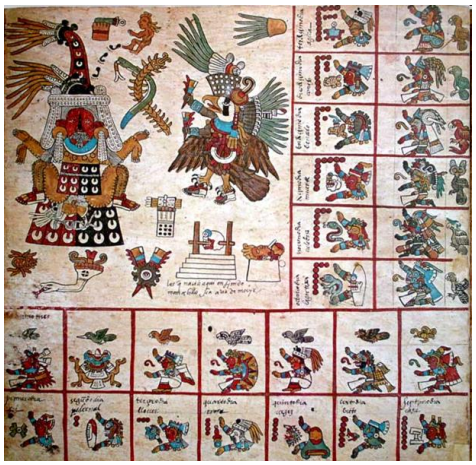
This type of linear thinking, as postulated by McLuhan, led members of Western cultures to almost unquestioningly view all areas of life as being guided by linear cause and effects. These linear cause and affects could range from Scientific Revolutionary views of the Universe as a giant clock, to the linear steps in the Scientific Method or as used in mathematical proofs, to the assembly-line production of Industrial Revolution factories—perhaps even contributing to shaping the traditional linear plot lines for narrative writing. Western societies were being strongly formatted in all aspects of their structure to mimic the linear alphabet and codex book format that they had adopted.

While other different models for structuring all aspects of societal living and narrative writing still existed in oral and non-industrialized societies, Western explorers were almost unable to recognize the value in much of what they saw as they came into exploratory contact with other civilizations different from their own. Karl Young describes some of these "non-recognized," non-codex forms of "books," in his essay, *Notation and the Art of Reading,* from Rothenberg's A Book of the Book, when he discusses the religious "books" of the Mayans that remain largely untranslated today [Figure 4.1.1]; or the screenfold-format bark books of the Aztecs that could be stretched out and hung up along an entire wall and whose cuneiform markings might have encouraged long and short readings of the same text [Figure 4.1.2] (Rothenberg 27). These forms of "writing" were recorded in accordion-fold "books" made of *amatl* fig tree bark paper, a stretchy delicate paper manufactured since at least the early pre-Classic Era (from about 2000 BCE to 1000 CE) of pre-Columbian MesoAmerica. These "books" could, when unfolded, stretch to over 46 feet long

(http://khipukamayuq.fas.harvard.edu/WhatIsAKhipu.html). Though judged inferior to the writings of Western civilizations, these "books" were at least noticed. In Acosta's 1590 work, Historia natural y moral de las Indias, Acosta focused several chapters on describing Amerindian writing systems and comparing them with Chinese and alphabetic writing. However, as Walter Mignolo observes in his essay, *Signs and Their Transmission: The Question of the Book in the New World*, also from A Book of the Book:

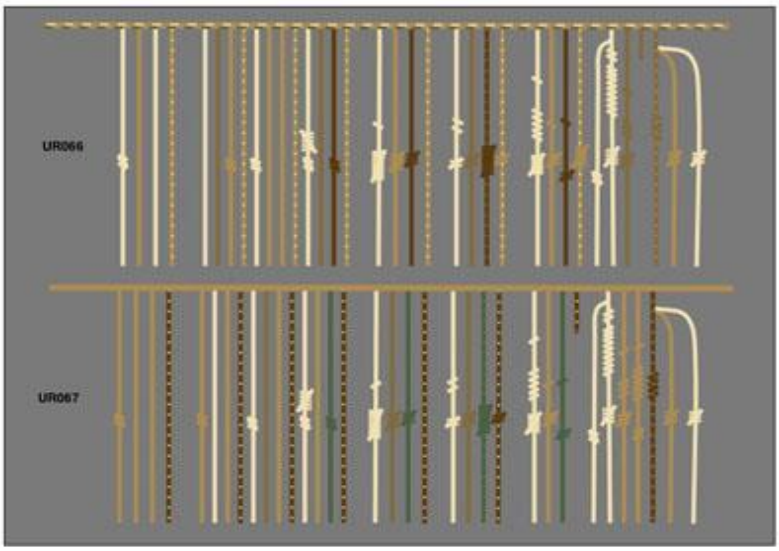
> The model of writing and the book imbedded in the European mind during the Renaissance, and generally defined by Venegas, erased many of the possibilities for missionaries and men of letters to inquire into different writing systems and sign carriers rather than simply describe them by analogy with their own model. Because the paradigmatic example of writing was alphabetic and referred to the medieval codex and the Renaissance printed book, the Peruvian *quipu* was virtually eliminated from the perspective one might get concerning the materiality of reading and writing cultures—when reading and writing was mainly conceived in terms of inscribing letters on paper and then composing and printing books (363).

For example, Acosta, though he noted the Peruvian *quipu* in his 1590 ***Historia***, seemed unable to recognize this as a form of writing precisely because it did not involve transferring symbols onto paper. In his own words, "The Indians of Peru, before the Spaniards came, had no *sort of writing, not letters nor characters nor ciphers nor figures* [italics, my emphasis], like those of

Figures 4.1.1 (left) & 4.1.2 (right).

China or Mexico, but in spite of this they conserved no less the memory of ancient lore, nor did they have any less account of all their affairs of peace, war and government" (364). Acosta went



Figures 4.2.1 (left) & 4.2.2 (right).

on to describe the Peruvian *quipu,* as shown in Figure 4.2.1 from Felipe Guaman Poma de Ayala's *Chronicle*, circa 1615, as "a kind of recordkeeping or registers made out of a set of branches in which a diversity of knots and a diversity of colors mean different things" (Rothenberg 364). Acosto further admitted: "And in every bundle of these, so many greater and lesser knots, and tied strings some red, others green, others blue, others white, in short, *as many differences as we have with our twenty-four letters, arranging them in different ways to draw forth an infinity of words: so did they, with their knots and colors, draw forth innumerable meanings of things*" [italics, my emphasis] (Rothenberg 364). Figure 4.2.2 (right) shows (there was also a third, now missing, that also carried very similar sections). According to 17th-century Spanish chronicler Garcilaso de la Vega, just as duplicate copies of books could replicate the same information through use of duplicate alphabetic words and sentences, so could different

quipu and quipu makers/keepers duplicate the same information by using similar knot patterns (http://khipukamayuq.fas.harvard. edu/MatchingPuru.html):

> Although the quipucamayus [khipu-makers/keepers] were as accurate and honest as we have said, their number in each village was in proportion to its population, and however small, it had at least four and so upwards to twenty or thirty. They all kept the same records, and although one accountant or scribe was all that would have been necessary to keep them, the Incas preferred to have plenty in each village and for each sort of calculation, so as to avoid faults that might occur if there were few, saying that if there were a number of them, they would either all be at fault or none of them (1966 [1609]:331) (http://khipukamayuq.fas.harvard.edu/KhipuArchives.html).

Yet, despite the fact that the Peruvians had the capability of forming as many or more combinations with their colored knots as Western societies could with their alphabet system and of creating copies of their written records, the Peruvian method was not recognized as any "sort of writing, not letters nor characters nor ciphers nor figures," because the ideas delineated were accomplished by means of knots and colors rather than paper and ink.

The linear system of sharing information created in alphabetic and Gutenberg-inspired societies survived comfortably for centuries (if one is looking at the effects of the linear codex book on society), and even millennia (if one is looking at the affects of the linear alphabet on society), certainly through the Industrial Revolution. As the centuries passed and information accrued, however, such systems were taxed to their capacity of performance. Motivated by a society already plagued by information and data overload, a problem of formidable proportions even in the 1940s, Vannevar Bush, in his 1945 essay, *As We May Think*, as quoted by Martin Lister in New Media: A Critical Introduction, first considered new ways of storing information. He suggested the creation of a new machine he called the "Memex," that stored data in ways he considered closer to the way humans think. "The human mind," he observed, "operates by association. With one item in its grasp, it snaps instantly to the next that is suggested by the association of thoughts, in association with some intricate web of trails carried by the cells of the

brain" (Lister 10). It was Bush's view that the Memex could be coded to work in much the same use of "associative indexing, the basic idea of which is a provision whereby any item may be caused at will to select immediately and automatically another . . . . *The process of typing two items together is the important thing*" (Lister 25) [Italics, my emphasis].

Hindsight being the 20/20 vision that it tends to be, Bush's observations sound remarkably similar to the way in which a data search on today's World Wide Web works; but, at the time, his ideas festered without much productivity for several decades until they were revived by Ted Nelson in his 1982 paper, *A New Home for the Mind*: "This simple facility—call it the jump-link capability—leads immediately *to all sorts of new text forms*: for scholarship, for teaching, for fiction, for poetry . . . [italics, my emphasis]. The link facility gives us much more than the attachment of mere odds and ends. It permits fully non sequential writing. Writings have been sequential because pages have been sequential. What is the alternative? Why hypertext – non sequential writing" (Lister 26).

The timing was finally right for such "jump-link" technology to take off, the World Wide Web was born, and society is currently witnessing an ever-widening explosion of emerging technologies taking advantages of formats that vary, often dramatically, from the traditional linear formats of the past. As more and more members of our society are taking advantage of technologies such as cell-phone text-messaging, web-cameras, computer gaming, on-line shopping, "surfing the net," social networking, and web-logging (or, blogging), exposure to these new technologies has helped develop a new public familiar with non-linear models in other areas of life. Such models are beginning to emerge in the workplace, in math, science, in news organizations, and, yes, in the world of literature, art and publishing.

In the field of literature, today's readers and book designers, as they adjust to these new media, are no longer confused by non-linear plot experimentation in hypertextual narratives because it now mirrors behaviors they recognize and have experienced themselves in their use of these emerging varieties of *e*-media and their on-line visits. And, as a new range of *e*-media distracts readers from traditional codex books, new sorts of narratives are emerging and capturing the attention of young readers.

Chapter Four will now examine some of the new and potential forms of emerging published narratives for children and young adults that are developing "on the page," or inside the codex book format, that are increasingly capturing the attention of the young reader and perhaps contributing to changes in the way narratives for children are created, published, formatted and read.

4.3. Examining the Codex Picturebook for Impacts of *e*-Media: Exploring Some of the Changes

Things written or drawn in the margins add an extra dimension, a supplement that is able to gloss, parody, modernize and problematize the text's authority while never totally undermining it. The centre is, I shall argue, dependent upon the margins for its continued existence.

–Michael Camille[103]–

In the general field of literature, today's readers, as they adjust to these new media, are no longer so confused by non-linear plot experimentation in hypertextual narratives because it now mirrors behaviors they recognize and have experienced themselves in their on-line experiences. In hypertextual stories, readers frequently enter and leave from various points, just as they do when they are surfing the web and flitting from web-site to web-site. They sometimes can trace various symbolic elements throughout the narrative, just as they can search for specific word-

[103](IE: MMA 10).

links on the web. Readers may choose their own narrative threads by making different choices throughout the reading of the tale. This might mean that repeated readings of a hypertextual story on the Internet might result in different endings each time. In some cases, following perhaps the inspiration of web-logging, or *blogging*, sites, hypertextual stories can even turn readers into co-authors. These are just a few examples of ways in which experimental variation in story plotting is undoubtedly just beginning to be explored in the world of hypertext.

It is, perhaps, not unexpected that the emergence of these new non-linear, hypertextual models would inevitably impact the field of children's picture books. After all, new media often inspire reexamination of older media spurring attempts to redefine them to extend their usefulness and shelf-life. But, if this is happening, in what ways might they impact this already complicated interdisciplinary and multi-media format, with its combination of art, narrative, page and book design and publishing? This chapter will identify several of the basic formats being experimented within the hypertextual world, and then try to identify emerging parallel examples from the world of children's printed picture books that appear to be informed by such formats. More models exist than there is room to explore them here, so this chapter will address a selection: ten of the most recognizable of these emerging formats, concentrating on those formats that try to stretch the picture book format and traditional linear plotting, without too many gimmicks, maximizing the possibilities of the page and book forms and their inherent qualities and capabilities. In this Chapter discussion, we are working within the codex format and examining the changes that are occurring within that format that are stretching the format's capabilities in many ways. Michael Camille's quote at the beginning of this section, although discussing the marginal art of medieval literature, could be seen to describe the extensions that are happening within the printed picturebook format, the" marginal art" and other changes to and

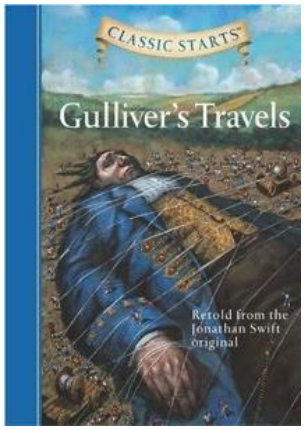
experiments with the codex format that are adding "an extra dimension, a supplement" to the picturebook reading experience in recent years. Because the sub-genre of paper-engineered books is a large field in its own right with its own particular issues, that discussion has been addressed separately in Chapter Two. The ten areas that will be addressed in this discussion include: 1) Picturebook parallels for hypertext's pop-up windows that offer extra information for immediate clarification of the text; 2) Picturebook concordances: Parallels with the hyperlink that leads to another website or large body of extended supporting knowledge; 3) Learning from computer games by extending the picturebook through the use of hidden elements; 4) Interactive, web-logs and web-sites developing interactive readers eager to interact with the text; 5) Picturebooks imitating hypertext's ability to incorporate flash animations, short movie clips or audio clips into layouts; 6) Hypertextual telescoping and zooming (a photographic technique that can be used to describe a common on-line activity) and its translation to picturebook design; 7) Multiple open windows and on-line multi-tasking informing simultaneous multiple-plotting in picturebooks; 8) Non-linear hypertext translated to non-linear plotting in the picturebook; 9) Post-modern meta-fiction—teaching readers to be aware of the form behind the book*;* and, (10) Picturebooks imitating computers.

4.3.1. *Hypertext Model #1. The Hyperlink Used for Immediate Clarification*

The first hypertext model that Chapter Four will examine that represents one of the most basic changes that the Internet has brought to reading is the idea of using the hyperlink to immediately find answers to the small questions that arise as one reads. In the traditional codex form of linear literature, such answers are provided in footnotes or endnotes at the bottom of pages or at the end of the narrative; or perhaps the reader would have to look elsewhere for the

required expanded information, perhaps making a special trip to consult a dictionary or encyclopedia to answer a question the book has raised. With hypertext, those special trips are no longer necessary. In the world of hypertext an activated hotlink (activated by hovering the mouse over the hyperlink or by clicking on the link), positioned on a word or picture in the layout being read, for example, instantly opens a small window that contains information clarifying a term or idea, gives context to a part of the text or expands on that text with more information or images. The reader could choose to connect to that link, or ignore it and continue with the narrative. If the link is visited, the pop-up windown usually appears on top of the primary layout without completely obscuring it, and it is typically very easy to return to the text simply by moving the mouse off of the link, closing the secondary window or hitting the back button. How does such a format translate into the field of children's literature? A word or definition might alternately be clarified by a voiceover narrator when the mouse or finger touches or clicks on a particular word that needs defining or pronouncing. The screen capture in Video 4.1 discusses a sampling of the above scenarios [also hyperlinked in the List of Videos].

A correlation in the field of children's literature is fairly easy to identify for this first *e-* feature. A format that produces results very similar to this hyperlinked pop-up box already exists in the print world and is used quite extensively in the area of *non-fiction* formats in children's



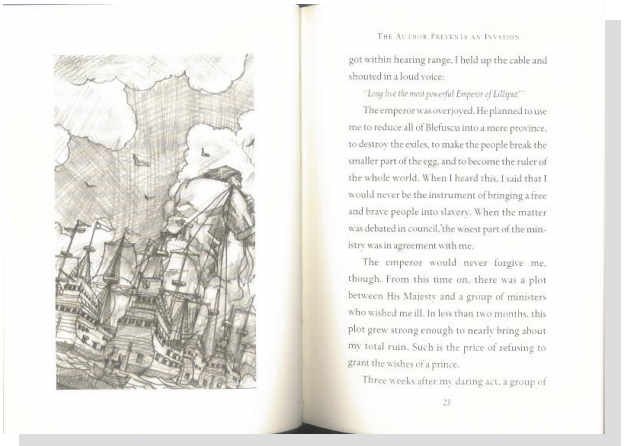


Figure 4.3.1 & 4.3.2 (left to right).

picture books. However, a new development is the spread of this traditionally non-fiction format into the area of *fiction*. This type of layout is something like a magazine format for feature stories in a science magazine. There is a core story or narrative with its own pictures to illustrate it. In the margins, however, are smaller images and segments of text that explain some of the concepts, artifacts or customs being referred to in the main body of text. The margins, in this case, are being used as the secondary windows would be in a hypertextual narrative or article on-line. In this type of layout in picture books, just as with its hypertext counterpart, it is easy for the reader to reference the marginal images and text if they are so inclined. If they are sufficiently involved in the main narrative, however, or feel that they know enough about the "linked" text and/or images, they may choose to ignore those peripherals and continue reading the main narrative.[104]

Traditionally, a classic novel might not be illustrated at all, or might be illustrated with one black and white illustration per chapter. Occasionally, a deluxe edition of such a classic might showcase one full-page, full-color illustration per chapter, sometimes by a noted artist. Figure 4.3.2 shows an example of a traditional layout for such a fictional novel. This layout is from the classic fictional novel, Gulliver's Travels by Jonathon Swift, in the *Classic Starts* abridged series published by Sterling Publishing Company in 2006 [cover shown in Figure 4.3.1]. As one can see, a familiar, traditional format has been used in this version. A black and white pencil illustration is located on the verso page with a view of the backside of Gulliver as a giant pulling a fleet of ships. The perspective from below and at a cocked angle is unusual and adds vitality to the otherwise traditional pencil sketch. A folio (page number) is shown centered

[104] The use of marginal art in fictional picturebooks was also discussed in Chapter Three, but from a different perspective. In Chapter Four we are discussing the use of the margins to enhance and add to the text with extra knowledge that complements and expands the text. In Chapter Three, the discussion focused on using the margin to not only add information to the story, but to move the story forward, to extend the story, or to add the possibility of parallel plots to the narrative.

at the bottom of the recto page with a chapter title elegantly set in capital and small capital letters at the top of the same page, and body text on the recto page. There are no surprises, no stretching of traditional formats here. Although this book was recently published, it has clearly been produced to mimic the classic editions of canonical stories, not to push their boundaries in any way. Classic stories are still frequently being re-released in new editions, a popular option for publishers who can publish these types of books quite inexpensively without having to worry about paying for permission to republish the texts, since their copyright protections have expired and they exist in the public domain.

Figure 4.4.2 shows a comparison sample of an illustrated version of the same text. This double-page

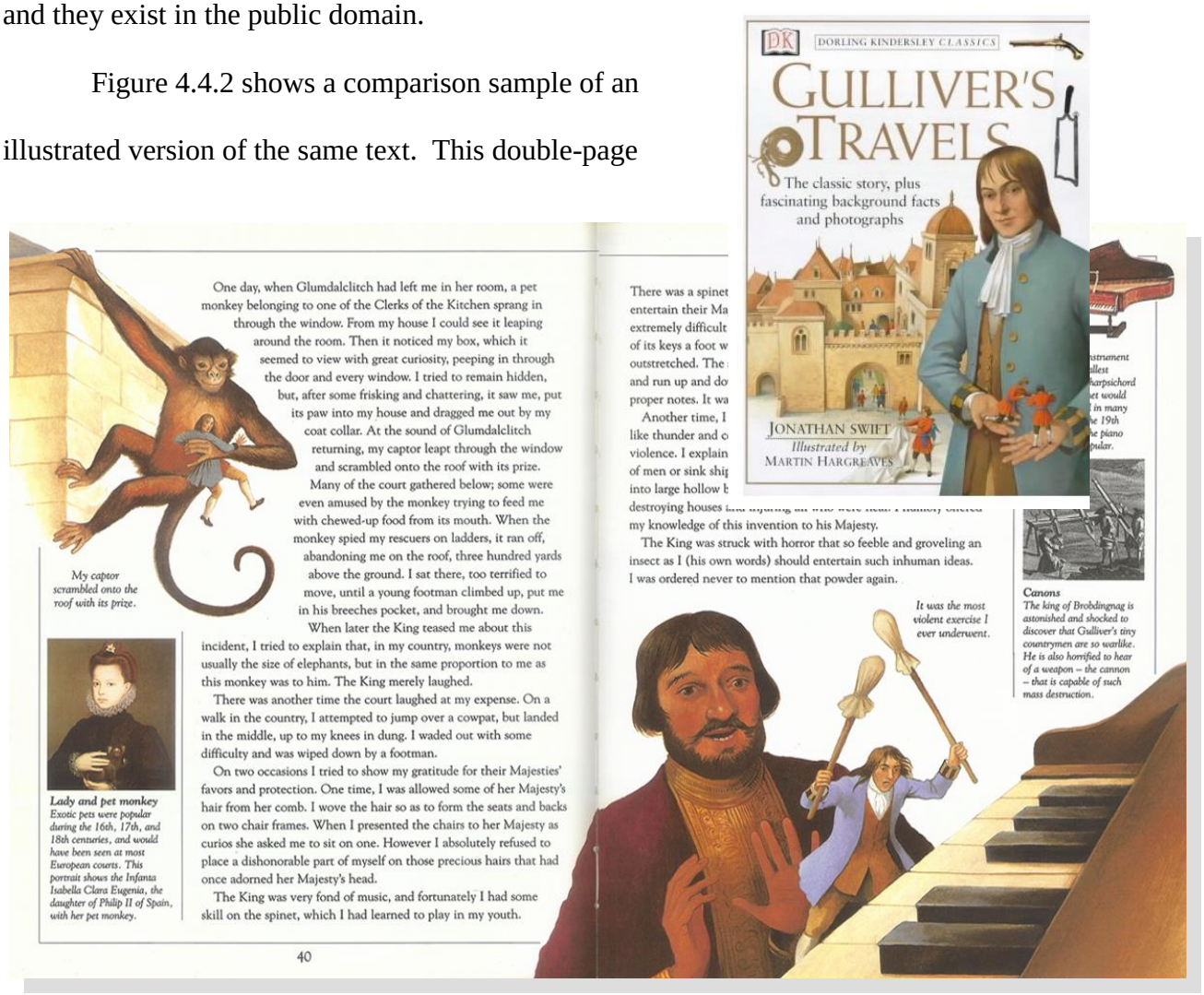


Figure 4.4.1 & 4.4.2 (top to bottom).

spread is from the Dorling Kindersley *Eyewitness Classics* Series of the same fictional novel. Again, this series features abridged versions of classic tales. The series advertises itself on the cover of the book as including "the classic story, plus fascinating background facts and photographs" [Figure 4.4.1]. This version of the story is illustrated by Martin Hargreaves, and is a good example of how this sort of "hypertextual" or non-fiction (or *informational*) format is being appropriated by the field of children's fiction. In this illustrated version of Gulliver's Travels, the reader can read the main fictional story down the center of each page of the double-page spread layout. The folio page numbers are still present. Rules (lines) help organize the page, as would windows in a hypertext world. Two of the images, the upper left (with the monkey) and lower right (with the piano), are illustrating the fictional narrative. Three small illustrations with their own caption-sized text offer extra information on the nobility's fondness for exotic pets during the 16th through the 18th centuries, as well as background on spinet pianos and war cannons—all of these contain expanded information about items referred to in the story; just as though the reader were researching points from this text on-line and could hit three links to access this background contextual information. Before the advent of hyperlinks a reader of fiction would have to consult reference books to look up this type of information that explains and supports the fictional narrative structure; and, in many cases, especially with the young reader/non-scholar, this research effort would probably not happen precisely because of the extra effort that would be required.

While the design of this abridged novel may be imitating the effects of hyperlinks in text, the need for such designs that take advantage of marginal elements could have been spurred on by several potential reasons. However, many of those potential reasons could conceivably be traced back to *e*-medium catalysts, as has been discussed throughout this Dissertation's

conversations. Perhaps this page design development for children's fiction is the result of one of the following reasons: (1) the ever-shortening attention spans of young readers who have grown accustomed to the ten to fifteen minute viewing time slots commonly used on television shows (spurred by the viewing time between commercials) or the brevity of *YouTube* videos—the need to get to the heart of the tale quickly and to be entertained while doing it being paramount; or, (2) the necessary abridgement and explanatory requirements for today's readers who are no longer used to the longer and more elaborately worded Victorian novel's text, while acknowledging that the preference of today's readers for shorter, more streamlined text could be developing due to the effect of new media. After all, we have become a society used to doing things quickly, whether it be cooking with microwaves, or accessing *e*-mail, *YouTube* or *Amazon.com* at the click of a button; or, (3) the extra illustrations and greater entertainment value of this repackaged classic might be the attempt of the publisher to re-market an adult text to an ever-younger, broader audience, and to recapture the interest of children who are reading less, increasingly distracted by other *e*-mediums. Whatever the specific catalyst, even just a few years ago, with less competition from media such as wireless Internet instantly available on computers and smart phones, the extra effort to be creative with children's picturebook design may not have been necessary.

The obvious enticements of hypertext (it's more compelling features including hyperlinks, audio and video clips, flash animations, etc., incorporated into layouts) could be the catalyst that helped children's fiction book designers rethink the marginal possibilities of the codex fiction picturebook format in order to help keep the print picturebook competitive with newer *e*-media. Still, the use of picturebook *margins* for extra information that enhances the narrative is reminiscent of not a newer but an older medium, the illuminated manuscript, as

referenced in the Camille quote at the beginning of this Section. As I examine fictional picturebooks that have begun to utilize their margins in this way, I am reminded of the marginal illustrations of ancient manuscripts such as the *Luttrell Psalter*, commissioned in the Fourteenth Century by Sir Geoffrey Luttrell and currently housed in the British Museum, available in their on-line gallery entitled *Turning the Pages* (http://www.bl.uk/collections/treasures/luttrell/luttrell_ broadband. htm?middle). This manuscript is renowned for its marginal art that "illuminates" much about the lifestyles and culture of the 14th Century in England, as shown in Figure 4.5 of a double-page spread from the manuscript showing an illumination of Psalms of Thanksgiving, Psalms 113 and 114, with marginal art at the bottom of the spread of a banquet with Sir Geoffrey and his household, showing typical food, clothing and customs of the times. So, while the new *e*-mediums may be informing the redesign of picturebook pages, the *idea* of using the marginal space for further enlightenment is a much older concept. It is, after all, the marginal art from illuminated manuscripts that has left clues regarding the cultural life and times in which such manuscripts were created, in much the same way that the marginal art of this "illuminated" version of Gulliver's Travels informs the reader on topics such as the spinet or the popularity of exotic pets in the Victorian Period in which this fictional narrative was written.

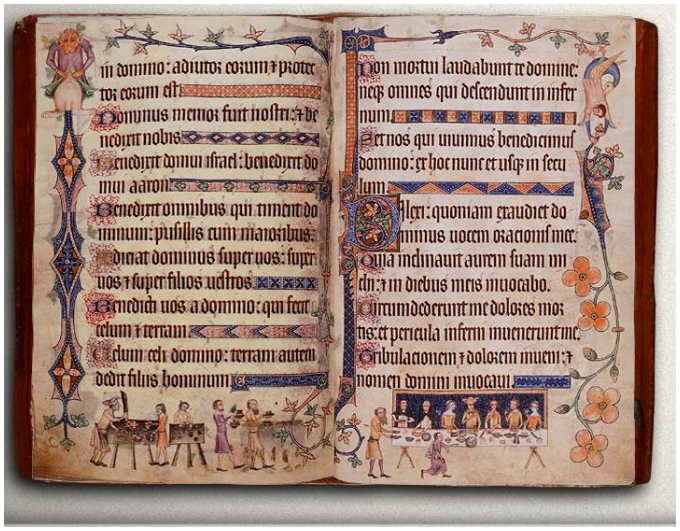


Figure 4.5.

4.3.2. *Hypertext Model #2. Picturebook Concordances: Design Parallels with the Hyperlink that Leads to Another Website or Large Body of Extended Supporting Knowledge*

A second method that on-line story creators use to inform readers and add to the text is to insert a link, not just to a secondary pop-up window, with a small amount of text and/or image, but to an entirely different web-site or archive that offers the reader a much more extensive amount of information and/or images about an incidental word or image in the current narrative. For example, let us suppose that the narrative one is reading on-line mentions William Blake and his self-authored, self-illustrated and self-published Songs of Innocence or Songs of Experience, the diminutive pair of poetry books for children that are considered seminal early texts in the Children's Literature Canon. His name or the name of the original books might be hyperlinked (as his name and book titles are actually hyperlinked here) to the online William Blake Archive at http://www.blakearchive.org/blake/indexworks.htm, where Blake's historic manuscripts are archived for viewing in their entirety over the web, along with extensive information, articles and images on the historical background and processes involved in their publication.[105] In discussing the previous hyperlink pop-up window feature, The screen capture in Video 4.1 previously discussed pop-up windows as used on the British Library website, but in this second example we are discussing the idea that the mere mention of William Blake's name or the name of one of his illustrated books in another on-line text could be linked to the entire William Blake Archive, to a huge body of information. By simply clicking the link, the reader/viewer would be transported to this entire site where they could view the manuscript, and find out all sorts of information about something that was just an incidental mention in the narrative they had been reading.

[105] Experience this concept right here on this page: Try control-clicking on the four hyperlinks shown above. Clicking on William Blake's name takes you to the home page of the website where Blake's illustrations change at each visit. The URL address takes the visitor to the page in the Archive containing a full list of Blake's works that are archived on the site, as well to other articles and materials about Blake and the technologies he used. The links embedded in the titles Songs of Innocence and Songs of Experience take the visitor to the title page for each of those historic texts with their hand-colored etchings, a starting point to enjoy both books in their entirety. [The two small books are also hyperlinked in the List of Videos—Hyperlinks 4.2.1 and 4.2.2].

This same concept can be seen emerging in some children's picture books recently. Increasingly, some books are offering extensive information one can consult after reading the story. This feature has occasionally been used for informational books, but, until recently, has been practically non-existent in fictional or narrative picturebooks. Only in the last few years has the feature begun to appear in fictional picturebooks, perhaps as picturebook designers are informed by the versatile new features and possibilities of hypertext. One of the easiest and most-used methods of doing this is to offer concordances, frequently illustrated, following the story that display expanded information supplementary to what was shared in the narrative. Readers first read a picturebook narrative, either fictional or factual, that draws them into the story. They become invested in the narrative, resulting in a desire or willingness to investigate the subjects and information raised in greater depth, ultimately exploring the extended factual, non-fictional concordance information that is presented in a convenient way.

This technique can be seen in several books that have emerged in just the last several

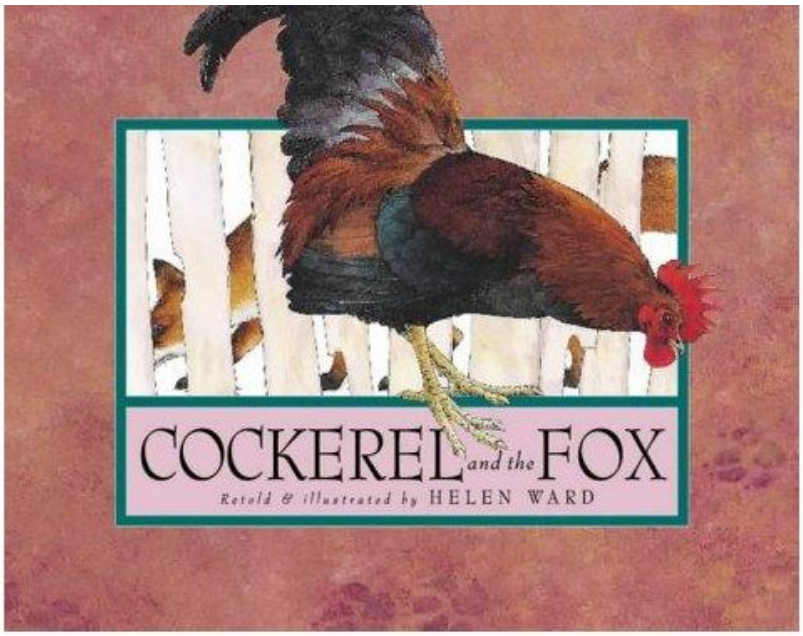


Figure 4.6.1.

years, including an exquisite British picturebook entitled The Cockerel and the Fox, retold and illustrated by Helen Ward (who has created several similar folktale-based picturebooks laid out in the same manner that feature similar concordances following the folktales). Figure 4.6.1 shows the front cover of this particular picturebook, with an elegant rooster completely unaware of the fox that is shown only in pieces through the slats in a fence creatively formed from negative space. This picture book was shortlisted for the Kate Greenaway Medal (the most distinguished children's literature illustration award offered in Great Britain) and displays superb layout design, exquisite illustrations with a dramatic use of white space and perspective, and innovative application of typography throughout this retelling of a traditional 12th century French tale, most famously retold by Chaucer as *The Nun's Priest's Tale* with roots that may reach back to Aesop (Concordance). Figure 4.6.2 shows a double-page spread from the story, just one of several quite innovative page layouts. Many of Ward's layouts are stunning in their design and execution and would really draw in the reader to engage with and appreciate the narrative. At the end of the story, there are several pages of a concordance showing illustrations from the story, tinted back to print more lightly so overprinted numbers would clearly show on the pictured fowl. These images are accompanied by information on the origins and history of the folktale followed by details on all the rare breeds of fowl and other farm animals pictured in the narrative's illustrations [Figure 4.6.3]. Such concordances remain fairly uncommon in fictional children's picturebooks, having only begun emerging in the last few years. When a reader discovers these "extra features," they are unexpected surprises, a gift. If a reader has been pleased by the story, they are further engaged by the surprise of more to explore that they find so unexpectedly after the story is complete, much the same way the readers of hypertext are pleased

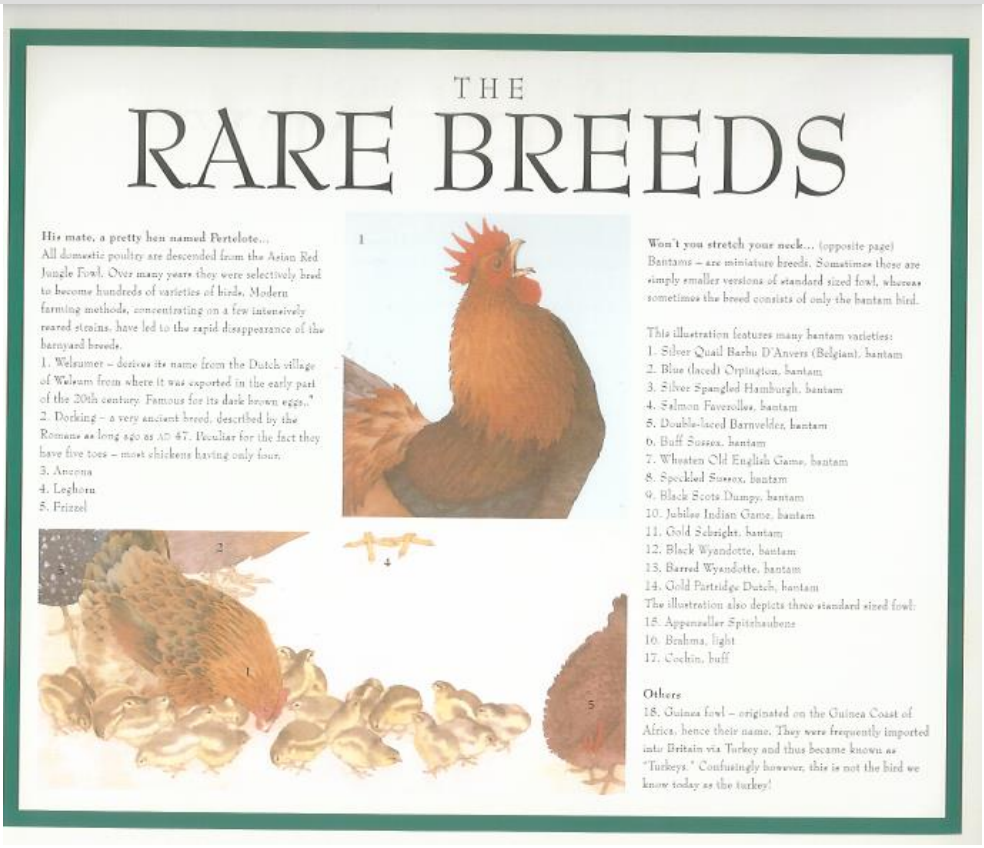


Figure 4.6.2 & 4.6.3.

to be able to follow links to find out a great deal more about a subject by simply following a link to the appropriate web archive.

4.3.3. *Hypertext Model #3. Learning from Computer Games: Extending the Picturebook Narrative Through the Use of Hidden Elements*

A third method of extending the traditional book format that may have developed from mimicking forms developing in hypertext is the concept of the hidden elements that the viewer is challenged to search out. A standard element of many mainstream computer games is the idea of hidden bonuses, features and functions that the player discovers through repetitive experimentation. A player may earn bonus points for hitting certain elements in a picture, or gain additional lives, or find treasures or clues to treasures by continued exploration of the images in the game. This idea (Hypertext Model #3) is demonstrated in a review of one of the first successful computer video games, *Super Mario Brothers* [view Video 4.3 hyperlink in List of Videos; or review at http://www.youtube.com/watch?v=7xV4JD2KH-w]. As is demonstrated in this review, game characters gain points by hitting various items experimentally—with many of these items offering extra points or bonuses. These are not marked—one's character just has to hit them—in a way similar to a pin-ball machine, with the sounds reflecting this pin-ball similarity as well. The pinball gains bonus points for hitting the correct, and sometimes unmarked, items—but if these bonus items are not hit, the points are not earned nor revealed to the players.

If one thinks about it, this idea of the hidden element has become an integral part of hypertext with the advent of the "hot spot" or "hot link"—which can be discovered in a section of a map or illustration or word, in any item on a web page, really, in which the webmaster has embedded a hyperlink. This, in itself, is generating a generation of computer gamers and computer users who constantly click on headlines or images or words to see if there is a hidden link embedded in it. While hyperlinks embedded in words are often printed in a color at variance with surrounding text (a color that changes once it is clicked)—map, image and headline

hyperlinks are often unmarked. If they are not clicked on, they remain hidden and nothing happens as a result of their presence on the webpage. But if a viewer clicks on them, all sorts of unexpected things can happen—an image may have a larger image that appears in a pop-up box, a map may be connected to a larger and more detailed close-up of a section of the larger map, there may be a connection to an animation that is activated or to another page on the website that deals with the headline that has been clicked, or the visitor might be taken to the *e*-mail function or to another website altogether. Once again, the idea here is that of hidden elements that must be searched out before they reveal their surprise and hidden features.[106]

In a similar way, some children's picture books are beginning to introduce some sort of discovery challenge to readers that relies on hidden elements as well. In The Quiltmaker's Gift, story by Jeff Brumbeau and illustrated by Gail de Marcken, published by Pfeifer-Hamilton in 2000, the center spread of the book displays a double-paged full-bleed color illustration that is also reproduced on the inside of the dustjacket, as seen below [Figure 4.7.1]. In this illustration are hidden two hundred and fifty quilt patterns for the interested viewer to find. The full list of hidden quilt patterns and the challenge are outlined on the back of the dustjacket flaps. In other words, for the reader to take on this hidden picture challenge, they first have to discover the challenge itself, hidden and printed on the back side of a dust jacket that wraps the book. They have to unwrap the book and examine the hidden inside of the jacket cover. The quilt theme is prevalent throughout this book full of luminous watercolors, with quilt patterns used as motifs on

[106] This trend is crossing into other media as well. Television shows and radio shows are now asking for types of viewer involvement that utilize hidden elements, too. Voting while a television show is in progress by logging onto a web-site or calling an 888-number is one popular way to accomplish this. Asking for viewers to text or e-mail in answers to certain questions or to verify events that occurred on a television show in order to be signed up for a sweepstakes is another method of adding an interactive hidden element to television shows. Visiting a web-site might offer expansions on a news story or extra information about an advertised product. Viewers can just watch the shows or commercials passively, or can be more interactive and search out hidden elements that offer extra information and possible rewards if pursued. So this idea of the hidden element that reveals surprises and extra features if discovered is really becoming an identifying and pervasive feature of both hypertext and of other types of new media.

every page, and many quilt patterns painted and identified on the flyleaves of the book as seen in Figure 4.7.2. Note that the quilt patterns on the flyleaf are clearly identified. The patterns on the back flyleaves are different that those on the front flyleaves. This is unusual, because, almost always, flyleaf designs are identical for the front and back flyleaves. In this case, the illustrator wanted to help the readers out as much as possible in getting started identifying the quilt patterns buried in the hidden picture mural. Other examples of this sort of book are becoming easier to

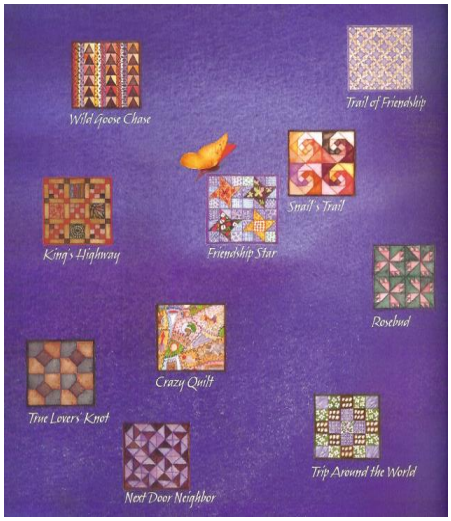


Figure 4.7.1 & 4.7.2 (left, right).

find. Many books are now challenging readers to find a certain element in each of the illustrations, perhaps an apple or a rabbit. Enticing the reader to more closely examine the book, to participate in the *event* of reading with more involvement seems to be the wave of the future.

Thus far, early examples of *e*-picturebooks on the market are not tending to utilize the ability to create internal hyperlinks to other web-sites, with pop-up windows holding extra information, and those sorts of special effects and features. It would seem a natural development that an *e*-picturebook about animals, for example, might contain hyperlinks to a reputable on-line encyclopedia such that when the child reader touches an image of a giraffe, an article on giraffes could be accessed. There is no clear reason why this type of hyperlinking in *e*-picturebooks has, thus far, not occurred. Electronic readers have Web-connection capabilities (to support the ability to download books to the device), and if, for some reason, a hyperlink taxes the device's capabilities, hyperlinks could easily be set to remain inactive and the book would remain readable. It may be because *e*-picturebook designers are still viewing and treating the *e*-picturebook as the self-contained unit that print picturebooks are and have not visualized this possibility as yet; or perhaps it is because hyperlinks are notoriously short-term and unreliable—hyperlinks are always breaking or being changed. If the public is purchasing such electronic picturebooks, it would be natural for them to expect all of the in-built features to work over the life of the *e*-book, and this would be difficult to guarantee at this point in the *e*-medium's development. In writing this Dissertation, for example, I have had to check and change embedded links every time I have edited the chapters. Perhaps an in-built electronic concordance might be a more reliable possibility that could be utilized in future designs, created specifically with that particular *e*-narrative in mind, more easily quality controlled because of the closed system design. In any case, thus far, I have come across one example of this type of

externally-linked feature. Theodore Gray's illustrated *e*-book, *The Elements for the iPad*, previously discussed in Chapter Two (also in print book form from Workman Publishing), that does utilize pop-up windows with extra information, and includes embedded links allowing for the continuous updating of textual information on the scientific elements (such as the current market value of gold) from the external Wolfram-Alpha Computational Knowledge Engine [This *e*-book, introduced in Chapter Two, is demonstrated in Video 2.1.1, List of Videos, or view the book at http://www.youtube.com/watch?v=nHiEqf5wb3g]. This lone example (an *illustrated e*-book, but a book for all readers, not focused on the young reader solely) brings up one final potential reason that such external links have not found their way into the *e*-picturebook market as yet. It may be precisely because most of the *e*-picturebooks thus far produced contain *fictional* narratives and the special features focus on interaction with that particular fiction, on creative play. When more informational, or non-fiction, *e*-picturebooks such as Theodore Gray's The Elements make their way into *e*-picturebook form, we may have more of a focus on adding access to more extensive outside information, and the external links to reputable, well-maintained resources may begin to appear.

Thus far, *e*-picturebook designs tend to concentrate on the self-contained book narrative for added effects that includes some sort of animated features or sequences, and often includes added game-like features such as coloring book features and puzzle features, etc. One other clear designer's choice winner in the area of *e*-picturebook features is that of touch-screen interactivity. Designers of *e*-picturebooks are focusing on enhancing the narrative through allowing the reader's touch on the screen to reveal hidden features in the illustrations. Readers can drag clouds and make characters flip, cause sparkles on the water, etc., simply by touching

the *e*-reader screen on which the *e*-picturebook is read [see Video 4.4, List of Videos, may also be viewed at http://www.youtube.com/watch?v=FecD3_vSh2A]. This video introduction of Oliver Jeffery's The Heart and the Bottle *iPad* picturebook application was published by HarperCollins and is introduced by Helena Bonham Carter [A printed version of this book is shown in Figure 4.8]. In this *e*-picturebook application, stars sparkle and flowers grow where little fingers touch the *iPad* screen, a snow storm occurs when the *iPad* is shaken, and readers can draw in the sand or turn day into night with a swipe of the hand, among other visual effects. While this chapter is primarily, if not solely, picturebooks that take the printed codex form, I mention the digital form of this particular picturebook here because viewing such an *e*-picturebook being properly read and explored for all of its hidden secrets is very similar to experiencing the previous examples that have been introduced—to watching a pin-ball game or interacting with a computer game. Part of the charm of this story will be the narrative and the stylized pencil illustrations, naturally—but a great part of the charm for young readers of the *e*-picturebook form of this narrative will be the hidden extras that are discovered through reader experimentation.

One does have to wonder if picturebook narratives and illustrations will continue to engage the young reader's mind if *e*-picturebooks become more like video games with so many hidden elements that young minds remain in the "gaming mode" instead of the "reading mode" when

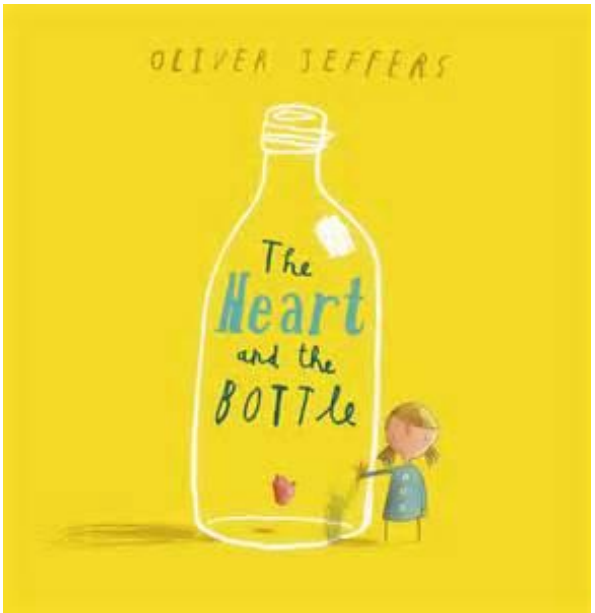


Figure 4.8.

reading *e*-picturebooks because of the constant distractions of searching out hidden elements. Will young readers want to read the print version when they remember the interactive version? This specific story is being adapted into movie form as well. Yet, surely narratives can co-exist successfully in several different forms. Perhaps each version wrapped in its different medium helps readers/viewers appreciate a different part of the whole. The printed version of this story could help the young reader concentrate on the characters, the story and the simple charm of the line-art illustrations, for example. After all, many people enjoy the Sunday Comic Section of the newspaper—and they are simple little comic strips—just words and funny little line drawings. That would be the best-case scenario, at least. It is also possible that those versions that are easier or more exciting to experience could cause the death of those versions, such as the printed book, that require more mental energy to experience. And there are those that would say that perhaps that possibility is as it should be. But, just because something is easier to experience, does not mean that it is the best option—the easier version could be shallower, less rich or complex in details. Sometimes the challenging option is the best option. The printed book challenges the young reader to test their word skills, imagination skills, sequential imaging skills, etc., whereas some other mediums would present this work to the young reader *fait accompli*, with everything already figured out for them, no ingenuity required. In the long run, however, readers are only created through hard, persistent work—their own work. If it remains an important goal of society to empower young children to develop into expert readers who love to explore the power of words or the interaction of word and image, then some thinking and discussion is needed toward when different media versions are appropriate, and when they are not.

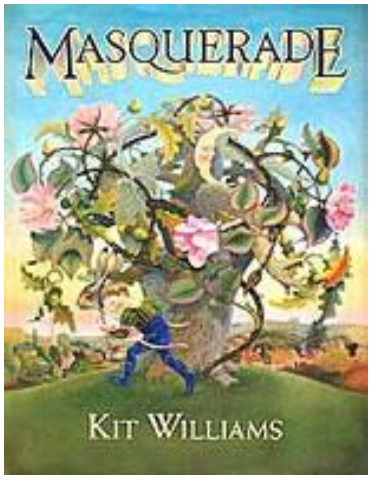
4.3.4. *Hypertext Model #4. Interactive Web-Blogs and Web-Sites as Inspiration: Developing Inquisitive Readers Expecting More Interactive Text*

A fourth method of using hypertext that may be affecting designers in the children's picture book field involves the debut of free, self-built web-blogs and web-sites, a situation that is turning everyone, even readers/visitors, into authors. Bloggers are asking for the public reader's active involvement in topics of the day. Visitors comments can be visibly and immediately posted to blogs and web-sites, and on-line discussions among these commenters are now common (with the resulting conversations not always edifying and often even unquestionably rude unless monitored by the web-master who has the powVer, not always wielded, to screen comments). To demonstrate Hypertext Model #4, Screen Capture Video 4.5 [List of Videos] takes you to three such interactive web-sites that offer on-going capability for comment and discussion from their viewing public. These are just a few examples, but anyone, from the most expensive, most professionally-created web-sites or web-logs to the least professional sites can offer this capability for interactive visitor commentary. Thus, even those people who do not choose to set up their own web-sites and blogs can still feel free to comment on other web-sites and blogs. Even if they do not choose to become an author of their own site or blog, they can still become an author through commentary on other sites. Now everyone wants to get in on the trend. On-line news sources are beginning to ask the public's opinion about certain issues—to be submitted by *e*-mail to their websites, or submitted via *Twitter* or *Facebook,* often during a show—with the results of surveys or comments shared with the studio audience before the show's end. Radio and television news shows are asking viewers to call in to respond, or to vote on issues. Do we think a politician should have said this? Do we believe one party or another will win the election? Do we believe survey results should be reported before all polls have closed? Which dancers should win the competition? The advent of

personal web-sites is also turning the reading public into authors and publishers. As more and more people publish their own sites, they become responsible for changing content, writing the text that appears on the site and choosing and perhaps creating the art or photos that are used as well.

Hypertext narratives are playing off that trend as well, sometimes inviting readers to become a part of the process of writing stories. An example of this is the proposed sequel to George Ryman's Novel for the Internet about London Underground in Seven Cars and a Crash, that is to be entitled, Another One Along in a Minute [Screen Capture overview in Video 4.6, Chapter Four File, CD]. On the on-line novel's web-site, Ryman invites the readers to help author the sequel to this story that is to be about the passengers that are delayed on the next train, the day of the crash, and what these passengers do in the minutes when they are waiting. The home page of the web-site explains:

> Immediately behind this train is another. It is stalled in a tunnel, like so many of us are in life. The passengers wait, wondering why the train is not going forward. No one can leave, no one can enter. It sits still for five minutes. . . .
>
> Another One along in a Minute pays tribute to stalled time by describing each character in 300 words, one for each second of time [spent waiting].
>
> What will your characters do in that five minutes? Talk to neighbors? Read their papers? Complete their crosswords? Imagine that there has been a nuclear attack? No money will be made from this sequel. Copyright will rest with you. The editor reserves the right not to publish, or to suggest amendments . . . .
>
> The earliest entries for Another One Along in a Minute have arrived . . . (http://www.ryman-novel.com/).



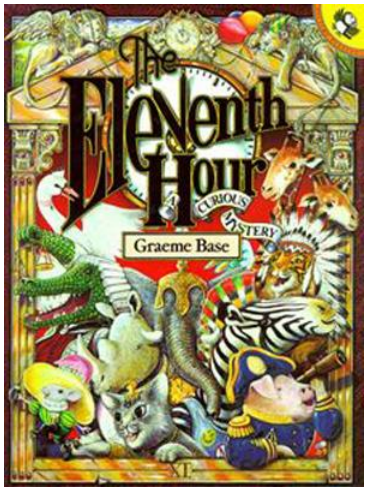


Figure 4.9, 4.10 (top to bottom).

In a similar fashion, children's picture books are beginning to sometimes ask for actual involvement of the child readers. When Schocken published Masquerade in 1987 [Figure 4.9], artist Kit Williams wanted people to look at his pictures-- to study them intently. In designing this book he figured out a clever way to accomplish this task. Inside the book's illustrations, he hid the clues to a treasure, as well as a picture of a hare on each page. The treasure has since been found, but the book created a sensation in Britain at the time, and the book still offers a confounding puzzle to those who choose to follow the trail of clues its illustrations reveal. The story is a love tale between the moon and the sun. The moon sends a gold, bejeweled hare to the sun as a gift. When Jack Hare, who has been entrusted to deliver Moon's gift to Sun, loses the gift, the reader is challenged to find it. A second example, Figure 4.10, shows a more recent interactive picture book experience. Graeme Base, well-known creator of Animalia, has fashioned another lushly illustrated and intriguing puzzle in The Eleventh Hour, this time a mystery in verse. Published by Harry Abrams Publishers in 1993, The Eleventh Hour hides clues within its illustrations and the reader is supposed to help Horace the elephant find out who has stolen his birthday feast. Young detectives are challenged to decode messages that pop up in unexpected places. Base used buildings he has seen in his travels throughout the world to decorate and design Horace's unique home in his illustrations, and secreted within its walls cryptic messages in everything from hieroglyphics and anagrams to Morse code.

All of these examples show how children are being drawn *into* the book page, figuratively speaking. They are crossing over the picture plane of the page into the picture book as though stepping *through* Leon Battista Alberti's famous imaginary window frame, in a figurative sense (the one that Alberti recommended artists picture at the canvas between themselves and the scene, described in 1435 C.E. in De Pictura) [Figure 4.11 demonstrates

Alberti's concept], Readers are becoming involved in the narrative and the illustrations in searching out the hidden features, solving mysteries, etc. This extends the narrative experience. Thus, readers are becoming partners in the creation of the story because they are becoming a part of the narrative (Lister 126).

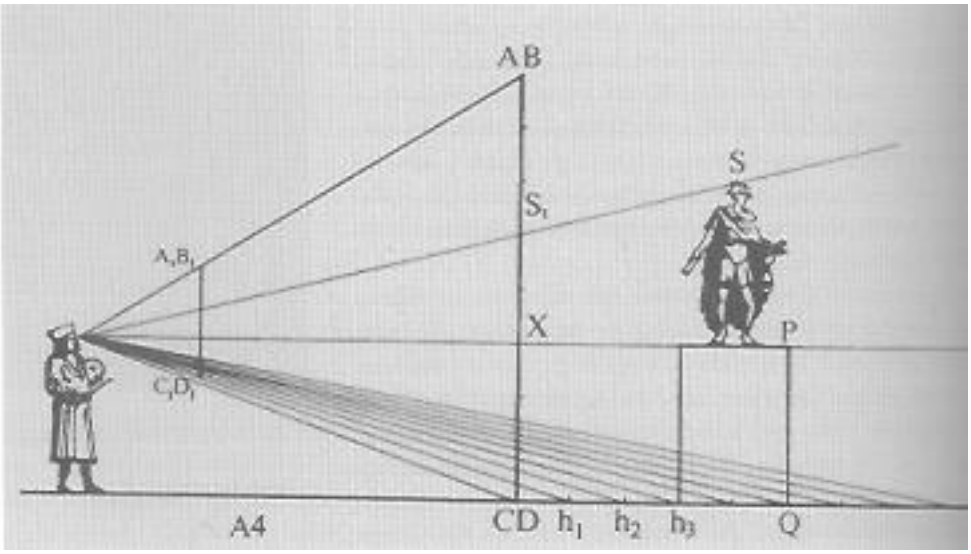


Figure 4.11.

4.3.5. *Hypertext Model #5. Incorporating Principles of Film in Picturebook Design: From Imitating Video to Show the Passage of Time, to the Addition of a Soundtrack or Audio Features*

When I was a young child, I had a fascination with the idea of picturebooks with magically moving pictures. Many children probably connect with this fantasy. C.S. Lewis featured a magician with just such a book in The Voyage of the Dawn Treader from *The Chronicles of Narnia* series for young adults. And the recent *Harry Potter* Series features newspapers with moving pictures in the world of wizardry. While this has long been the stuff of fantasy, it is fast becoming a reality with the emergence of *e*-picturebook applications for the *iPad* and other *e*-readers that will be discussed in Chapter Eight. However, the pervasive

presence of embedded video clips on web-sites and blogs may be influencing the form of the printed codex picturebook in significant ways as well.

So, a fifth way hypertextual mediums are informing the picture book field is in their ability to embed flash animations or short digital video and audio clips into hypertext pages. Visitors to most web-sites or web-blogs today are offered the opportunity to watch clips of news stories, or short videos embedded in the sites. Template-based web and blog-builder sites have created user-friendly step-by-step methods to upload and embed both short digital video and audio clips in one's web-site or web-log. In addition, cell-phones with built-in video cameras, as well as palm-sized digital cameras with video features, combined with user-friendly movie-editing programs are making it easy to create short films that are then easy to upload to *YouTube*, and to one's own web-site or blog. A screen-capture showing this fifth hypertext model can be viewed in Video 4.7 [List of Videos]. We will first take a look at ways picturebooks are emulating video (discussion under sub-heading 5.1), and then we will observe how picturebooks are beginning to incorporate audio in their designs (discussion under sub-heading 5.2).

4.3.5.1. Hypertext Model #5.1. Video Emulation in Picturebooks.

With the ubiquitous use of embedded video across the Internet, it is perhaps not surprising that picturebook author/artist/designers are beginning to attempt to come closer and closer to the capabilities that film clips have. They are actually embedding video clips in the emerging *e*-picturebook applications, as will be discussed in Chapter Five. But designers are also experimenting with the printed picturebook, still in its codex format. We will now look at a few of the experimental forms that are emerging to imitate the embedded video illustration.

The first form is the picturebook with double-sequential imaging—or the picturebook that is presented in the form of a continuous comic strip throughout the entire book. Picture books are already a form of sequential imaging, using time-lapse viewing to tell their story. Any picture book could be viewed as the storyboards for a short film clip, or as the scenes from a theatrical performance. Picture books come in numbers of pages that match up with a "printer's signature," the equivalent of the number of pages a printer can fit onto a large piece of paper going through the printing press. The standard printer's signature is sixteen pages, although sometimes an eight-page signature is used. This creates books that are of standard lengths in multiples of sixteen or eight. So the most common picture book lengths are sixteen pages (board books for babies), twenty-four and thirty-two pages (picturebooks), forty-eight and occasionally sixty-four pages (longer picturebooks, picture-storybooks or illustrated books). Therefore, one could see each book as the storyboards for a film short, where each storyboard is one "shot" or encapsulated feature moment in the film.

In addition to this in-built similarity to film, some picturebooks are beginning to also present themselves as actual storyboards, as if for film clips, or like the comic books or graphic novels of a related field. Below are two double-page spreads from a picture book titled, Meanwhile, by *New Yorker* Magazine artist Jules Feiffer. This is the fascinating story of a young boy, Raymond, who loves to read comic books. In the double-page spread shown in Figure 4.12, Raymond notices that comic books switch abruptly from scene to scene, simply by using the word, "*Meanwhile* . . . ." He avoids his mother's calls to do a chore by trying the same technique and writing the word on his bedroom wall, and his experiment works. Multiple adventures and near disasters follow as he is pulled into different typical comic book scenarios each time he uses the word, but always into that point in a scenario where he is in dire peril, such as arriving on

board a pirate ship as he is about to have to walk the plank, as shown in Figure 4.12.1. His only salvation in each scenario is to try to "meanwhile" himself out of one place and into yet another. Notice, in Figures 4.12.2 and c, that, not only is the passage of time implied by the turning of the picture book pages, but, in addition, the passage of time is implied by the viewer/reader moving from illustration frame to illustration frame, giving this sequential narrative the appearance of a rather choppy film clip where only key frames are being shown.

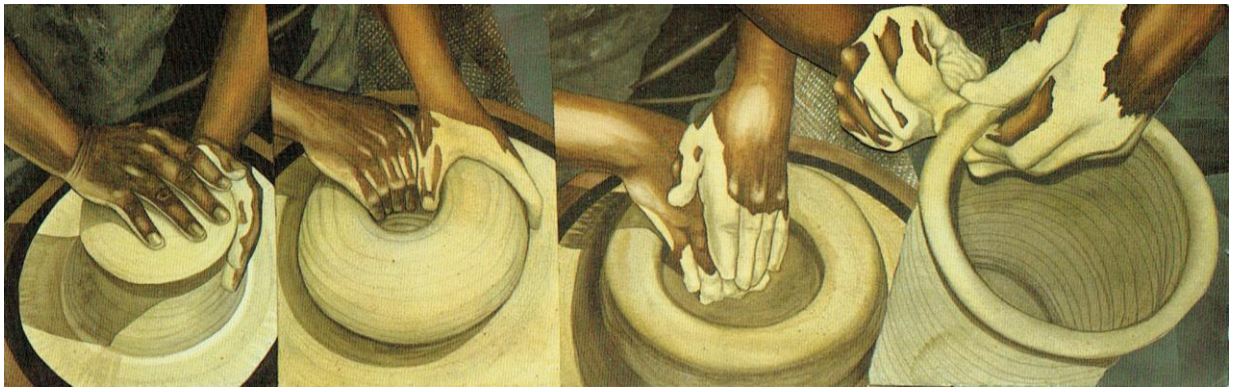
Figure 4.12.1 & 4.12.2.

One might assume that, since children's picturebooks are relatives of the comic strip or graphic novel, that this sort of completely sequential narrative within the larger already sequential 32-page picturebook might be more common than it actually is. However, just a few picturebooks to date have tried this layout. It is more common to find picturebooks

that may use this idea as a short feature in the book. For example, the illustrator might feature a sequence of several pictures, perhaps two to four, to effectively show the passage of time, as shown in the following two examples. The first short sequence example is from Little Brown's 2010 picturebook, Dave the Potter: Artist, Poet, Slave, written by Laban Carrick Hioll and illustrated by Bryan Collier. This Caldecott Honor Picturebook (and Coretta Scott King Award winner as well) tells the true story of a slave, Dave (last names for slaves were not allowed), from South Caroline who was one of only two potters of his time who could throw extremely large pots of up to forty gallons in size. He also left poetry couplets on some of his pots that have survived to this day. The picturebook features Bryan Collier's very fine watercolor collages and has one spectacular fold-out, illustrated spread that shows the process of throwing a pot [Figure 4.13.1, text is cropped out of image]. The reader watches a pot being thrown on a potter's wheel in four consecutive pictures. The pot grows from left to right. The pictures have no frames, but are juxtaposed immediately next to each other, with the fourth and final frame actually overlapping the third frame—creating an impression of the continuous and overwhelming growth of the pot that appears to be actually overtaking the previous pot in size and three-dimensionality. This growth of the clay pot in the illustrations is reflected by the text that begins on a flap that, in closed position, only reveals the first two frames of the illustration sequence showing the clay as a lump on the wheel, and then the potter making the initial hole in the center with his hands. The text reads, "Like a magician pulling a rabbit out of a hat . . . ." The flap is then opened, revealing the final two frames on which the following text is printed at the right top corner of the spread, finishing the thought, ". . . Dave's hands, buried in the mounded mud, pulled out the shape of a jar." The effect of these four watercolors in sequence

leaves the impact of a short film sequence or a live demonstration. One can almost see and feel that clay rise from the potter's wheel.

In his recent picturebook, It's a Book, discussed later in this Chapter, Lane Smith uses a variation on this technique (i.e., using several sequential images in tandem to illustrate the passage of time in a picturebook) with his character, Jackass, in a starring role



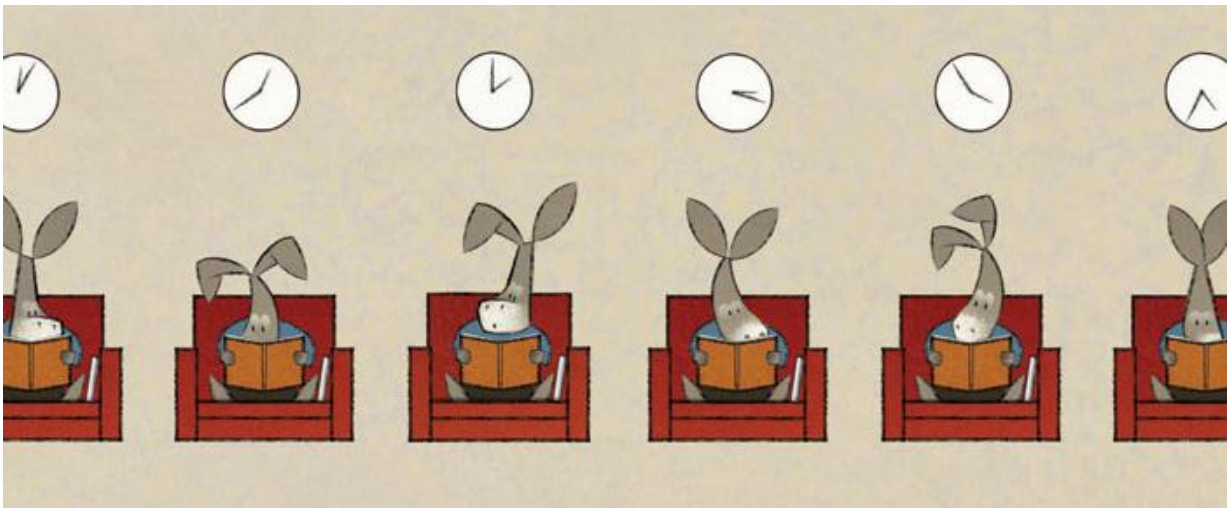


Figure 4.13.1 & 4.13.2.

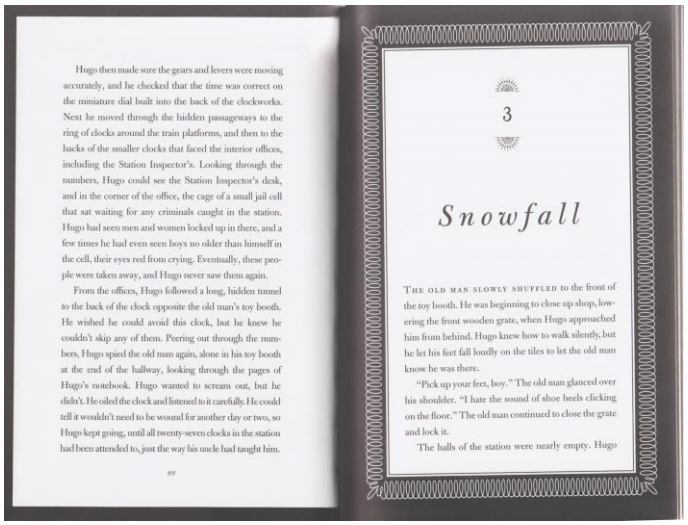
chapter discussion about post-modern content in picturebooks. In Figure 4.13.2, readers of It's a Book see repeated shots from left to right in a double-page spread of Smith's Jackass character reading a book while sitting in a chair, with a clock repeatedly situated above each image with its face showing that time is passing. Jackass' seating position changes and the time on the clock changes while everything else remains the same, implying that Jackass is continuing

to read the book the entire time, restlessly shifting his position in the chair as time passes. The exact repetitive view of the picture elements that remain the same (the book, the chair, the clock's position on the wall) ensure that the reader will see this as a time sequence, even though, in this example, no frames separate each view of the chair (and it is this lack of framing that is Smith's variation on this technique).

The individual images in both of these last two examples behave as key-frames do in animation, offering the viewer certain key views of a continuous action clip. Viewer/readers are expected to fill in between these key points with our imagination, as an animation program would fill in between key-frames with the in-between images to create the smooth transition necessary for smooth animation.

Although one can find occasional examples of several consecutive frames of a time-sequence illustration, especially in recent picturebooks (It's a Book was published in 2010), even this fairly obvious and simple design technique to show the passage of time is not a common feature in picturebook design (It may be more common in animated cartoons, especially simple and obvious techniques such as the moving hands of a clock to show time has passed.).

A unique example of a recently published young adult novel has partially incorporated the graphic novel type of format intermittently throughout the book. This book received the Caldecott Medal in 2008 and is titled The Invention of Hugo Cabret, by Brian Selznick. It



Hugo then made sure the gears and levers were moving accurately, and he checked that the time was correct on the miniature dial built into the back of the clockworks. Next he moved through the hidden passageways to the ring of clocks around the train platforms, and then to the backs of the smaller clocks that faced the interior offices, including the Station Inspector's. Looking through the numbers, Hugo could see the Station Inspector's desk, and in the corner of the office, the cage of a small jail cell that sat waiting for any criminals caught in the station. Hugo had seen men and women locked up in there, and a few times he had even seen boys no older than himself in the cell, their eyes red from crying. Eventually, these people were taken away, and Hugo never saw them again.

From the offices, Hugo followed a long, hidden tunnel to the back of the clock opposite the old man's toy booth. He wished he could avoid this clock, but he knew he couldn't skip any of them. Peering out through the numbers, Hugo spied the old man again, alone in his toy booth at the end of the hallway, looking through the pages of Hugo's notebook. Hugo wanted to scream out, but he didn't. He oiled the clock and listened to it carefully. He could tell it wouldn't need to be wound for another day or two, so Hugo kept going, until all twenty-seven clocks in the station had been attended to, just the way his uncle had taught him.

80

3

Snowfall

The old man slowly shuffled to the front of the toy booth. He was beginning to close up shop, lowering the front wooden grate, when Hugo approached him from behind. Hugo knew how to walk silently, but he let his feet fall loudly on the tiles to let the old man know he was there.

"Pick up your feet, boy." The old man glanced over his shoulder. "I hate the sound of shoe heels clicking on the floor." The old man continued to close the grate and lock it.

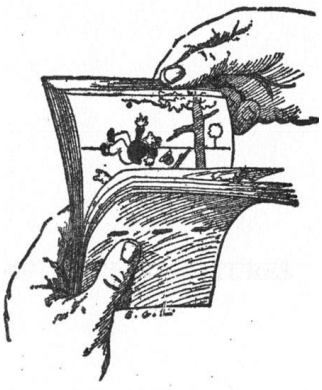
The halls of the station were nearly empty. Hugo

Figure 4.13.3

has actually been recently released as a feature animated film as well—but one of the distinctions of this book is something that cannot be adapted easily to film. This book is half young adult novel, with pages that are filled with narrative text as shown in Figure 4.13.3 (Note that the text pages are completely free of images—unlike most children's picturebooks today that have evolved to mix text and pictures). In contrast, entire sections of this book's narrative, often the segments involving a search or a chase scene, in other words, the active parts of the narrative, are completely text free and made up of page after page of images only, much in the manner of a film clip, as demonstrated in a video review of the book (with the author) that can be viewed in the Video 4.8 [in the List of Videos, or at http://www.youtube.com/watch?v=SfBEUhP9aCY]. The author has chosen sections that are best told with words to be told with that medium, and parts of the narrative that are best told in pictures to be told in that medium (and these can be "flipped" through to absorb the action sequence). The black borders of the pages of this book are reminiscent of the black borders of movie film and lend to the illusion of this narrative as "film" as the reader skims through the image sections. The reader ascertains what is happening by "reading" the sequence of images. As a result of these sections of narrative told solely with image sequences, the novel of over 500 pages reads rapidly. One intriguing point about this innovative text is that it is framed around the disappearance from public life and rediscovery of an actual early creator in the French film industry, Georges Méliès. While not common in the picturebook field, several picture books do exist that utilize the wholly sequential image format for telling their tale. All young adult graphic novels and comic books have utilized the sequential image aspect of narrative-telling—but in each of these cases the sequential image format is used throughout the piece in its totality. What is unique about Selznick's young adult text is that it is part text narrative alternating with sections of graphic novel—perhaps the first

hybrid mix of these two particular formats of narrative. And, upon examination, it is clear that Selznick designed the book to utilize the most appropriate medium, text or sequential image, throughout the scenes of the narrative.

A second video-like feature is contained in a book form very familiar to children that has been around for over a century. These are the diminutively-sized *flip books*, where, by flipping the edge of the pages in sequence, the reader creates a low-technology form of animation from, essentially, still frames of the movie created on the paper book pages, one over the other, with gradual changes in the illustration appearing on subsequent pages. When the viewer thumb-flips through the page-edges of the book, an animation is observed. This type of animation relies on persistence of vision to create the illusion of continuous motion. Rather than relying on reading sequential images from left to right as is necessary with the previous example of the "graphic novel" layout, this flip-book type of animation relies on staring at the same spot and allowing one's vision to connect the morphing images into a coherent animated sequence. Because the typical way to read flip books requires holding the book with one hand while thumb-flipping the page edges with the other, one term for such a book is the German word *Daumenkino*—a term that literally means "thumb cinema" (http://www.flipbook.info/typ ology.php#livres).


THE KINEOGRAPH.

4.14.1

Such flip books have been around since the Victorian Age. The first such book was published in 1868, and was patented under the name of the *kineograph* or "moving picture," by John Barnes Linnett. Figure 4.14.1 is an 1886 illustration of the kineograph or early flip book. Video 3.1 was introduced in the previous Chapter's discussion, and shows a video clip of an old

flip book documenting a scene from a silent movie. This video clip can be viewed in the San Francisco Arcade Museum [Video 3.1, List of Videos, or the video may be viewed at http://www.youtube.com/watch?v=yPKjwKphEwQ].

Flip books are being published even today—and, in fact, are enjoying a resurgence in popularity. They are still published in very small formats as stand-alone books and are usually sold in toy shops and specialty shops. Sometimes the format is used for advertising promotionals, or for commemoration of historic events. An example of this is the flip book celebrating Hank Aaron's historic homerun breaking Babe Ruth's record that can be viewed at http://www.youtube.com/watch?v=yPKjwKphEwQ or in Video 4.9 [List of Videos]. The

Figure 4.14.2, 4.14.3 & 4.14.4 (left to right).

Chicago Tribune published eighteen still photos of this event in 1974 so newspaper readers could make their own flip books to remember the event. Sometimes marketing campaigns aimed at the child-aged demographic will publish self-stick postage stamp-sized sticker sheets that create cartoon flipbooks for children when they stick them to the corners of pages in a book in the correct order. Occasionally, a printed book or magazine might publish a flipping image in its corners or margins (http://www.flipbook.info/typology.php#livres). In addition, with the advent of *Post-It* notepads and the *YouTube* web-site, many people are beginning to create their own flip books at home, to take digital videos of their animations and to post the videos to *YouTube* to share with others. Some of these flip books, although formally unpublished in print form, are

becoming highly creative, as is a flip book music video by artist and video editor, Greg Condon, from MustLaugh.TV illustrating the song "Here Come the Guns" performed by Choo Choo la Rouge on their *Black Clouds* album, that utilizes multiple flip books simultaneously to create unique combined animation sequences (I include this example in part because of the developing creativity shown in this medium, and because music videos often utilize narrative and are a form "read" by children and young adults. They are a form of published children's literature, in a way). Three still images demonstrating the creative variety of multiple flip book layouts from this music video may be viewed in Figures 4.14.2, 4.14.3 and 4.14.4. The music video can be experienced at http://www.youtube.com/watch?v=jQhvx52aBYc or in Video 4.10 [List of Videos]. The ubiquitous nature of *YouTube* will ensure that flip books continue to gain an audience and push the boundaries of the form as exposure to this rather old medium spreads.

Flip books are gaining some momentum through several computer program applications that are being released that make it easy to create the look of a flip book in digital files. Flip book creation has also been given a new impetus with the advent of technology that quickly takes short digital video clips and immediately prints out the video split into frames and assembled and packaged into flip books. In fact, this is a popular new event for parties such as wedding receptions. Companies, such as *Magical Moments* out of Chicago, will come to a venue with props and equipment, attendees choose the props and make short digital video clips, and these clips, within a couple of minutes, are transformed into flip books to commemorate the event. Dozens of such books can be created during a single reception. View the company's promotional video at http://www.youtube.com/watch?v=NvstiCsZps0 or in Video 4.11 [List of Videos]. This video shows the use of the actual machine that creates the flipbooks after the digital video has been taken. Just as *YouTube* acts as a marketing tool for the form, technology

such as this, that introduces the form to the masses, is in the process of popularizing the form with a far broader audience, ultimately bringing it to the attention of a greater number of picturebook or *e*-picturebook designers.

Flipbooks have existed for well over a century, bringing animation to novelty books long before film technology introduced animation to the public and over a century before digital video technology made it feasible to upload digital video easily to the Web. Even though flip books have not always been created with subjects solely pertinent to the children's literature field, these types of books have long been considered "toy books" that have always held a fascination for children. Flip books have been one of the prizes, for example, in the *Cracker Jacks* boxes for some time. Children are familiar and fascinated with this form of book animation. In addition, while I have not yet seen full-sized printed picturebooks take advantage of the possibilities to work such animations into their designs, I would not be surprised if this occurs in the future of printed picturebooks, as designers of such picturebooks are influenced by the presence of digital videos in the emerging *e*-picturebook formats. I, myself, am currently developing a series of print picturebooks that incorporate this type of animation on the edges of the picturebook pages. This would be an animation that is worked into the plot narrative of each picturebook and that appears to be a part of the story's illustrations as the book reads forward, with the "animation" encouraged to be revealed at some point in the plot (i.e., with the child reader's help flipping the book's pages, the character performs a "back flip" for which they have been practicing, or "backtracks" to search for a missing toy they have lost, etc.). These books on which I am working are intended to be a part of a series of artist's books for children that will explore using the book format interactively to support the narrative. And, while this flipping type of toy book has long been something children have enjoyed, there is greater potential in this form than has

been utilized thus far. Such a device could be incorporated into picturebooks in more complex ways that may inevitably occur to book designers who have become acclimatized to the existence of moving images within printed picturebooks or *e*-picturebooks, and begin to research ways to create this effect.

A third example of a video model appearing in the design of the codex picturebook is that of a printed picturebook that uses *scanimation* to include, in an otherwise normal codex picturebook, images on each page that move in the manner of a video clip. Gallop! A Scanimation Picturebook, by Rufus Seder, was introduced to the public in 2007, published by Workman Publishing. The "video clips" in this book are created solely using two layers of printed matter moving over one another. The technology of *scanimation* is a complex variation on the *venetian blind* effect used in paper-engineered (pop-up) books for more than a century. But, whereas the traditional Venetian blind transforms one picture into a second, this more complex arrangement of the same type of system manages to have one image oscillate among six different variations, creating a short animated sequential image. However, in this book the images that move only do so within the constraints of a codex picturebook and are automated by the turn of a page (the reader does not have to activate the animation); and, surprisingly, this "technology" only involves creative paper design to accomplish the feat. In addition, the effect works with a flat book page; so I am including this example in this discussion of changes *within* the form of the codex book. View a video of this book in Video 4.12.1 [List of Videos], or view at http://www.youtube.com/watch?v=jWojG1juG5E]. This is a simple codex picturebook with simple text and moving pictures that are neither electrically nor battery powered. These sorts of books have captured the attention of the public, such that more and more of them have appeared

in the last several years, and, while the scanimation illustrations in earlier versions were black and white, later picturebooks using this technology are now printed in color.

It is difficult not to admire the ingenuity that created this type of moving illustration with a simple method of paper engineering. The process of creating a scanimation image is described in a video at http://www.youtube.com/watch?v=mvSx9nONAIs&feature=related or in Video 4.12.2 [List of Videos]. Basically, a short six frame animation is prepared with all frames superimposed on one another, slightly off-setting each frame from all of the others. Over this is placed a vertically-lined grid with very narrow black lines, each the width of the illustration off-set. When the next page is opened and closed, a connected paper tab pulls the grid back and forth revealing each of the frames in order and creating the brief animation. The effect is really quite startling for such basic, although clever, technology. While the simpler vertical blind technology appeared a century ago, the much more complicated scanimation technology only appeared in

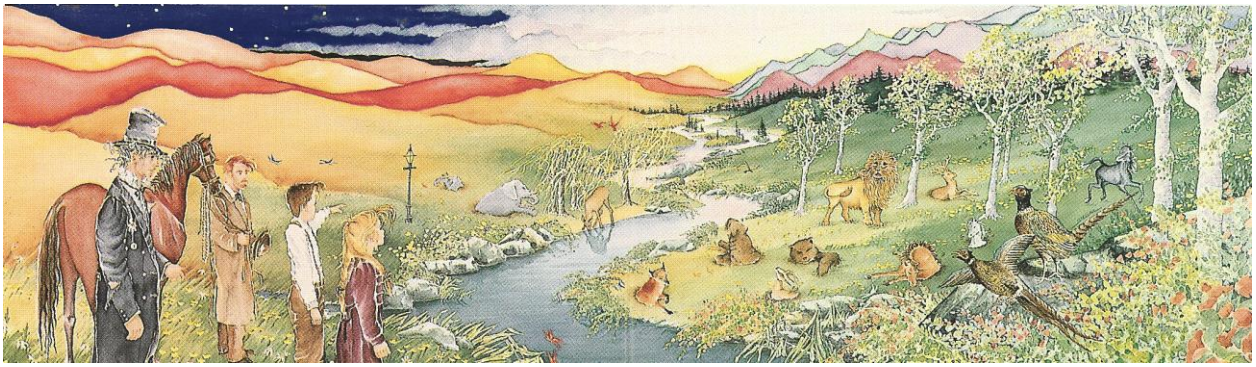


Figure 4.15.

2007, the same year the Amazon *Kindle e*-reader was introduced. Since scanimation is a more complex variation on the Venetian blind that had been around considerably longer, and since the World Wide Web had opened the window for a need for simple .gif animations that, with relatively few frames produce an animated sequence, it is difficult not to speculate as to their effect on the creators of scanimation.

Other methods of incorporating a video or time passage element into picturebooks are being experimented with as well (if one considers videos as showing a character or setting changing over time—then these are referring to the same sort of design element). I have personally attempted to grapple with this concept in several of my illustrations in ways I have not seen elsewhere that I will share here to show the possibilities for creativity in this area. In the illustration in Figure 4.15, from my personal collection of my own paintings, of *Aslan's Singing Narnia into Creation*, this illustration, a double-page spread incorporating a pair of page-sized fold-outs designed for a book's center, is meant to be viewed from left to right showing a scene as it changes over the passage of time. The extreme width of the image gives it a panoramic quality that lends itself to a slow, sweeping examination by a viewer. As story characters in the bottom left corner observe Aslan (C.S. Lewis' iconic lion figure) sing, the stars in the upper left corner come out and join his song; then the colors of the hot earth are transformed into lush fields; and, finally, as the reader's eyes traverse the illustration from left to right a lit lamp post grows and trees and animals bubble up out of the earth. No repetition is used as visual clues for the reader as to what is happening (as the chair and clock are used in Lane Smith's example in Figure 4.13.2), and no frames are used. All that is required is for the reader to read the text and understand the sequence of events, as well as examine the illustration from left to right, as is normal in our Western Culture. Any reader who knows the story will be able to understand the movie-quality and time passage implied in this illustration if they think about it. It is a fairly subtle time-passage technique, and, no doubt, some first-time reader/viewers might miss the significance of this technique unless it is pointed out to them, or they might catch its significance on a second or third reading/viewing; but concealed features such as this can often be the most

compelling features because, when discovered, they are hidden, unexpected surprises and may offer a greater impact or give greater pleasure as a result.

This example reminds one that, since those brought up in Western Civilizations have used the codex book form for several centuries, they tend to read pages from top to bottom and left to right following the directional linearity of that form. Thus, taking advantage of this tendency to read from left to right can be an effective, almost natural method for showing a scene changing over the passage of time in a video-esque form. I recall a story a favorite uncle told from his childhood. When a photographer was taking a panoramic photo of a large group, in those days he had to pan the camera from left to right. My uncle appears in this photo twice, because he slipped around the back of the group and reappeared again before the pan shot was complete. At a young age, he, too, already seemed to realize, however subconsciously, the significance of time passing when one moves across a page or image.

I have experimented with a second possible method for suggesting the video capture of a scene as it changes over the passage of time in picturebooks, demonstrated by the design for the dustjacket and book cover of a picturebook-in-progress written and illustrated by myself, entitled, The Magic Carousel. Following are seen two images of the opened front and back covers of the picturebook. First, the black and white dustjacket with a glimpse of the four-color illustration that is printed on the book cover behind the dustcover [Figure 4.16.1]. Second, is the full-color illustration on the book cover as seen when the dustjacket is removed [Figure 4.16.2]. By observing the dustjacket first, the reader sees a small boy and girl peering through a door in a wall. On their side of the wall, everything, including themselves, is in black and white. On the other side of the door, thanks to a die-cut hole that exposes the book jacket beneath, the viewer sees a glimpse of a colorful wooded park and part of a small carousel. In the second design, if

one lifts the jacket from the book, the reader now sees the child characters after they have passed through the black and white door into a full-color world and they are running toward the carousel, which the reader can now view in its entirety. The reader's eye supplies the continuity necessary to see these two images as a time sequence, as a short video implying a moving event. The event encompasses the children passing through a doorway and running towards a carousel. Since the carousel appears in both layouts, as seen through the die-cut door and then in its

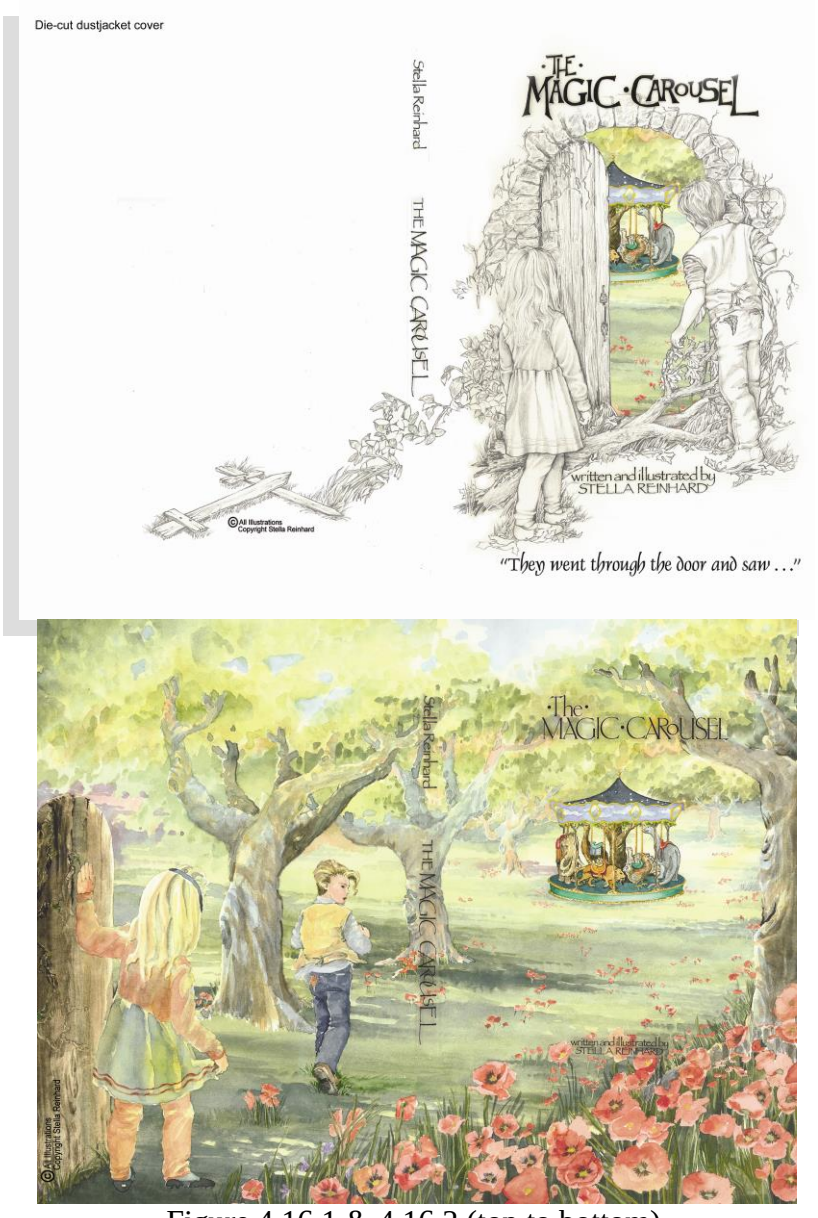


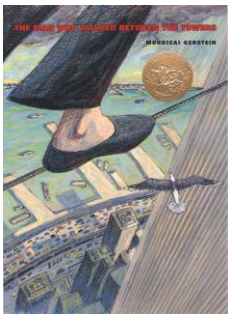
Figure 4.16.1 & 4.16.2 (top to bottom).

context of the wooded park, and since it is viewed in exactly the same location in both views, this image provides the anchor that enables the reader to view these two images as a time sequence, a miniature flip book or a short animation.

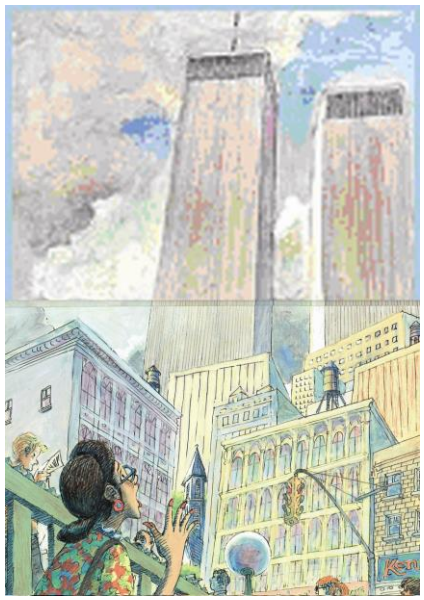
In traditional animation, cells filled with illustration elements are registered directly over one another. The same static elements that are used in both scenes, or cells, appear in the same location in both, while moving characters or items change positions. The carousel acts as a stationary object in a two-cell animation in this example, while the children provide the moving characters. Thus, by utilizing the potential of the dustjacket design together *with* the book jacket, the designer/illustrator is able to show the passage of time through sequential before and after shots, rather like two consecutive frames of a movie clip or a simple .gif animation.

In addition, this transformation sequence was able to show an alteration from one reality to another, from a "real world" to a "fantasy world" or "magical world" through altering the color scheme of the illustrations. In a hypertextual or on-line world, the reader/viewer could simply click and link to immediately end up in a "different reality" or different frame. One can achieve this feeling or perception in picture book design, but in a different way by altering various elements used in the design of the book form, or design of the page or images.

Before leaving this topic, I would just like to mention two more possible ways of showing the passage of time, or giving a video effect, that have been used in recently published picturebooks. Such efforts are by no means common but just a very few examples have emerged in recent years. The first picturebook example, titled The Man Who Walked Between the Towers, was written and illustrated by Mordicai Gerstein and published by Roaring Brook Press in 2003. A Caldecott Medal winner, this picturebook tells the story of an actual event that occurred in 1974 when Philippe Petit tightrope-walked on a cable he and some helpers fixed








Figures 4.17.1, 4.17.2 & 4.17.3 (left to right). Figures 4.18.1 & 4.18.2 (bottom left, right).

between the two Trade Towers in New York City. The book, published soon after the terrorist attack on the Trade Towers, features beautifully-executed and vividly colorful illustrations often featuring dramatic angles and views of the city, and ends with a memorable tie-in to that 2001 event with these words: "Now the towers are gone. / But in memory, as if imprinted on the sky, the towers are still there. And part of that memory is the joyful morning, August 7, 1974, when Philippe Petit walked between them in the air." Gerstein features two fold-out page layouts in this book. The first shows when Philippe Petit steps out onto the wire. Then, when the flap is folded out, the image shows Petit further along the wire. This behaves like a short animated sequence, with the viewer connecting the action between the earlier view where Petit has just begun his walk and

the second picture where he is further along the line, as shown in Figures 4.18.1 through 4.18.3. Figure 4.18.1 shows the front book cover. That same cover image also appears on the page before the sequence just described. As one can see here, this image actually begins the sequence with a close-up of Petit's foot stepping out onto the line, the piers and docks of Manhattan showing far below. A full double-page spread image follows on the next pages [Figure 4.17.2] showing a full-view of Philippe Petit out on the line but relatively close to the reader/viewer, the New Jersey shore off in the distance. A full page flap folds out to show a three-panel spread as shown in Figure 4.17.3 that shows Petit nearing the other Trade Tower, a smaller figure in the distance.

Gerstein uses this feature once more later in the book with an interesting variation [Figures 4.18.1 & 4.18.2]. There is a full double-spread image that is printed sideways so the reader has to turn the book 90 degrees clockwise (calendar position) to view the Trade Towers in their full height with Petit dancing on a line between them (barely visible). A pedestrian is looking up and spots Petit, while everyone else at street level remains unaware of his performance (one person is reading a newspaper in the bottom left of the image, for example). When the page-sized flap is folded down, the full-bleed image now extending over three page-sized panels, the reader now views everyone at street level gazing up at Petit after the pedestrian lady has pointed him out. Once again, Gerstein has created a two-image video sequence showing the passage of time quite effectively—first, no one notices Petit. Then the moment of recognition and excitement follows.

I used a combination of die-cut book jacket over a printed picturebook cover to create a video sequence in my The Magic Carousel picturebook project. Mordicai Gerstein experimented with the use of a page-sized fold-out panel to create a video-like sequences in The Man Who

Walked Between the Towers. For my final example of the emerging presence of video-esque image sequencing and passage of time techniques in picturebooks, George Ella Lyon's picturebook, Who Came Down That Road? simply utilizes the pages of the codex book format and the way they are stacked directly over one another to create an image sequence that takes the reader far back in time, age by age. This picturebook, published by Orchard Books in 1992, features Peter Catalanotto's light-dappled images. It is evident that every aspect of the book, from page design to image design to text design, serve the overall narrative concept. Lyon's thoughtfully crafted text, for example, uses the constant repetition from double-page spread to double-pages spread of the title question to help keep the reader oriented in a fairly complex book concept. She also uses repetition to reinforce the image of the layers of history represented in this narrative as, for example, in the opening pages when the mother informs her child that this is "an old, old, old, old road," her child responds with the question, "Who came down that road?" In this instance, the numerous repetitions of the word "old" could be viewed as reference and foreshadowing of the multiple levels of the road's history that are about to be uncovered in the picturebook.

The illustrations in this book, for all of their exquisite painterly style, show some possible influences from cinematic technology. One of the unusual features of this picturebook lies in the layout of the illustrations, the design of the narrative. There is an extended, several double-page spread opening sequence that leads up to the title page (and that contains illustrations and conversational text). The title page contains the title question and other title page information. This build-up is rather like the extended opening scene of a select few movies such as the James Bond 007 movie series, or recent Disney feature animated films such as *Beauty and the Beast* released 1991) or *The Lion King* (released 1994) that lead dramatically into the title frame

[Videos 4.13 and 4.14, respectively, List of Videos, or view the videos at http://www.youtube.com/watch?v=__x8CYAVMbk and at http://www.youtube.com/watch?v=HwSKkKrUzUk#aid=P-833YMarsk]. In all of these examples, and rather unusually, even for feature films, the full title credits follow a dramatic opening scene. Traditionally and up until quite recently, the predominate number of books and movies did not contain "story" before the "credits." This is an innovation in picturebook format as well—Catalanotto could have been influenced by the development of this type of opening movie sequence, yet another possible influence of technology on the content and format of the picturebook form. Others have noticed that Catalanotto displays such cinematic qualities in his illustrations for this book. As Kirkus Reviews observed, "Catalanotto provides cinematic, out-of-focus illustrations, shimmering with light shining through leaves . . . , occasionally superimposing images for a dreamlike effect; the film technique extends to placing the title page several spreads into the story, so that the title becomes part of the text" (http://www.georgeellalyon.com/childrensbooks.html).

Following the title page, in the body of Who Came Down That Road?, the mother answers her child's question by telling the child of those that traveled that road well back into time, layer by layer; and each age's descriptions are accompanied by a double-page spread-sized illustration as shown in Figures 4.19.1, 4.19.2, and 4.19.3. Figure 4.19.1 is the title page and shows the mother and child entering the wooded path or road with the title question and other information clearly listed. It is this location, this road, where some time traveling is about to occur. Then the subsequent page-spread, Figure 4.19.2, states, "My great-grandma and great-grandpa, / just married and looking to farm. / they came down that road." // "Who came before that, Mama? / Who came down that road?" (Line breaks are indicated by / and extra line breaks

or page breaks by //). Figure 4.19.3 tells the reader/viewer, “Soldiers in blue coats, / saddle high or marching, / they came down that road.” // “Who came before the soldiers, Mama?” The book then revisits the settlers; the Native Americans following the deer; then the buffalo and great-antlered elk to lick at the salt lick, before coming to this text, “Mastodons and woolly mammoths / plunging through forests, / trampling canebrakes / to get away from the breath of ice // and they helped make that road.” //“Who came before the mammoths, Mama?” Double-page spreads follow featuring the inland sea that left the salt lick, and then a painting of space representing

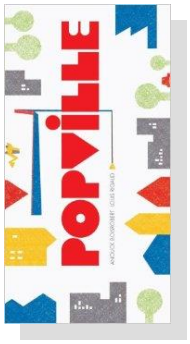
Figures 4.19.1, 4.19.2, & 4.19.3 (top to bottom).

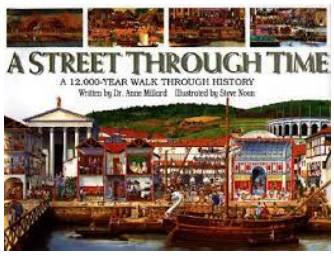
creation, with these words that conclude the text, ". . . questions came before sea and ice, / before mastodon and grizzly bear / / before Indian and pioneer, / before soldiers and newlyweds // the mystery of the making place— . // that came before this road," with the mother and child emerging from the ancient path (unpaged). Note that Lyon once again makes use of rhythmic repetition, this time by listing all of those that traveled the road, to help review and tie together the narrative threads as well as to reinforce the layers of history that have just been represented in this book, before concluding with one final powerful thought of what came before that "old, old, old, old road" (unpaged). Her use of several types of repetition becomes an effective tool that aids her in tackling a fairly complex subject in a simplistic enough way that children can grapple with the ideas she has presented. Note also that the corners of each double-page spread image show hints of what will be revealed on the next age's spread, as well as what was revealed on the previous age's spread—emphasizing the layers of time. References to the layers of age being depicted, once again; and perhaps having connotations of a film fade as well. The conceivers of this picturebook have given the codex book format the function of a sort of time-machine, and the readers are flipping back through various ages of time at that particular place on earth as they flip through the pages of the book; or digging down through various layers of archeological study as the layers, or pages, are lifted and turned, uncovering and revealing the older layer. Technologically-speaking, the effect could be viewed as similar to viewing a recorded sequence of the road at various time periods through the use of time-lapse photography.

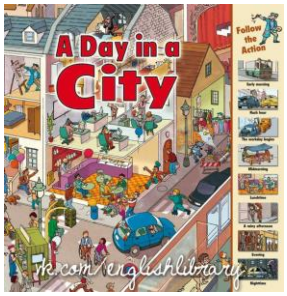
A few other picturebooks, published later than Who Came Down That Road?, do experiment with this technique of using the exact placement of pages to imply the passage of time. Victorian illustrator, Peter Newell, discussed in Chapter Three, used the exact placement of pages one on top of each other to follow an object (a flying bullet and rocket, respectively)

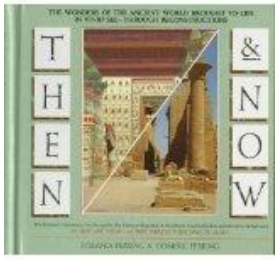
through the passage of time and space in The Hole Book and The Rocket Book [Figures 3.22.1 through 3.22.4, and 3.25.1 through 3.25.5 in Chapter Three]. The bullet and rocket are positioned in the same position on each page, and are described as flying in the narrative, but the background of each image changes from room to room (much in the way movies show car scenes with the background moving past in the windows while those in the car remain stationary throughout). Currently, Popville (published in the United States by Roaring Brook Press in 2010. Prior to that, it was published in Spain in 2000) is a paper-engineered, pop-up picturebook that shows the development of a community over time, using the same idea as George Ella Lyon's book, but going forward in time instead of back—and using much simpler, modular construction-block-like artwork. View the artwork style on the cover [Figure 4.20.1], and a video of the book at http://www.youtube.com/watch?v=Kd2U4mN10gQ, or in Video 4.15, List of Videos]. DK Children's Books came out with their *Through Time* Series of informational books in 1998 with A Street Through Time, for grades three through six (This same series has gained a following, being well-designed and educational, and has been revised and reissued in 2012 in vertical 48-page format for grades five through twelve) [Figure 4.20.2 shows the front cover]. These books began as large-scale, horizontal format picturebooks packed with information. In the case of A Street Through Time, the book begins with a street from the Stone-Age 12,000 years ago and shows the reader, on subsequent double-page spreads, that same view every few hundred years for twelve millennia. Many things change over that period, but the changing church buildings and bridges are always located in the same spot, and a few of the buildings are still recognizable for long periods of time. The book features marginal text paired with icons, and these encourage readers to explore the detailed illustrations in a predominantly image-based work (and all of these examples are largely image-based). Though this is an informational

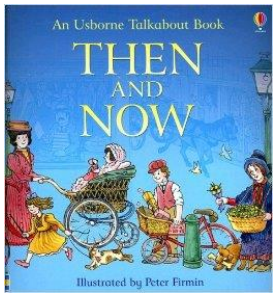
picturebook ideal for teaching history, not a more literary, poetic effort as is Lyon's picturebook, this picturebook (and the entire series) uses complex grand-scale illustrations replacing previous illustrations in the same exact location, again as in Lyon's picturebook, as a sort of time machine or stop-motion video sequence, to show the passage of time on a street. Other books in the series include A Port Through Time, and A Farm Through Time, etc. Millbrook Press' *Time Goes By* Series, published in 2009 for the younger child, ages five and up, features informational picturebooks such as A Year at a Construction Site, A Year at a Castle, and several more. A Day in a City, by Nicholas Harris, provides a repetitive view of the same city corner, with eight double-page spreads focusing on that same corner at different times of the day [Figure 4.20.3 shows front cover]. MacMillan's 1991 informational picturebook, Then & Now, by archeologists Stefania and Dominic Perring, achieves similar results through a creative use of materials, and is the earliest of the examples in this category [Figure 4.20.4]. In this book, for each subject presentation of an ancient site, an illustrated view of that site as it would have appeared originally is shown printed











Figures 4.20.1, 4.20.2, 4.20.3, 4.20.4 & 4.20.5 (top to bottom).

on a clear acetate overlay. Lifting/turning the acetate page reveals a current photograph of the site behind the illustration, with common elements in the same exact position and visible through the clear overlay. Finally, Then and Now, by Heather Amery with illustrations by Peter Firmin (Usborne 2008), uses a different approach to show time passage [Figure 4.20.5]. This picturebook does not imitate the previous examples—layering exactly the same view directly over previous images of the same view—but, instead, presents a number of subjects throughout the book shown in the "then" and "now" illustrations, with these illustrations shown side-by-side. An early shot of each subject appears on the left-hand page of a double-page spread, while a later view of that same subject (of the same size and in same page location) appears on the right-hand page of the spread. It is as though the reader/viewer is seeing the first shot of a film sequence and then the last shot over the span of time as articulated in the two images. Readers study the differences in the images knowing that they are each showing the same subject at different points in time because of the identically placed common elements in both pictures that offer the continuity needed to support the reader's interpretation of the two pictures as the same subject at different timeline moments, similar to a two-frame animation.

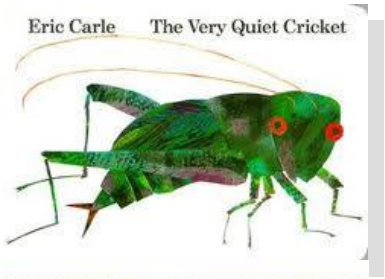
Of the examples discussed here, other than Peter Newell's fictional efforts from the early 1900s, the fictional Who Came Down That Road? (published 1992) is the only fictional example (and still has a strong informational approach). It and the 1991 informational book, Then & Now, are the earliest to use this time passage technique. It is difficult to know whether or not these books or Newell's much earlier efforts had any influence on the remainder of the examples presented. Popville was first published in Spain and Italy before it was published in the United States a decade later, and although book conferences and festivals spread books worldwide over time, while the Internet and websites such as Amazon.com have made books searchable from all

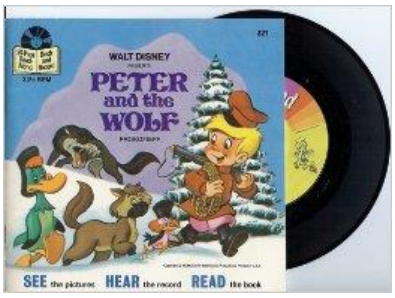
points of the globe in the last few years, it could still be possible that creative book designers had similar ideas without being aware of one another's work. It is possible to find related techniques used in more scientific and historical textbooks in a variety of informational ways. Recall the centuries old example of the *fugitive sheets* from Chapter Two on Paper-Engineered books [Figure 2.5] where many layers of an illustration of human anatomy are layered directly over each other while die-cut holes reveal organs and tissues in deeper and deeper layers of the human body. This is a very early example that uses a similar approach, in that the layering of illustrated pages exactly on top of one another with windows to help view the various level's images and information, not to demonstrate the passage of time, but to delve ever deeper into a subject. Still, Andreas Vesalius' book, De corporis humani fabrica libri septem, could be seen to utilize a variation of this technique, and his book dates from 1543. So, there have been centuries of *related* ideas that have been available to inspire today's picturebook designers to new heights of creativity; although, through lack of technology (i.e., the Internet) it may have been difficult to research such examples. Until quite recently, the field of particularly fictional picturebooks (other than the paper-engineered books that may at times use some features such as lift-the-flap in similar, though simpler, ways) has contained a dearth of such examples. Perhaps the World Wide Web's ability to share information on books across the globe is beginning to make book designers more aware of creative techniques to utilize the book form to achieve unique results.

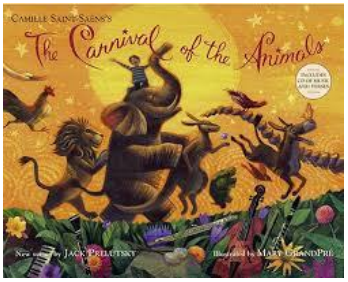
It is rather remarkable that this effect, that has been utilized in one form or another in all of the previous examples, following and including Who Came Down That Road?, is accomplished without the aid of computer chips, die-cuts, flaps or anything rising above the page—without any moving parts or electronic additions at all. The efficacy of simply using the strengths of the codex format to extend the book's design in ways that stretch the narrative's

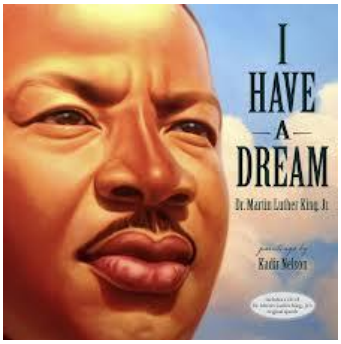
meaning and effectiveness helps to spotlight the continued strengths of the codex form. It continues to wield power to create a sense of magic—despite the onslaught of newer *e*-technologies that are beginning to be used for children's publishing.

These are just a few possible models for transferring the advantages of video imagery and showing the passage of time in the printed picturebook. There may be others. With the importance of instantaneous video imagery in today's society, it will be very surprising if variations on these models do not continue to develop and spread throughout the printed picturebook industry over time. It is now time to turn to the subject of audio in picturebooks.









Figures 4.21.1, 4.21.2, 4.21.3, 4.21.4; 4.21.5 (from the top).

4.3.5.2. Hypertext Model #5.2. Audio Added to Picturebooks

Before moving on from this Section, it is important to take time to address the advent of audio to the printed children's picturebook. There have been several types of attempts to add this feature within the constraints of the codex frame, and we will address a few of these here. The primary ways that I have observed picturebooks beginning to incorporate sound in their form and function include: 1) the

addition of embedded/wedded audio to enhance or support the narrative; 2) the use of audio to narrate or add a musical component or soundtrack to the narrative; 3) the addition of an audio "instrument" of sorts to invite the child/reader to create audio that adds to the book-reading experience; and, 4) the inclusion of a recording device to enhance the picturebook experience in some way.

4.3.5.2.1. *Hypertext Model #5.2.1. Audio Embedded or Wedded with the Book Form, Supporting the Narrative*

Turning to the first point just listed, consider examples of picturebooks that add embedded audio in their design to enhance or support the narrative. My earliest encounter with a picturebook surprising me with embedded sound was Eric Carle's The Very Quiet Cricket, published in 1990 by Philomel Books [Figure 4.21.1 shows book cover. A video reading is available in Video 4.16 in the List of Videos, or at http://www.youtube.com/watch?v=TCm-F2eQSkc]. With its built-in computer chip that plays a cricket's chirping when the appropriate page is turned, this picturebook is one of the first to bring the world of audio to the children's picturebook world in such a way that truly contributes to the narrative in an additive way with the inclusion of an audio track, however small, buried in the page itself. The sound is artistically subtle and blends well with the rest of the book—one merely turns a page and the cricket is chirping. It is an important part of the narrative that this very quiet cricket finally finds his voice, and the sound adds to the narrative as well as surprising and delighting the young reader. Another series of picturebooks by Random House for Young Readers takes a much more aggressive and playful approach to the use of audio in picturebooks with its *My Little Driver Books*, published in 1996, and illustrated by Chris Miles with construction design by JTG of Nashville, Tennessee (the book construction is patented). Different vehicles (an airplane,

submarine, train and car) are featured in four different picturebooks titled Little Pilot, Little Sailor, Little Engineer and Little Driver. The design of these books is cleverly designed (although, with its use of a plastic frame and lots of buttons to push, almost more like a toy than a picturebook), with a horizontal calendar format book positioned at the top of a rigid plastic book frame and a driver's dashboard full of buttons incorporated into the frame visible below the book. The horizontal pages of the book act as the display screen of the vehicle, lifting vertically, with the story printed on the back side of each page becoming visible as that page is lifted and turned, with the next page then acting as the vehicle's windshield. As one can see in Figure 4.21.2, there are a number of live buttons on the dashboard instrument panel. When the narrative displays one of the button icons (i.e., a propeller, or a seatbelt, or a throttle direction arrow), the reader is meant to push the appropriate audio sound button and a digital chip embedded beneath the button activates the sound. Figure 4.21.2 shows the cover of Little Pilot: Fly Your Own Plane. You can see that the book designers used clear acetate to cover the title page of the book, as if this is the actual glass windshield of a plane. While these books feel more toy-like than literary, the buttons used are incorporated in a logical way as a part of the vehicle's operation panel; and these picturebooks do contain narrative. Little Pilot takes its young reader on a flight over the Grand Canyon, with appropriate sounds accompanying the young reader's adventures as he flies in loops, sky writes, and honks to catch the attention of those on the ground. While incorporating the sounds into the instrument panel is logical in a design sense, the sounds are repeated numerous times through the narrative and quickly get repetitive—they do not blend well as would a real soundtrack to a movie, for example. They are obviously digital computer chips that will not fool a child above about three years of age, but this book-reading experience does attempt a sort of virtual reality, a verisimilitude that young readers undoubtedly enjoy and

from which they can learn. Little Pilot will help a young reader experience what it might be like to fly in a plane, what one might see out of the front windshield, what would happen when the pilot loops the plane, what sounds accompany certain activities, etc. One has to admire the concept of this book as an early attempt to incorporate multiple digital chip audio sounds into a picturebook in support of a narrative, however choppy the result. Both of the examples just discussed showcase the first method of utilizing a soundtrack in a picturebook—the addition of audio embedded in the book's design to enhance or support the narrative.

4.3.5.2.2. *Hypertext Model 5.2.2. Audio Added to Narrate, or to Add a Musical Component or Soundtrack to Picturebook*

Figures 4.22.
Hand-written photo caption reads: "The phonograph at home reading out a novel." The drawing was published in an 1878 New York *Daily Graphic*.

The second way sound is beginning to be incorporated into picturebooks involves the use of audio to narrate or add a musical component or soundtrack to the narrative. Decades before the birth of picturebooks that embed the music within the picturebook itself, like the examples just reviewed that use computer chips within the book form, picturebooks have been accompanied with vinyl records, recorded tapes such as videocassettes, and now *CDs*, or *compact discs* mostly used for narration purposes—making this a significantly earlier example of the addition of audio to the picturebook-reading experience.

Audio recordings of the spoken word have proliferated since 1877 when Thomas Edison introduced his invention, the phonograph, recording "Mary Had a Little Lamb" for posterity, first tying the recorded word in with literature and with the field of Children's Literature. Edison

envisioned "phonographic books" as a possible application that could "speak to blind people without effort on their part." It was not even a year after Edison's first recording that the illustration in Figure 4.22 appeared in the April 2, 1878 edition of the New York *Daily Graphic*. The caption hand-written on the lower left corner of the drawing says, "The phonograph at home reading out a novel." This rendering offered a vision of the future, since novels were too long to be easily recorded on the early recording options (such as the four minute cylinder) for many more decades. While the twenty minute records of the 1930s made possible the recording of selections from books and other shorter literary forms, the first full novel recording was published in 1969 (Rubery 1-21).[107]

Read-along picturebooks, comprised of a picturebook and a recording of some sort, have been popular for a similar period of time to the audio book, with Disney entering the field with their first *Read-Along* book and record sets in 1965, matching the technology utilized to record the narrative to the dominant audio technology prevalent when the picturebook is published (first a record, then audiocassettes, and now compact discs). In my own childhood, my sisters and I loved to play a stack of Disney recordings from my parent's collection and read along with the accompanying picturebooks. I particularly remember listening to Sergei Prokofiev's "Peter and the Wolf "while looking at a book featuring Disney's animated characters from their 1946 feature film animating this 1936 musical orchestral composition (Prokofiev wrote both the music and the accompanying narration as a children's story) [Figure 4.21.3 shows book cover and vinyl

[107] Recorded cylinders, with a four minute limit, were available from the late 1800s, but were too space-limited to allow for the recording of books, and the soon-developed twelve minute flat disks were not much better. In 1931, the AFB (American Foundation for the Blind) and the Library of Congress created the Talking Books Program intended to offer reading matter to veterans injured in WWI and other visually impaired readers, and, with the emergence of a close-grooved record that extended recording time to twenty minutes, records could now hold poetry, short stories, essays, plays and portions of longer books such as the Bible. The first recorded full-length novel was The Autobiography of Benjamin Franklin by Michael Rye, and included portions of Franklin's autobiography, excerpts from *Poor Richard's Almanack*, *The Dogood Papers*, as well as some of his shorter pieces (Rubery 1-21).

record, or listen to video in Video 4.17, List of Videos, or view the video at http://www.youtube.com/watch?v=Ot7m9i70JDg].[108] The audio track for this story truly adds something to the story in addition to simply narrating it—it allows the child to hear the music and narration of the original composition as conceived and written by the composer. It brings more to the experience than merely reading the words and looking at Disney's charming images, however well conceived, because this was originally written as a musical story for children. Often, such accompanying audio tracks might contain, as in this example, a narration of the book's story and accompanying music, or they might contain sing-a-long songs, such that children could read or sing along with the recording. While often mirroring the accompanying picturebook text, they might sometimes feature added audio sounds to support the narrative (such as cars honking, birds chirping, or music weaving in to support the text or end a story segment, etc.), or songs featured in the same story in its film version, etc. As read-along books, they frequently feature some sort of chime to indicate that the child reader should turn a page—a sign that these are intended to support a child learning to read without an adult present[109] (http://disney.wikia.com/ wiki/Disney_Read-Along).

More recently, accompanying *CDs*, or *compact discs*, have taken over this added audio role for such books, and fit into the constraints of the codex format easier than did the larger vinyl records or the bulkier video-cassette recordings. A CD is small and flat and easily slips into a slot on an inside picturebook cover (yet is large enough not to be easily lost by a child as

[108] Disney released their *Read-Along* Series from Disneyland Records (now Walt Disney Records). They have released hundreds of Read-Alongs based on their own feature films and animated films, cartoons, as well as *The Little Golden Book* series. These books ran 24 pages long, and the recordings typically include a narration of the story, "Tinkerbell" chimes to indicate a page should be turned, and a selection of songs related to that story taken from the film form. These books always used the marketing line, "SEE the pictures, HEAR the record, READ the book." The narrator from 1965 to 1971 was predominantly Robie Lester (http://disney.wikia.com/wiki/Disney_Read-Along).

[109]Disney used the Tinkerbell chime sound for a page-turning signal; except for Prokofiev's Peter and the Wolf, which did not use any page-turning sound (http://disney.wikia.com/ wiki/Disney_Read-Along).

the even newer USB flash drive data storage device might be lost—this seems to be a case of choosing the data storage device that is "not too big, not too little, but *just right*," to refer to a well-known folk tale).

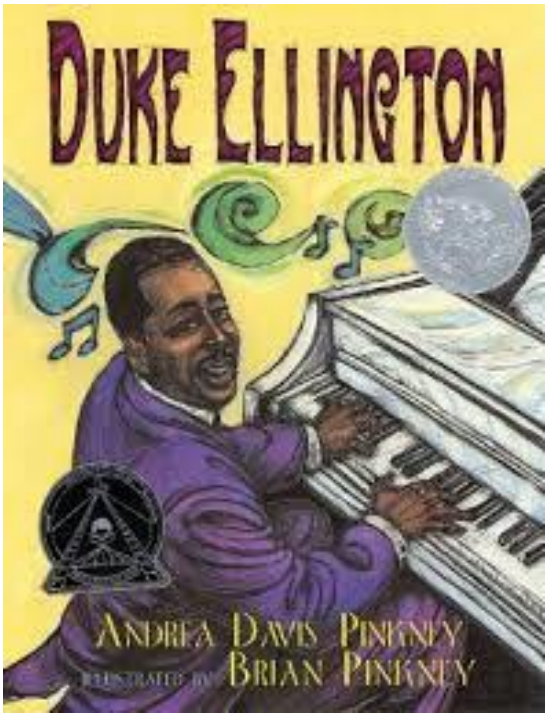
It should also be mentioned, before leaving the subject of the narrated story—or, the audio track that contains a narration of the story—that a significant number of the new digital picturebook applications contain a narration option as well. Most often the child reader can choose to be read to, or they can choose to turn off the feature and read the book by themselves. Notice, from Chapter Two's discussion, that Figure 2.37, showing the "control center" desk top for Pop Out! The Tale of Peter Rabbit, displays the option, "Read to Me" and allows the young reader to click and choose whether the story is narrated aloud or not.

Today, such CDs are branching out to contain special audio files offering extra features in addition to simple narration of the "read-along" story. The Carnival of the Animals is a picturebook published by Knopf for Young Readers in 2010, with illustrations by Mary GrandPre (illustrator of the American Edition of the *Harry Potter* series) [Figure 4.21.4 shows book cover referencing the enclosed CD]. It features a CD containing, not only the renowned 1886 musical composition of that name by Camille Saint-Saens, but also features a recording of Jack Prelutsky (appointed the United States' first Children's Poet Laureate by the Poetry Foundation in 2006, a two-year appointment) reading his own original verses inspired by the music. Another example where the CD adds something important and unique to the narrative is Kadir Nelson's illustrated picturebook, titled I Have a Dream, that features selections from the famous speech of the same name by Dr. Martin Luther King, Jr., with his complete speech printed at the end of the book (Random House, 2012) [Cover shown in Figure 4.21.5]. What is unique about the contents of the accompanying CD tucked into the inside front cover of the book

is that it contains the official historic audio track of King's iconic speech recorded during the March on Washington, delivered August 28th, 1963. In both of these examples, the CD offers more than a simple narration of the picturebook text. In the first case, the child gets to hear an entire orchestral performance of a composition written over a century ago that inspired the picturebook as well as the poems featured inside the book, with the added bonus of the noted author of these original poems reciting his own work. In the second case, the child reader can now, not only enjoy a pared down version of King's speech with rich, accompanying illustrations, nor merely read the complete text printed in the Afterward, but the child reader has a chance to go back in history and get a sense of what it was actually like to participate in that famous March on Washington, by hearing a leader, now gone, as he inspired a nation. In both cases, the audio adds much to the picturebook project, it extends the narrative.

CDs have a significant amount of storage capacity and the potential to be used to a far greater extent than they are currently being used. Think of how movie *DVDs* (*digital video discs* or *digital versatile discs* having a greater storage capacity than CDs and the versatility to hold a variety of file types, from movies, to computer games to music files to data storage) today may contain a variety of extra features for users to explore once they have watched the movie. They might contain director's cut versions of the movie, sometimes with director's over-voicing commentary. They may contain alternate endings, or deleted scenes, or bloopers. They might show the storyboard conceptions of movies, or the development of the costumes, and sometimes they might include an exploratory game based on the movie. Currently, there are relatively few picturebooks that feature an added CD, and the content of those added CDs is often fairly basic, with one or two items at most. The subject of such books is often musical (as in The Carnival of the Animals, or Peter and the Wolf), so it is natural that the music being presented in the

picturebook would also be offered on CD for the child reader to hear. Still, there are many examples of teaching CDs or DVDs accompanying books for adults, and these disks contain a great deal more information, often including numerous lessons (i.e., for books on how to speak French, or play guitar or string bass, for example). Since the capacity of CDs or DVDs accompanying picturebooks is far greater than that being utilized, it may be inevitable that future examples of this type of addition to the picturebook may contain a greater variety of digital audio and/or digital video additions to the picturebook experience.



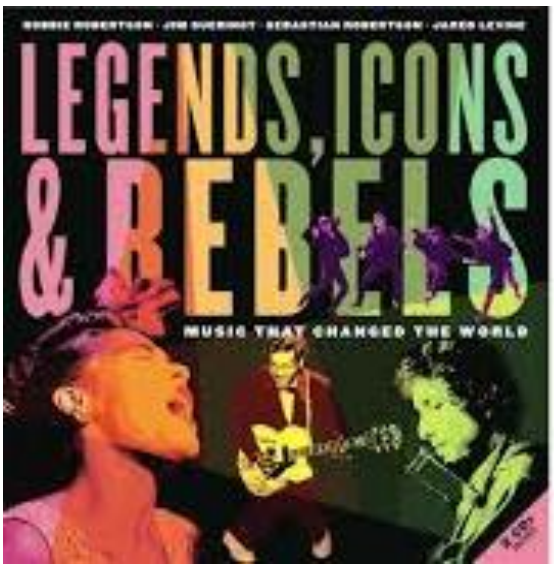


Figure 4.23.1 & 4.23.2 (top to bottom).

Another point here is that the CD and the DVD are the same size physically. In future, accompanying CDs may often be replaced by DVDs and, instead of hearing the audio for "Peter and the Wolf," the child may also be able to watch an orchestra playing the composition, perhaps even see the original composer performing or leading that orchestra. Such DVDs could then contain extra features just as movie DVDs have been adding. A DVD could include storyboards of the book's original conception by the

illustrator or book designer; perhaps the child reader would have the opportunity to watch video interviews with the author or illustrator of the book; or if the book is about a specific spot on earth, the DVD could contain a video tour of the spot (i.e., London, England or the Great Wall of China, for example). If the book is historical fiction, a digital scrapbook of historic photographs or newspaper articles could be added. Some space could be given to demonstration and instruction. For example, if the picturebook covers a subject such as jazz, the child could watch a jazz musician demonstrate various jazz stylings, or several musicians demonstrate jazz riffs on a variety of instruments. And if that picturebook is not only about the subject of jazz, but also about a particular musician, then historic footage of that musician performing their own music could be included.

It is perhaps important to note that just including a DVD with a picturebook particularly as a follow-along device, in my considered opinion, would not encourage reading development the way an audio recording does. With an audio recording there are no outside visuals to distract the child reader from the picturebook, so the audio recording aids the young reader by reinforcing what the visual text is saying. But with DVD "read-alongs," a child reader would become too easily hypnotized by the screen and the moving visuals *outside* of the picturebook, and would, in all likelihood, neglect to pay attention to the words in the picturebook. At this editing, searching Amazon.com did not produce any read-along type picturebook with DVD sets. That does not mean this sort of set will not become available in the future, but it is my view that combining DVDs with a picturebook should be developed in the directions just described, adding files that support but do not *mirror* the text, rather than as a simple narrating device purportedly encouraging the development of reading skills.

Some picturebook subjects seem to invite a CD or DVD supplement more than others. It seems a natural pairing when a picturebook is about sound or music, to at least consider offering a picturebook with an audio component. Words are powerful, and it can be a fun and edifying experience to try to describe a particular style of music with words—but it might also add more to the experience for the young reader to then hear the actual music that has been described in words to be able to make a comparison of text and note. There are a number of excellent picturebooks about music or specific musicians and composers, or about ballet or theatrical performances, etc., where music or vocal performance is an important factor. However, a significant number of these are not accompanied with a CD or DVD. Extra factual information is often offered for informational picturebook subjects, but is located within the book itself in text or image form. Sometimes actual photos or newspaper articles, timelines and other information are included in the back of such picturebooks, adding excellent and factual information, but it is rare that audio or video files are included as well.

To demonstrate a point here, let us consider a specific example. Brian and Andrea Pinkney illustrated and wrote Duke Ellington: The Piano Prince and His Orchestra, published by Hyperion in 2006 [Figure 23.1]. Brian Pinkney's images are vividly powerful, with their strong black outlines often featuring swirling figures representing Ellington's groundbreaking music, and were created using scratchboard renderings with luma dyes, gouache and oil paint. Andrea Davis Pinkney's rhythmic text describes the Duke's music with evocative imagery, as in, "Toby let loose on his sleek brass sax, curling his notes like a kite tail in the wind. A musical loop-de-loop, with a serious twist." Her husband creates those loops visually, showing a kite floating off in the sky. At the end of the book there is a biography about Duke Ellington's life, as well as a

bibliography of works the couple consulted in creating the picturebook. The Pinkney's efforts on this book earned them the Caldecott Honor Award, a high honor indeed.

I enjoy reading picturebooks such as this, experiencing various authors' efforts to interpret music through word and image. Word and image are both powerful mediums, and, when working in tandem with one another, can leave unforgettable impressions on a young reader. Even so, when there is no included audio track with such a picturebook, especially for specific, factual musical subjects, after reading such a book I find myself turning to the computer to listen and/or watch an actual performance of this composer/musician's work. One could observe that the picturebook, in this case, succeeded as a catalyst to draw me as a reader into the subject, and I expanded my knowledge with further exploration on my own as a result—and this is a viable observation. Yet, a child reader, the audience for such a book, may not realize they have the option of exploring the Internet or a local library for further knowledge on the subject, and they may not have the skills or required accoutrements (such as a computer or car) to be able to do so. So, in this age of relatively inexpensive audio reproduction technology, it may be logical to pair an audio, or video, performance with particularly the printed picturebook where it is a natural complement to the picturebook's subject. Such a CD or DVD could be useful in classroom settings as well. One could argue that, when it is relatively easy to use a computer to find and share such a musical performance following the reading of a picturebook on the subject, that such CDs or DVDs are an unnecessary expense. This is a valid point, and if an e-picturebook version is made, readers can look up information with their Wi-Fi access or they could be designed into such electronic books by means of hyperlinks. Creators of print picturebooks will have to judge the importance of adding a CD or DVD with extra files, and if

there is not a strong reason for their existence, if they do not add significantly to the picturebook experience in some way then their use is extraneous.

CDs or DVDs that offer a number of files, or a variety of types of extra files that cannot be organized, accessed or shared easily in a printed picturebook, or cannot be found easily through a child's own research—some examples of which have already been mentioned, such as interviews with the author and/or illustrator, or the composer or musician, plus examples of performances, rehearsals, etc.—may be one of the best reasons to add such a feature. One example of this use of the attached CD is Canadian Singer/Songwriter/Guitarist Robbie Robertson's picturebook, Legends, Icons & Rebels: Music That Changed the World published by Tundra in 2013 [Cover shown in Figure 4.23.2]. This picturebook for grades four through seven includes two CDs that have memorable records of the music of 27 music legends from Patsy Cline and Chuck Berry to Aretha Franklin and Louis Armstrong. These recordings present the young listener/reader with a cross section of diverse performances that would have been difficult for the reader to assemble through their own efforts. The picturebook can discuss the subject's life and then the reader can hear their music contribution—not of just one musical great, but of nearly thirty musical legends. This is a clear example of the type of picturebook project where the additional CD is a vital feature.

Thus, as a rule, if a CD or DVD holds multiple varied files or hard to find information or performances that would help a teacher be able to offer extra teaching opportunities after reading the picturebook with a class, or that would interest the inquiring child reader even more in the subject, then they could be a useful addition to the picturebook project as a whole. If they enhance, extend and support the picturebook then including them with the book has merit.

The question could be raised as to whether an accompanying CD or DVD with historic files recording, say, an Ellington performance, or an historic King speech, might almost make the picturebook redundant or unnecessary—but this is not the case. Picturebooks are literary and illustrative retellings even when they do involve factual events—they are artistic, designed pieces meant to draw a young reader in, to instill an urge to explore an event or subject further. They entice with their poetic yet succinct words and emotive illustrations, and if they succeed, the child will want to experience the real event or explore that subject more on the CD or DVD. I can see such combinations drawing the child reader in to investigate subjects that might not normally draw their focus. To illustrate this point, recall Figures 4.18.1 through 4.18.5, from Mordecai Gerstein's 2007 picturebook The Man That Walked Between the Towers, discussed earlier in this Chapter. That picturebook uses misdirection to make a gentle yet quite powerful impact about a most somber subject: It recalls the events of September 11, 2001 and the fall of the Trade Towers in New York City due to a terrorist attack, but accomplishes it in an understated and thoughtful way by first reminding readers of another *joyous* event that also caught the attention of the world that happened at that same location several decades earlier. Through a beautifully artistic visualization of that previous and happier occurrence the child reader is reminded of an event that cannot help but bring a smile to one's face, and then is thoughtfully reminded that those towers are gone but that there are happy memories associated with them as well as tragic ones—and both events are framed in a way that a child reader can handle. Actual video footage of Philippe Petit's walk, or footage of 9/11, would not accomplish the same task, because the picturebook, through its inspired design, text and colorful illustrations, manages to touch a person's soul with its artistry (and footage of 9/11 would arguably not be age appropriate for those reading picturebooks, yet an artistic literary

presentation such as the picturebook can introduce the child reader to the historical event without terrifying them). And, after such a delicate yet profound introduction to both subjects, the child reader might remember this tale and, either then or at a later date, investigate both subjects for more factual information and/or for video footage of the actual events. The best informational picturebooks do more than present the facts, they arrange them, illustrate them and design them to show the child reader the *heart* of what happened—the artistry, the moments of importance—so the reader leaves the book engaged and curious. It has always been my view that the best picturebooks can be much greater than the sum of their parts.

One significant drawback of this type of addition of audio to the picturebook form is that these are an addition to the picturebook, and not an integrated part of it. To utilize this book feature, the child reader requires a playing device to use the CD or DVD, and would have to use such devices with adult help, depending upon the target age group for a particular picturebook. It will not matter how comprehensive and varied are the files included on such a CD or DVD if the child never plays it for lack of ability or access to the necessary digital device. A printed picturebook just needs to be opened to be able to be used, but added technology requires a decoding device and a display screen. However, the majority of U.S. homes do have televisions and DVD players, according to a recent 2013 U.S. Census report. In fact, 96.1% have televisions, and 83.2% have a *DVR* device (*Digital Video Recorder*), while 58.2% have computers that could be used to play such a CD or DVD or to search online for similar recordings or information (http://www.census.gov/hhes/ www/poverty/). As many computers in

Figure 4.24.

the lower price range no longer come equipped with CD or DVD drives (laptop and tablet computers becoming every smaller, more streamlined as manufacturers aim for portability at a price point that penetrates the market), many people's computers, laptops or computer tablets can only be used to research the picturebook topic, not to play an included CD or DVD.

USB flash drives are the stick-shaped, *small portable drives with USB (Universal Serial Bus Interface) connectors* that would dock with almost any computer, as the USB connection is becoming a fairly universal computer connection. Sometimes called *jump drives* or *memory sticks*, they frequently have a clip to easily attach to a key-chain as does the SanDisk Cruzer Micro shown in Figure 4.24, and are a "plug and play" type of storage—almost always rewritable. Flash drives have no moving parts so are fairly durable. They are immune to magnetic interference, unlike floppy disks. They are not easily scratched like CDs. Flash drives can have a large capacity on a very small device (I recently purchased one with 128 gigabytes of memory storage, but they typically are offered quite inexpensively with two, four or eight gigabytes of storage. The one in shown here has 4 gigabytes of memory), so they are extremely portable and increasingly reasonable in price, to such an extent that they are given away free at conferences these days. Such devices can hold both audio and video, as well as image and text files, and could be useful in adding extra features to picturebooks.

To make use of USB flash drives to add extra content to picturebooks, however, would require that at least two points would have to be addressed. First, most flash drives being marketed currently are rewritable, so the data stored on the device would need to be write-protected, so it would not be easily erased, altered or harmed in any way. Secondly, if detachable from the picturebook, they are so small that they could be easily lost in a physical sense. To use them effectively with a picturebook, designers would need to be creative. For

example, it used to be standard for many texts to come with a built-in bookmark that was attached to the book frame permanently. One could incorporate a flash drive into a bookmark designed into the book frame of a picturebook that could be pulled away (but not detached from) the frame to plug into a computer. Flash drives used to have detached caps to protect the USB port, but these consistently get lost, so manufacturers have begun offering types of flash drives with retractable USB ports or with some other attached means to protect the drivc. The drive shown here slides into the casing upon sliding the white tab down. So at least the "losing the cap" part of the problem has already been resolved, but using such a drive would require being able to pull the drive a considerable distance from the book at times in order to plug it in, and might require a retractable cord, or extra long bookmark length, etc. Without a careful design, such miniscule devices would promptly be separated from the book, left in computers, dropped behind chair cushions, etc.

Flash drives could be an optional technology to pair with picturebooks in the future, but for now CDs and DVDs are still the device of choice for publishers to enclose with printed picturebooks when wanting to offer extra features, so it is important to consider how easy it is for children to utilize the included discs. However, digital or *e*-picturebook applications offer another option.

For *e*-picturebooks that are produced in the digital format to be read on computer tablets and other *e*-readers, disc-playing drives may not be necessary, as extra information *could* be added to *e*-picturebooks through links to a secure database or to a prepared website that holds the necessary extra information (although this alternative is not happening yet in the industry as of this editing date of October, 2013, except for the following example). Such is the case with Theodore Gray's *e*-picturebook, The Elements for the iPad, as reviewed introduced in an earlier

chapter [view digital review at http://www.youtube.com/watch?v=nHiEqf5wb3g or in Video 2.1.1, List of Videos]. This groundbreaking *e*-picturebook shows continually updated information on the scientific elements through links to the Wolfram-Alpha Computational Knowledge Engine. The potential of such a feature for *e*-picturebooks appears an incredible development on first consideration. Just think about it. Picturebook information that goes out of date could be updated continuously. Picturebooks might even be able to be updated to a new, revised edition automatically. However, embedding long-term hyperlink connections present a new set of problems, as internet links are notoriously unstable and are broken all of the time. Digital files can be lost or damaged in the blink-of-an-eye. So, the website destinations of such links would have to be carefully chosen and monitored to create a reliable connection that lasts over the lifetime of such *e*-books.

Print picturebooks, when loved, can be passed down over generations. Whether *e*-picturebooks, a brand new publishing form, are required, in part through customer pressure, to demand the same long-term viability remains to be seen. But, until the issues with web-link or website stability are addressed, the need for CDs, DVDs, or perhaps even flash drives, to accompany picturebooks when extra files are necessary additions will probably not abate.

One point for discussion could be made about the emerging trend to add a soundtrack to *e*-picturebooks. Some virtual picturebook applications today are adding a soundtrack to their narrative. They have undoubtedly been influenced by a combination of factors. I recall making a comment to a friend years ago, after watching a movie where one of the characters was driving along a Pacific coastal highway as music swelled in the background, that it would be great if we could have our own soundtrack to our lives as occurs in the movies; that the tough moments in life would be much easier to handle if the music swelled to ease us through the difficult time; and

those wonderful moments in life would be enhanced as well. If a person climbs a mountain, it seems appropriate that inspiring music should play as they spin on the top while thrilling at the view. Today, with the advent of MP3 devices such as the *iPod Shuffle* that allow the downloading of a whole library of music onto a tiny device, this vision appears to be coming true, whether for the good or bad of individuals and/or society remains to be seen. With earbuds in ears, children, and adults as well, are walking around listening to music of their own choosing as they stroll, bike, cross streets, work out, study, and generally live their lives. This seems to be a constant for a growing number of people. While teaching undergraduate art classes at Virginia Commonwealth University, I had to create a rule that, during studio time when working on their art projects, students could only have one ear with an earbud in it (and none at all during lectures) so that they could hear any conversation or teaching that went on. I felt that students could miss out on some of the best interactions or informative answers to student questions during studio time because they could hear nothing *but* their own "soundtrack." In my own family, on long car trips I have had to apply the same rule to ensure my children do not miss family interactions because they have both ears plugged into their "life soundtrack." Such rules seem necessary because there are two significant differences between a movie soundtrack and music heard through earphones. With movies, the entire audience hears the same movie soundtrack and yet are still able to hear other sounds as well (if someone whispers something in their ear, for example); while with earphones, only the person with the hearing device can hear the music, and that is *all* they can hear while "plugged in." This can have positive and negative consequences. Children are so used to being plugged into music, that they may be growing to expect this soundtrack to accompany most of their life activities, including reading. Their brain may not be getting much down-time for simply relaxing and thinking (and, often, creative

thought accompanies silence provides the time and "space" for the mind to think). I am a lover of music, but often my most creative periods happen when I turn all audio off. Children have already grown used to the soundtracks that accompany theatrical musicals or movies, including children's films, another narrative form; and such movies often have key sequences where music swells and becomes an important element in that scene. And, with the advent of the *YouTube* Website, a common ground has been laid for the presentation of short music videos worldwide—with music videos often adopting something similar to a short narrative film format—accompanied by the featured song. This point can be demonstrated by the almost picturebook-like narrative (reminiscent of Jean de Brunhoff's 1931 French classic, Histoire de Babar) of a young elephant from a zoo finding his way back to Africa, part of the music group Coldplay's "Paradise" music video. View Video 4.18 [List of Videos, or view at http://www.youtube.com/watch?v=1G4isv_Fylg]. This video seems to be targeting the young child as a future listener to Coldplay.

All of these "life soundtrack" influences have built expectations that music should accompany children's narrative experiences, whether they be in film or book form. The children and college art students (who grew up with earbuds in their ears and the constant influence of a soundtrack accompanying their activities) are becoming the designers of the new *e*-picturebooks as well as the readers who purchase them. In addition, particularly paper-engineered picturebooks are now often being marketed with a lovely little video on *YouTube*, introducing these new picturebooks with a charming musical soundtrack in the background, such as the trailer for Marion Bataille's ABC3D [discussed in Chapter Two. View Video 2.19, List of Videos, or http://www.youtube.com/watch?v=wnZr0wiG1Hg]. The background music, "Roll On, Mississippi, Roll On," a 1930s song sung by the Boswell Sisters Trio, is so energetic and

playful that listeners may be influenced to purchase the music in addition to the picturebook. This is just one of many paper-engineered picturebook video reviews that have begun to add music to enhance the book review experience over the last few years. It appears that *e*-picturebooks have started to emulate this trend, and many of them are beginning to add, not only a narration option, but a soundtrack option, as demonstrated by the Figure 2.37, the "desktop" control center for the *e*-picturebook titled, Pop Out! A Tale of Peter Rabbit, that has been discussed previously in this Chapter, and introduced in Chapter Two as well. In the figure in the bottom left corner of the virtual desk, the reader has the option to control the volume of this background "soundtrack" with a "Music Volume" control. But the music is chosen well, and few readers will want to turn off Claude Debussy's emotive *Claire de Lune* [Listen to soundtrack

Figures 4.25.1, 4.25.2; 4.26.1 & 4.26.2 (top to bottom, left to right).

in Video 2.26.2, List of Videos]. Such soothing sounds will undoubtedly put little readers to sleep and/or instill the germs of a love of classical music. This is undoubtedly a growing trend.[110] *YouTube* now places a hyperlink in clear view next to the information on the video to allow viewers to easily purchase the downloadable soundtracks that are showcased in reviews of such *e*-picturebook applications.

4.3.5.2.3. *The Book as Musical Instrument: Adding an Audio "Instrument" Incorporated into the Book's Design to Invite the Child Reader to Create Audio that Adds to the Book-Reading Experience.*

The third way sound is being incorporated into picturebook design is can be demonstrated with two examples. The first of these examples is a paper-engineered book by David Carter titled, White Noise, published by Little Simon in 2009 [Front cover shown in Figure 4.25.1]. White Noise is the fifth paper-engineered book in Carter's color series of paper-sculpture picturebooks (the others including One Red Dot, Blue 2, 600 Black Spots, and Yellow Square). In several of Carter's other paper-engineered picturebooks he has incorporated "noisy" pop-ups that are built to create sound as they are opened and closed. In White Noise, he has created an entire picturebook around this concept of the reader's interplay with the book creating a "sound track." The term *white noise* describes the ambient, background noises around us that typically do not disturb us and often soothe and calm us—the ocean, crickets chirping, birdsong, waterfalls, soft music, etc. White noise machines are sold that replicate such sounds to help people sleep, or to mask street noise, or as background while doing yoga or writing, among other reasons. In Carter's book, his text reflects this theme, as in Figure 4.26.2 where the

[110]However, one obvious problem with this feature occurs. If, for example, a child opened an *e*-picturebook in a library (or anyplace where one is supposed to be quiet) embedded soundtracks could play automatically if the audio component of the reading device has not been turned off, or if a child does not know how to do so. Think of how often, despite reminders to turn off all cellphones that are given before theatrical events, school programs, church programs, etc., that cellphone alarms are still activated during such programs. In contrast, the printed word has no automatic audio track that one needs to remember to disable.

double-page spread reads, “A tangle of bits and pieces / and tinkling white noise.” The young reader is meant to play with suspended circles of white paper, producing soft “tinkling” sounds similar to wind chimes. The text on every page describes that page-spread’s moveable and always includes the phrase “white noise,” with the intent of enticing the reader to explore the pop-up and try to produce the intended sounds by interacting with it in some way. It is the primary theme of the book, and one can view what Carter intends the young reader to do with the book in the video at http://www.youtube.com/watch?v=NhzO7BhSVF4 [or in Video 4.20, List of Videos]. In effect, David Carter has turned this paper-engineered picturebook into an instrument for the young reader to play, encouraging them to create their personal soundtrack for each reading experience.

A second example is a bit more straightforward in presenting an instrument in the picturebook with which the young reader can interact. Figures 4.26.1 and 4.26.2 show the front cover and an inside spread of the 1999 paper-engineered picturebook (from Dutton’s Amazing Pop-Up Series), The Amazing Pop-Up Music Book, by Kate Petty, illustrated by Jennie Maizels. In Figure 4.26.2 on the right-hand page of that double-page spread one can see a piano keyboard visible along the bottom of the page. This is a working keyboard (and, in my own copy, the keyboard still works years after the book’s purchase, so such chips have a fairly acceptable life-span. I always admire the designers most who include a way to replace the power source when it has lost function—thus, supporting an extended life for such picturebooks). In effect, the young reader is being offered the instrument needed to create a soundtrack for their reading experience. With the decreased sized of digital computer chips, it is becoming increasingly easy to add such opportunities to picturebooks, and in all likelihood such effects will increase in number as their possibilities are realized by book designers.

However, it is not only book designers that are responsible for the inclusion of such special sound effects in picturebook design. Publishers have to be willing to go to the extra trouble and expense necessary for their inclusion. As the publishing industry continues to be shaken at its foundation by the advent of *e*-readers and *e*-books, it will bear watching to see whether special effects picturebooks such as these will fall by the wayside as print runs shrink and publishers consolidate their offerings focusing mainly on established names. It is also possible, alternatively, that the picturebooks that most emulate the special effects that can be accomplished in *e*-picturebooks (the newer technological form of the picturebook) will be the designs on which publishers focus in order to compete and survive with a readership that is now computer savvy and has grown to expect such bells and whistles. In this case, the picturebook subject is music, so including a working keyboard not only will delight the young reader, but is a natural outgrowth of the theme of the book. Child readers of this book will be able to understand how a piano keyboard functions, including the black keys that also function, even if they have no piano at home on which to experiment.

With regard to the viability of a piano keyboard as a special effect for future picturebooks, particularly in the digital realm; recently Apple has introduced an application that turns the *iPad* into an octave of the piano keyboard as shown in the photograph in Figure 4.27.1 (other applications can turn the *iPad* into other instruments as well) and as demonstrated in their own advertisement for the application demonstrating a duet of the song, "Heart and Soul" on two *iPad* pianos, shown in the video in Video 4.21.1 in the List of Videos, or view at http://www.youtube.com/watch?v=qy_R5E9PUWA. This application has generated quite a bit of press nationwide, including excitement in the Internet community, causing various reputable orchestras, concert pianists and other music groups to experiment quite creatively with the *iPad*

and *iPhone* piano and other musical instrument applications, as demonstrated in the video at http://www.youtube.com/watch?v=ZPJ75Bcyk2o or in Video 4.21.2, in the List of Videos. This video shows the Christmas tune, "Carol of the Bells," among others, played with a full complement of various necessary instrumentations from keyboard pianos to guitars and bells--all played on *iPads* and *iPhones* with the appropriate downloaded application. The number of such performances and experiments using this new set of applications that are already gaining a world audience via *YouTube* is significant because the applications have only recently been released—demonstrating the viral excitement generated by the possibilities offered by these new applications. It is when events captivate and pervade a culture that they begin to invade the mindset of its designers and to have an affect on the literature and art of that culture and generation.

In this case, child piano and music applications are already being produced for the *iPad, iPhone* and other touch-screen devices such as the *Android* cellphones, as demonstrated by the video review of a baby piano application seen in Video 4.21.3, in the List of Videos, or at http://www.youtube.com/watch?v=NTZzsK6kYME. This particular computer application, Baby Piano HD Lite, offers a color-coded piano with the "do-re-mi" *solfège* designations on the appropriate keys that *teach pitch using associated syllables*. Both the color-coding and the syllables are tools useful for teaching children music. One of the other features of this baby piano offers animal sounds for each key played.

I can visualize some distinct design possibilities for an *e*-picturebook using such music instrument applications. For example, using the Christmas carol played on the *iPads* and *iPhones* as inspiration, if an *e*-picturebook involved a story about a kid band, and several children had their own *e*-readers to read the story, when the story showed the characters forming

the band and playing a song together, the page could offer different instrument options (incorporating the various instrument applications into the books coding) and the different children could each select a different instrument and actually play the music of a simple tune such as "Mary Had a Little Lamb" as an ensemble of instruments playing their respective parts. The story could have music for each of the instrument parts, and perhaps offer the opportunity to play several songs. Such a story could be a teaching tool useful in academic situations, as well as offer an interactive and possibly extended reading experience and general fun for its readers. In addition, such a story could help build a sense of community.

While the field of the *e*-picturebook is brand new, and, thus far, no *e*-picturebook applications have utilized this *e*-keyboard or *e*-instrument feature within their narratives, it will probably only be a matter of time before apps such as this get worked into *e*-picturebook applications in ways similar to the keyboard in The Amazing Pop-Up Music Book. Many *e*-book applications already include various types of interactive game-like elements—puzzles, mazes, and many special effects. These *e*-piano keyboards and other instrument applications could be seen as one more type of interactive special effect, an audio one, and, especially when the subject is music, it seems inevitable that such features will eventually be incorporated into *e*-picturebook design.

4.3.5.2.4. *The Inclusion of a Recording Device to Enhance the Picturebook Experience.*

The final method that I have observed thus far that is now used to add audio to the children's picturebook is through the inclusion of a recording device that invites the addition of narration by the child reader or by a family member or friend. I offer three varied examples of this emerging feature for the purposes of this discussion: 1) a recording device to include a

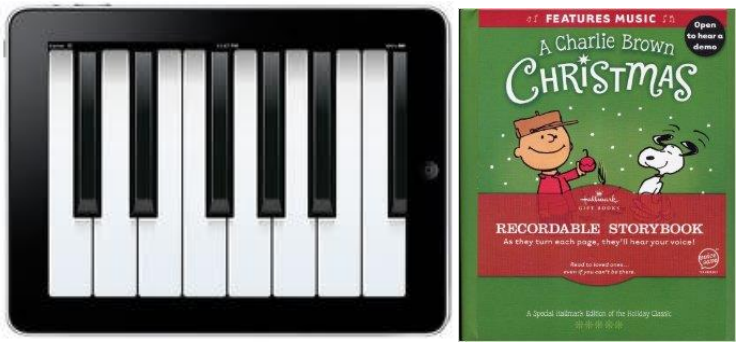
narration, perhaps from an absent loved one; 2) a recording playback device that allows inclusion of a background music track, exposing the child reader to "good" music; and 3) an included recording device so the child can practice their own reading skills.

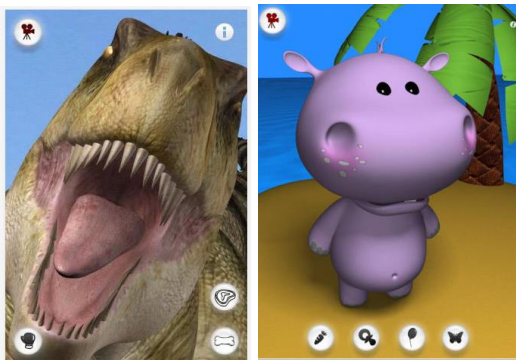
The first example is the recordable picturebook. *DigiTells* offers a type of picturebook branded "Read Along With Me." A marketing video for "Read Along With Me" describes the product in Video 4.22.1 in the List of Videos [or you may view the video at https://www.youtube.com/watch?v=CWUqvE-1deQ]. Similarly, Hallmark has also begun selling a line of classic picturebooks that offer a recording device built into the book. Charles M. Schultz's *A Charlie Brown Christmas* was the one I selected for purchase this past holiday, as the now classic television animated cartoon has been a holiday favorite of my children's over the years. The cover of this book, pictured in Figure 4.27.2 markets itself with the encouragement displayed across the bottom, "Read to loved ones . . . even if you can't be there." Grandparents or an absent relative could record their voice reading the story so a child could share a moment with them, even in their absence, or enjoy it years later.

The second point is illuminated by this same example: The now-classic animated television special of the story in this picturebook features iconic tunes and arrangements performed by the Vince Guaraldi Trio.[111] This music was first released on a record album in 1965, and has become one of the most popular holiday albums of all time. The year 2012 saw the soundtrack's addition to the Library of Congress' National Recording Registry list of "culturally, historically, or aesthetically important" American sound recordings, and their press release announcing its selection credits this album for the fact that it "introduced jazz to millions of listeners" (http://www.loc.gov/rr/record/nrpb/registry/nrpb-2011reg.html). Bits and pieces from the soundtrack are interwoven as musical bridges between pages in Hallmark's recordable

[111] (with original music credited to Vince Guaraldi and Lee Mendelson)

version of this story [Watch video of Picturebook in Video 4.22.2, in the List of Videos, or at http://www.youtube.com/watch?v=jlTnPfj2aXI]. So, in reading a recordable book, children may not only be exposed to a narration by, perhaps, an absent loved one—but such a feature also creates the ability to add a musical soundtrack to the picturebook as well. And in this case, it introduces the child to portions of a famous jazz music album, as well as reminding the child reader of a classic cartoon they may already love.





Figures 4.27.1, 4.27.2, 4.27.3, 4.27.4 & 4.27.5 (left to right, top to bottom).

The third use of the inbuilt recording device incorporated into picturebook design is the "record your own narration" feature that is being offered in some new *e*-picturebook applications. Disney's *e*-picturebook application, Toy Story, first introduced in Chapter Two, offers this recording feature, demonstrated in Video 2.2 [List of Videos, or view the app preview at http://www.youtube.com/watch?v=Iq7xKXuN6i8]. Notice, as you watch the video, that the reader has controls hidden along the bottom of the touch screen that can be called up with the reader's touch/swipe on that area of the screen. The reader can choose the "Read To Me" option, then choose, "Record My Voice," and "Use My Recording" [also shown in the screen-capture image in Figure 4.27.5]. In other words, the young reader can record their own narration and then listen to themselves reading the narrative or excerpts of it. (Or, as with the recordable storybooks just discussed, they could also have a parent or grandparent, uncle, aunt or friend record the story so the child could benefit from hearing the familiar voice of a loved one read a story even when that person or persons are not actually present with the child. Additional audio features of this *e*-picturebook application include: musical bridges between page-turns from PIXAR's award-winning and now classic *Toy Story* movie.[112] Soundtracks from complete songs are also available throughout the storybook at the touch of an icon-button/hyperlink at the appropriate places in the narrative, complete with follow-along highlighting of lyrics and text—which could help with reading skills).

One final example of an incorporated audio recording device to hear oneself speak has thus far only been introduced in new *iPad* baby applications. This feature has thus far not been incorporated into *e*-picturebook applications—but I can foresee that it may occur in the future. This type of computer application is just a small, fun interactive game-like element. It uses the

[112] *Toy Story* was the first animated feature that was completely computer animated, released in 1995 and featuring music by Randy Newman, such as the popular, "You've Got a Friend in Me."

audio features of the *e*-reader device to create an on-the-spot, short recording with instant playback that incorporates the child reader's own voice (application designers tend to design for the *iPad* and/or *iPhone* first because Apple is renowned for its innovation and creativity and is often the first to offer special features that are then incorporated into other tablets and smart phones). The talking application usually features an animated character on the display screen of the reading device that will immediately parrot back what the reader has just said—a most intriguing application. These simple applications have been dubbed, "Talking Applications," and tend to be very basic, featuring one character, from an animal to a robot, etc. Several *e*-applications for the *iPad* and *iPhone* and *iPod Touch* that are specifically designed for children are demonstrated at http://www.youtube.com/watch?v=ImAmBFgr6Uw, or in Video 4.22.3 [List of Videos]. The first two applications discussed in this video review are examples of this type of talking application. Produced by OutFit 7, first for the *iPad*, *iPod Touch* and *iPhone*, but now translatable to Android devices, these two applications are "Talking Rex the Dinosaur," and "Talking Baby Hippo." Screen-captures from the two applications are displayed in Figures 4.27.4 and 4.27.5, both showing the characters in the application with their mouths open as they talk back to the viewer, repeating what the viewer has just said. The dinosaur is quite realistically animated and ferocious in appearance; and, when talking, its enormous jaws open toward the reader. This dinosaur application might require a parent's guidance at first so as not to frighten younger children, but the mouth opens in a fairly realistic fashion to show the words being spoken. The talking hippo application, on the other hand, is animated with the rounded shapes and pastel-colors of a rubber bath toy, and is perfectly appropriate for even the youngest child. However, the hippo's mouth is much smaller and does not mimic the shapes of human speech as successfully and obviously as the dinosaur application does, and the mimicry of shape

could be helpful to the child. The voices of the two characters are appropriate to each characters' illustrated style: The dinosaur is ferocious sounding. The hippo speaks softly. The icon marked buttons visible the screen-captures allow the reader to do simple tasks such as to throw the dinosaur a piece of meat that he eats, or place a pacifier into the hippo's mouth.

Consider the types of narratives that could utilize such a special recording/instant feedback feature effectively. One could have a main character that is having trouble with their colors, or with pronouncing certain words, or identifying animals. The text could tell the child something like, "Could you help Sammy Songbird learn his colors? You tell Sammy what colors the building blocks are and maybe Sammy can learn his colors with your help." The child reader names the colors of the blocks pictured in the narrative on each page, and the character, Sammy the Songbird, repeats back the color names out loud. The child reader is thrilled. Not only has the child reviewed and practiced naming colors, but leaves the *e*-picturebook feeling empowered at having taught the story character to identify colors as well—good practice for helping younger siblings learn to read later on in life. Not only could a child learn from such an application incorporated into their *e*-picturebook, but this special feature is interactive and would help draw the child reader into the secondary world of the narrative where they become a character in the story. This could ultimately reinforce the child's imagination—a vital component of the reading experience.

This discussion has examined a cross-section of the types of audio that have been incorporated into the design and function of the children's picturebook, or that could be so incorporated in the near future. The users of such applications today become the designers and purchasers of tomorrow's *e*-picturebooks. It will be a natural outgrowth to use features found in familiar computer applications that they grew up exploring and to then incorporate these special

features in future *e*-picturebook applications. And, as experimentation in the *e*-picturebook arena takes place, no doubt ideas will be borrowed, as with the recordable storybook reviewed here, and print picturebook designers will experiment with ever more ways of including audio in print picturebook design.

4.3.6. *Hypertext Model #6. Hypertextual Telescoping and Zooming: A Common On-Line Activity's Translation to Picturebook Design*

A sixth quintessential hypertextual attribute is that of telescoping and zooming, a photographic technique that can be used to describe a common on-line activity. As a reader undergoes a search for information, they hone in on a subject of interest. As they find an appropriate web-site about that subject, they may focus in, ever closer, until the targeted subject is actually found. Other on-line activities actually reinforce this model as well, programs such as *Google Earth*, for example, is always zooming in for close-ups of cities or land features, and then zooming out again. Computer game cameras allow for the same sorts of zooming in and out of a scene, as do computer animation programs, as has been discussed in the Introduction. The screen capture in Video 4.23 [List of Videos & Screen Captures] follows just such a process of zooming and telescoping one's focus that is involved in an Internet search. Focusing in and out, closer and closer to the subject of search, then backing out again, to gain a broader perspective.

This activity of telescoping and zooming in and out is common on the Internet, and has quickly become an activity familiar and recognizable to on-line visitors. Until recently, however, this sort of activity was very uncommon, virtually non-existent in the field of Children's Literature design where, for centuries, the vast majority of picturebooks exhibited a linear format of text alternating in a very predictable and straightforward way with almost entirely landscape-view illustrations—perspectives familiar to most people. This does not mean the field showed an

absence of creativity and innovation. Innovation and creativity appeared in other areas—areas such as the technology used in illustration, in the quality, trends and styles of illustration design, in methods used to provide color in printed picturebooks, and in the design of paper-engineered books, to mention a few examples. Still, innovative change did not occur in the area of the perspectives used and the modes of perceiving the connections among the pages of a picturebook. The long-accepted model for perceiving the connectivity among the pages of a picturebook and the perspectives used on those pages was based on and fit the format of the codex book with its linear pages that turned one after the other in a sequential and horizontal manner from beginning to end in a repetitively similar fashion. Other models supported this rigid, linear formatting—analog audio and video recording media also supported a horizontal, linear structure. Then, as previously discussed in the Dissertation Introduction, following the launching of the Internet, the emergence of digital recording media and computer design programs such as *Maya* that offered zoom perspectives in their design features, and the advent of satellite photography offering new perspectives of our planet—after all of these events, beginning about 1995, creative book designers and illustrators began experimenting with perspective approaches to picturebook design and illustration design that were anything *but* horizontally linear.

Istvan Banyai, introduced in Chapter Three, is an award-winning and acclaimed Hungarian creator of such innovative books as Zoom, Re-Zoom and The Other Side. He was one of the first book creators to begin experimenting with the sort of zooming perspectives with which users of the Internet were becoming familiar. These three books play with the concept of telescoping vision. Both Zoom books were published by Viking in 1995. The Other Side was published by Chronicle in 2005. Each of these books approach their subjects through "a

different lens," so to speak. The latest of the three, The Other Side, looks at the opposite views of those a person can see. If a person is looking *out* of a window, for example, what is the view of that window for those looking *in* the window? This book explores both sides of a view. Both Zoom and Re-Zoom keep zooming out from the first picture of the book while playing with the reader's understanding of where they are in the world. All of these books are wordless, relying solely on the connectivity of their images for their narrative impact (although, occasionally, incidental words appear on advertising signs, street signs, etc., as part of the image). These narratives do not have a plot arc, but are more of an exploration of one's world from a different perspective. The use of the zoom-out connection between consecutive images in Zoom and Re-Zoom creates the feeling that the reader is a part of a vertical trajectory pulling back into space

Figures 4.28.1, 4.28.2, 4.28.3 & 4.28.4 (left to right, top to bottom).

with each page turn and new image, rather then stepping along in a linear fashion from left to right with each page turn. The impression one gets from reading a book such as Banyai's is dramatically different from the impression left when reading the typical linear, lateral-feeling layout of most picturebooks.

The four images from consecutive page spreads in Zoom, shown in Figures 4.28.1 through 4.28.4, show a segment near the end of the picturebook. All of the images are from the right-hand side of each double-page spread. The left half of each double-page spread is black (and this pattern repeats in Re-Zoom). In this segment, the reader begins by viewing what appears to be a Native American dressed in cowboy garb and watching a small television in the desert, and the picture continually zooms out in the following three shots, with dramatic results: In the second picture the viewer realizes the scene is actually printed on a postage stamp marked ARIZONA. The third images shows a hand carrying the letter to which the ARIZONA postage stamp is affixed; and the fourth image has pulled back to show the postman is delivering the letter to natives on a tropical island [View a digital video of Zoom, right-hand pages in sequence, in Video 3.2, in the List of Videos, or at http://www.youtube.com/watch?v=IfQ-2RzrkCU].

In the book, the juxtaposition of all of the pictures, one over the other on the right-hand side of each double-spread, emphasizes the zooming effect and the fact that the viewer is looking at the same scene, only from a greater distance each time. The black color on the left-hand page of each double-page spread acts as the border "film" color and recedes into the background, allowing the emphasis to remain on the images on the right-hand side of each spread. In this way, the focal point of the story remains constant, a necessary effort to keep the reader/viewer oriented in an otherwise rather disorienting and constantly changing setting. The dramatic and ever-present zooming effect in this book could leave the reader quite confused by the end of the

narrative (perhaps, in part, because no narrative text accompanies the images that might offer explanation and clarification). However, this lack of textual narrative forces the reader to study the images to determine the thread of this non-traditional "narrative." The book inspires re-reads and exploration to examine the concepts involved in its creation. The colors in Banyai's books are vivid and flat, and these books have a dramatically graphic and thoughtfully-designed aesthetic that reflect Banyai's commercial illustration background

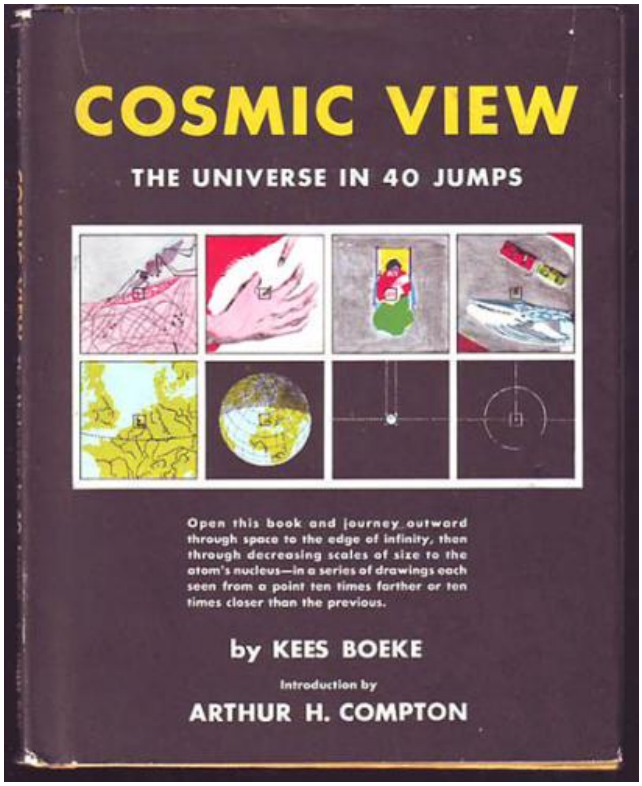


Figure 1.4 (from Introduction).

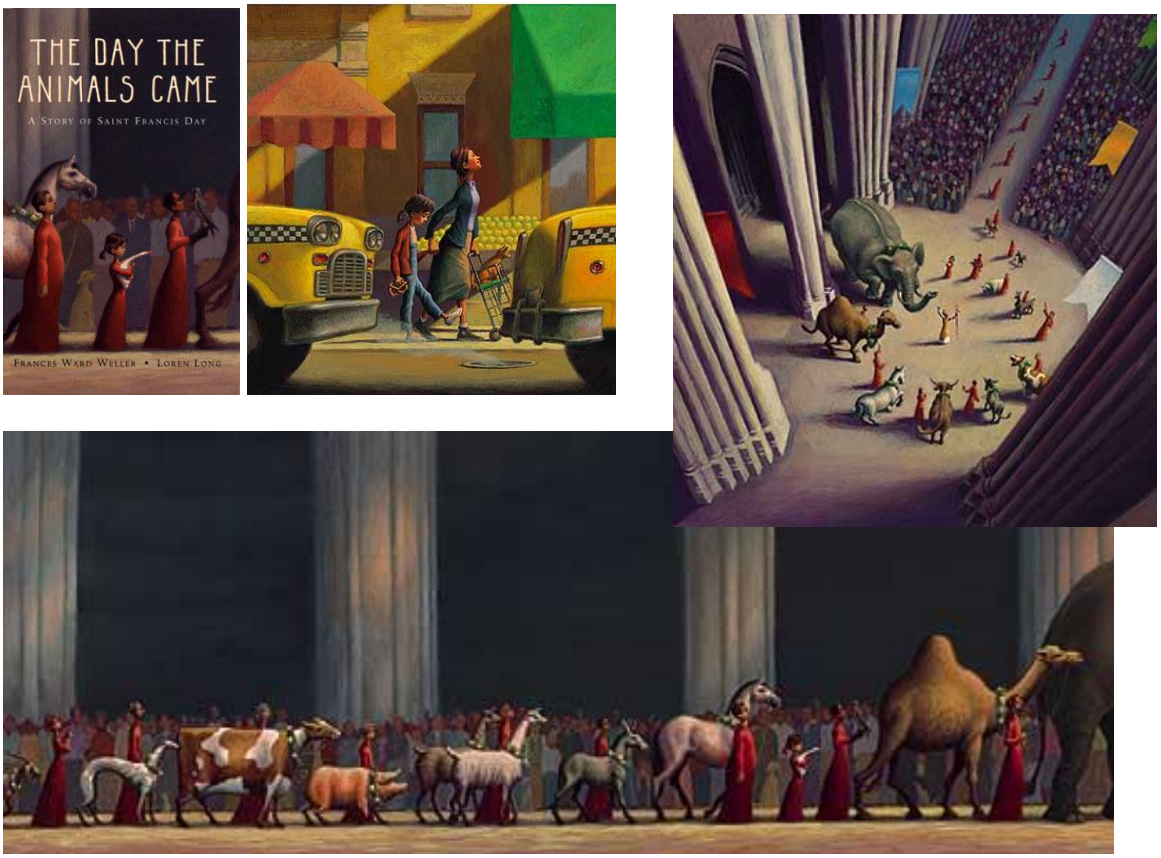
(http://www.nrm.org/2012/11/istvan-banyai-stranger-in-a-strange-land/).

Although Istvan Banyai may have been one of the first designers in the Children's Picturebook Field to play with this concept of telescoping and zooming perspectives, more and more designers are beginning to play with this type of zoom movement in their picturebook design. David Weisner introduces a similar sequence in his Caldecott-winning picturebook,

Flotsam. And, Steve Jenkin's picturebook, Looking Down, previously discussed in Chapter One, uses telescoping and zooming perspective transitions from image to image very similar to the the Eame's movie, *Powers of Ten* [view digital video in Video 1.1, List of Videos, or at http://www.youtube.com/watch?v=38ti9BJiyvs]. In fact, Jenkins credits the Eames for his inspiration for that picturebook. As previously clarified, the Eame's movie was based on the Kees Boeke 1957 picturebook, Cosmic View: The Universe in 40 Jumps, the cover of which is shown in Figure 1.4. Illustrations on the cover show the zooming concept clearly, beginning with a bug on the skin cells of a person's hand zooming out step-by-step to outer space. The primary differences between Istvan Banyai's picturebooks and these two decades-earlier attempts at the zooming and telescoping perspective is that, (1) the purpose of the earlier projects was teaching oriented and scientifically inspired, not creative fiction, and it took decades for this innovative picturebook and its screen adaptation to infiltrate the completely disparate field of children's picturebook design; and, (2) both creators first zoomed way *out* and then far *in* to their subjects—so, both types of zooming and telescoping perspectives were used. In Banyai's Zoom, he simply keeps zooming further and further out from his scene until he is in outer space and the Earth disappears from sight. Banyai never zooms back in from the opposite direction to a close-up. Still, the final zoom out into outer space bears remarkable similarity to those earlier examples. So, just as Steve Jenkins, a decade later, credits the idea for his picturebook, Looking Down to the Eames' movie; so, too, Banyai could very well have been influenced by the telescoping perspectives in the Eames' movie as well.[113] Now that non-linear models are more prevalent and other picturebook creators have raised awareness for these zooming/telescoping models for picturebook illustration sequencing, the numbers of examples in the field are

[113] Steve Jenkins credits Ray and Charles Eames on his website for the idea for his picturebook, Looking Down, stating, "This book owes a debt to Ray and Charles Eames' Powers of Ten" (http://www.stevejenkinsbooks.com/books/looking_down.html).

increasing across the genre. Some will undoubtedly be whole book models for such treatment as are the examples mentioned here, while others may borrow the concept for just a small selection of illustrations in the entire book. I have already ascertained that a growing number of children's picturebook illustrators have begun to include bird's-eye perspective at least once in their picturebook design, such as Loren Long's perspective illustration [Figure 4.29.3] looking down on a cathedral of animals being brought for a blessing from his picturebook, The Day the Animals Came (Philomel 2003). This picture is paired with three other image from this book using the more typical landscape perspective. The cover image [4.29.1] and the streetscape [Figure 4.29.2] both are painted using normal landscape perspectives. The parade of animals [Figure 4.29.4] is meant to be dramatic, there is no doubt about it, but the illustrator still used an extended panoramic landscape perspective, a *typical* landscape perspective. Such dramatic



Figures 4.29.1, 4.29.2, 4.29.3 & 4.29.4 (clockwise circle starting top left).

panoramic paintings may be unusual, but they have been featured on the walls of palaces and public spaces for thousands of years and are familiar to the average reader. In addition, readers can easily step from landscape image to landscape image quite smoothly, *almost as though they are viewing frames of a movie*, without being jolted out of their sense of a "secondary reality." Even the panoramic shot, however grand, would not jolt viewers out of their acceptance of this series of images as within the normal range of their expectations for an illustrated story—precisely because it shares the same landscape perspective as the remainder of the sequential images. However, Figure 4.22.3 showing the bird's-eye shot looking downward onto the floor of the cathedral and the animals standing in a circle being blessed is not a typical perspective for children's picturebooks. Additionally, there is no pressing reason to use the birds-eye perspective in this illustration. No detail in the text suggests such a perspective, and so its presence captures the attention of the reader. This could be a good thing or a bad thing, depending upon the illustrator's intentions (or, indeed, lack of thought) about the abrupt insertion of such an unusual perspective among so many landscape perspectives. It could make the reader sit up and pay attention, or it could startle them and make them feel uneasy about the presence of that particular picture, jarring the reader out of the secondary world that the picturebook has created. Still, whether such experimental perspectives are being inserted with thought or lack thereof, this does not negate the fact that images with such perspectives are entering the consciousness of picturebook creators and becoming a "part of their repertoire," so to speak. We will continue to see more of them in the future.

This type of perspective is becoming a part of illustrator's repertoire, in part, because it is a particularly important perspective put to constant use when zooming and telescoping in and out of frames on-line and in other e-media applications. Bird's-eye perspectives have been almost

non-existent prior to the advent of computer animation programs, satellite photography, the introduction of ubiquitous programs such as *Google Earth*, and the advent of the Internet, as has been previously discussed in the Introduction and Chapter One of this Dissertation. So, this emerging importance of this "new" perspective in children's picturebook illustration is a more confined example of the "zooming and telescoping" hypertext model.

4.3.7. *Hypertext Model #7. Multiple Open Windows and On-Line Multi-Tasking Informs Simultaneous Multiple-Plotting in Picturebooks*

A seventh experience with which visitors are met when visiting the web, or when reading some hypertextual stories, is that of multiple plot lines. Simply by having more than one window open at a time can give the visitor the experience that they are dividing their focus to cover several topics or activities simultaneously [as demonstrated in the screen capture in Video 4.24, List of Videos]. In addition, some hypertextual narratives, such as the previously-mentioned on-line novel by George Ryman [that you may explore at http://www.ryman-novel.com/], involve multiple and simultaneous plot lines navigated by traversing from hyperlinked window to hyperlinked window. Ryman's novel for adults involves two-hundred-and-fifty-three simultaneous storylines because there are that many passengers on the train and each one of the passengers has a story to be told.

This sort of simultaneous narrative is rare in the picture book field, undoubtedly due to limited space availability on each page and in number of pages available in each picture book, or perhaps the perception exists that children cannot handle such a complicated plot-line conceptually. However, David Macaulay broke some ground in the area of simultaneous

narratives with several of his fictional picture books, most especially Black and White, for which he won the Caldecott Medal in 1991, the highest honor for children's picture book illustration

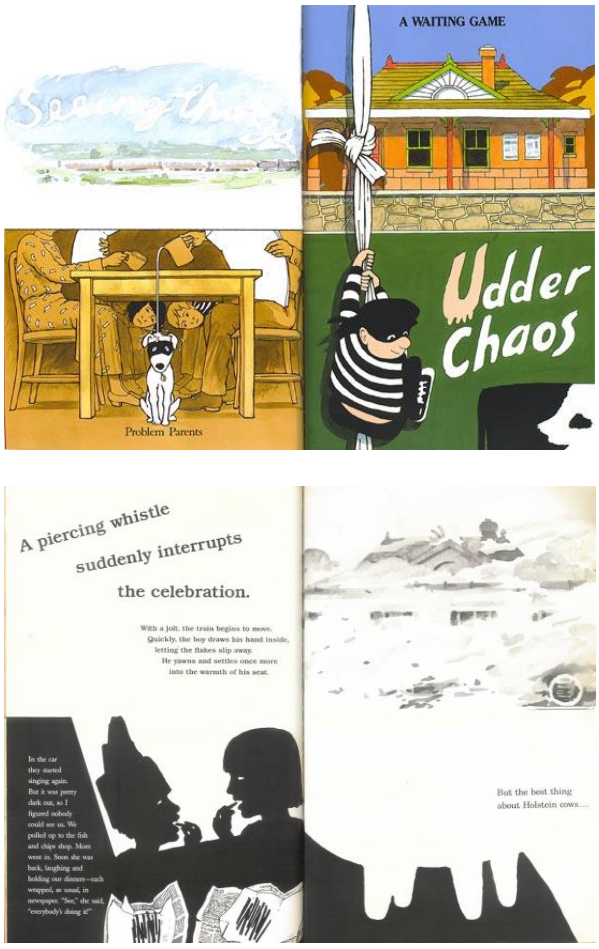


Figure 3.29.2 [previously introduced in Chapter Three] & Figure 4.30.1.

awarded in the United States.[114] Figures 3.29.1, introduced in the previous chapter, shows the front cover of the picturebook. Revisiting Figure 3.29.2 [also introduced previously and reprinted

[114] Three variations on this idea of multiple plot line experimentation within the same picturebook include: (1) Newbery Award author, Paul Fleischman's Glass Slipper, Gold Sandal: A Worldwide Cinderella. Illustrated by Julie Paschkis, this 2007 picturebook from Henry Holt offers multiple threads of the same story by starting the story together, then weaving in the various world-wide versions of the tale (17 versions are included) by separating some pages into horizontal strips or other sections, then rejoining the multiple story threads together into one thread to end the story and enhance the overall continuity; (2) A second example is a series of *e*-picturebook applications from Moving Tales' "Classic World Tales" series. In their second of the series, a version of an old Jewish tale titled The Unwanted Guest, this *e*-picturebook looks very much like a graphic novel, but plays with multiple versions of the same story because each time the reader views the story they see a different visual version. Multiple shots of each

below] demonstrates how Macaulay is able to tell four stories simultaneously. He accomplishes this extraordinary bit of design juggling by dividing each double page spread into four quadrants, separating those quadrants by style of illustration, style of type fonts used, and by a dividing rule and the use of the gutter. So each square represents a different narrative with its own title page (shown in this Figure), style of illustration, plot arc, text, etc.

As the stories progress, the reader begins to see contact points among their plots and witnesses their gradual convergence. Similarities are seen among story themes. The colors of black and white are continually used throughout all four of the plots. Newspapers are being used in similar ways. Animals with black and white spotted coloring and bandits of different sorts, but with the same masks, are also present in multiple variations, as demonstrated in Figure 4.30 and as can be viewed in various other double-page spreads throughout the picturebook.

Finally, all boundaries among the illustrations for the four stories vanish, including the boundaries of line and color, as all color drains out of the four quadrants and the four illustrations appear almost as one illustration in black and white. This loss of both color and boundaries is clearly delineated in Figure 4.30.1. As the reader has noticed similar motifs and objects appearing at various times in the various plots, a growing suspicion that these plots may be inter-related has arisen in the reader's mind. This double-page spread minus color and borders confirms such suspicions as the text verifies that the various plots are converging in one moment of conjunction.

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scene from different viewpoints have been created, and each viewing of the story is a unique meshing of randomly-chosen shots of each scene unified by the reading experience. Other creative inclusions involve the ability to change textual languages even within one reading experience; and the text whispers on and off pages like a flurry of leaves. At this point in time moving text within *e*-picturebooks is rare (https://www.youtube.com/watch?v=UwzSFEUeCfY); and, (3) Nosy Crow's e-picturebook application Little Red Riding Hood, allows the reader, by touching the screen, to help the little girl choose from eight different paths to Grandma's house. The reader helps pick up different things to put in Red Riding Hood's basket. The end of the story changes depending upon which path the reader took and which items are in Red Riding Hood's basket. These items help Red Riding Hood fight the wolf successfully. A video preview of the book's features can be viewed at https://www.youtube.com/watch?v=emR8_vqJdlQ (Video 2.26.5 in List of Videos).

The four stories do not conclude on the same trajectory, but diverge again, allowing the four stories to separate as the story ends. They are once again four separate storylines, and the borders and colors have returned, as the four narratives conclude, each on their own paths.

The plot shape for this multi-plotted narrative takes the form of a sort of "cat-whisker" plot pattern, as demonstrated in Figure 4.30.2. Following this model from left to right, the picturebook begins with four simultaneously revealed stories set on a trajectory that will cause their intersection before the book ends. The reader chooses which stories to read first when paging through the book, leading to a lack of linearity especially if the reader chooses a different order of plot-reading on different pages. When the line between the stories disappears, the four plots have all intersected in one moment of conjunction as seen in the middle of the model, then the plots all diverge again before the conclusion as seen on the right-hand side of this model.

David Macaulay experiments with unusual plotting in two other fictional picturebooks. These include Why the Chicken Crossed the Road, published by Houghton Mifflin in 1987, that utilizes a circular plot; and Shortcut, published by Sandpiper in 1999, that once again experiments with multiple simultaneous plots that interact with each other at various points of conjunction rather than just at one point as in this story.

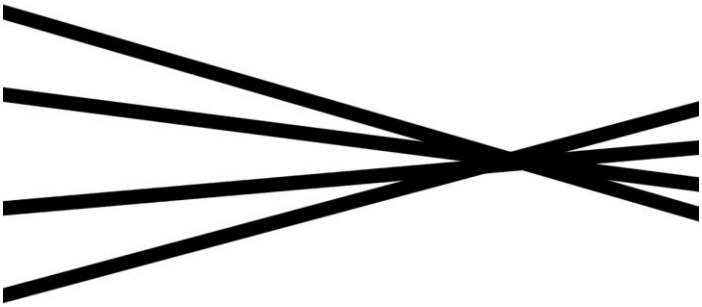
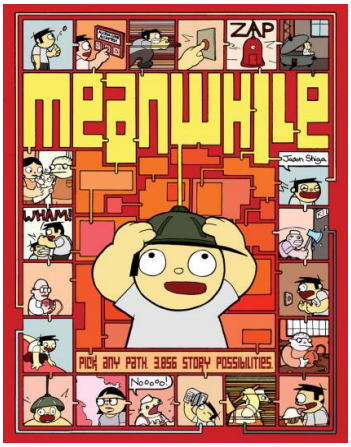


Figure 4.30.2.

Black and White was a groundbreaking in 1991 when it received the Caldecott Medal, and it still remains a highly unusual format today (after all, the major non-linear inspiration of the World Wide Web did not exist for several more years). A few examples of similar experiments are just beginning to be published, by other author/illustrators as well, and will continue to emerge over time. I would like to discuss just one more example before moving on to the next hypertext model discussion.

Meanwhile: Pick Any Path. 3,856 Story Possibilities, by Jason Shiga, published by Abrams in 2010, is a remarkable picturebook that displays several unusual design concepts [Figure 4.31.1, front cover]. The book is drawn in graphic novel, cartoon styling with framed rectangles and speech balloons that make up the ultimate in multi-plot narratives. The obvious reason is that the narrative plot offers nearly 4,000 path possibilities that are determined by the reader's choices. A series of tabs [see Figure 4.31.2] that run vertically along the page edges of the book allow reader to follow their chosen paths while skipping forward or backward to follow the literal narrative line (it looks like a tube)—a line that moves up or down, forward or backward. In addition, narrative lines occasionally branch, leading to a decision on the part of the reader as to which path should be followed. The reader is given instructions in the Introduction with the warning that many paths lead to "doom and gloom" and only one ends happily. Readers may come across codes that can lead to top secret pages. The overall concept mimics the concept behind some computer games where many games allow exploration and lead to a player losing, and the player has to begin again until, finally, success is achieved, and the top level is accessed and conquered. In similar fashion, many narrative lines in this book can be explored and lead to unhappy endings. Only one of nearly 4,000 paths leads to a happy conclusion.

This entire dissertation is an exploration of how new technologies affect the form and content of the children's published narrative, particularly the picturebook, so it is appropriate to point out that Jason Shiga's narrative was begun with the aid of seven flowcharts. Ultimately, in order to conquer the final layout and design problems such a complicated narrative presented, an algorithm was run for twelve hours to reveal the ultimate layout solutions. Another algorithm was necessary for production of the finished layouts and art. Here, then, is an example of an extraordinarily complex multiple-plot narrative confined, still, in a codex shape, that required design help from a computer.



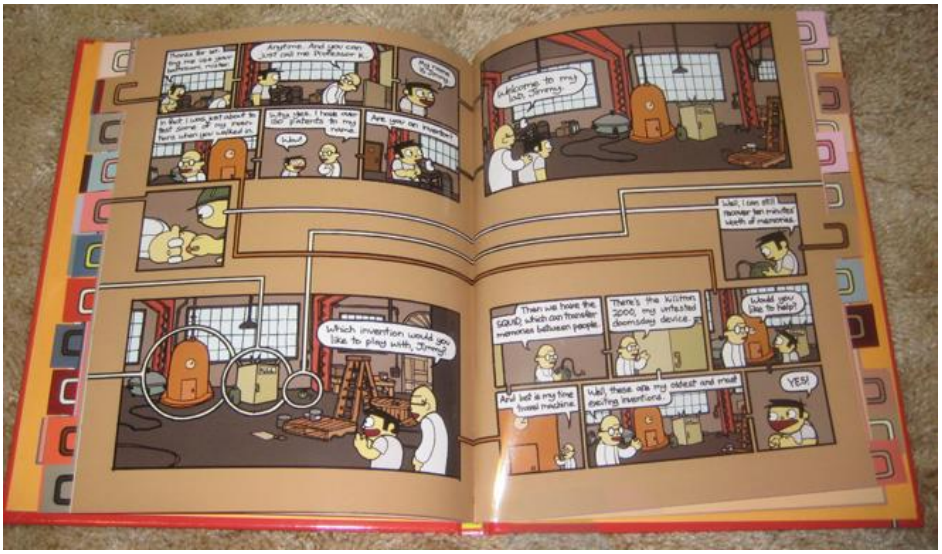


Figure 4.31.1 & 4.31.2 (top to bottom).

One other point should be made. Shiga's picturebook is not merely a multiple-plot narrative. This narrative changes each time the reader reads it because the reader chooses their own path each time they open the picturebook. So, this is a "choose your own path" narrative that demands reader involvement in choosing the final shape of the narrative. The reader has become a part of the narrative design. It is also a narrative that does not take just one form, but has inherent in its design the potential for many forms. Also, it is a narrative whose plot can move forward and backward, up and down through the codex book format—it takes a non-linear shape. These features of this example make it a candidate for the next hypertext model to be introduced as well.

4.3.8. *Hypertext Model # 8. Non-linear Hypertext Translating to Non-linear Plotting in Picturebook Design*

This section will discuss the eighth hypertext model—the non-linearity of hypertext models—and their translation to more non-linear narrative and structural models in the picturebook field. The introduction to this chapter discussed the evolution of our Western Civilization from one that depended on linear models to such an extent that existing non-linear models were not judged fairly. Recall Ted Nelson's words from his 1982 paper, *A New Home for the Mind* quoted in this Chapter's Introduction: "This simple facility—call it the jump-link capability—leads immediately *to all sorts of new text forms*: for scholarship, for teaching, for fiction, for poetry . . . [italics, my emphasis]. The link facility gives us much more than the attachment of mere odds and ends. It permits fully non sequential writing. Writings have been sequential because pages have been sequential. What is the alternative? Why hypertext – non sequential writing" (Lister 26). Any visit to the Internet demonstrates these new, emerging non-linear structures catalyzed into existence by the introduction to our Western Culture of the World Wide Web and other *e*-media like computer games or hypertext novels, web-blogs or web-sites. Observing a user's interaction with a smart phone would produce similar results. As users of the Internet, via computers or smart phones, understand from experience, opening up any of these devices or applications and engaging

in them can produce anything but linear behavior and a linear work trajectory. Visits to the Internet, as with journeys through the smart phone, entice users to step off of the linear path "to Grandma's House" and try things they had not even thought of trying, of stopping for just a moment to look at something for which they were not even searching, which will then require back-tracking and jumping tracks to get back on schedule with one's work or purpose on that visit to the Web. Indeed, the pattern for such visits is one that tends to wander, back track, and jump. As a demonstration of this sort of wandering, recall screen capture Video 4.6 [List of Videos] that reviews an on-line hypertext novel that has been discussed previously in this chapter, Geoff Ryman's A Novel for the Internet about London Underground in Seven Cars and a Crash. This hypertext novel has no linear structure. Readers can choose to read any of the subway passengers' stories on any of the seven subway cars in any order desired. Readers can stay with the novel as long as they wish and leave it when they wish. There is an introductory directions page and a final segment, but the novel's plot trajectory is anything but linear. Both of these screen captures are demonstrating the non-linear structures emerging in our culture today, prompted by some of the new technology and new *e*-media with which we have all begun to become familiar.

In just the last few years several picturebooks have started emerging that are also displaying these non-linear structures. The pattern for such models may vary. Not all of them will branch like a tree. Some may move in a circular fashion, or backwards, or jump around, or display parallel plots—but the point is, picturebook creators are no longer seeing plots as singular and linear with one beginning, one middle and one conclusion—other models are now recognized. As such, now that they are known to exist and be viable models, they can now be explored.

Jason Shiga's picturebook just discussed in the last section, with its 3,856 story possibilities that change each time a reader revisits the book is only one permutation of such models, if a particularly complex one. As stated before, it could be seen as sharing characteristics with the computer game model with its many tragically-ending paths and only one happily ever after ending; with its secret codes and secret pages; and with its emphasis on many readings of the book to find the happy ending, just as many

computer game models require a multitude of attempts at playing the game to survive and conquer the highest level [Figure 4.31.1 and 4.31.2].

David Macaulay's Black and White, discussed in the last section as well, could perhaps be considered a non-linear narrative [See Figures 4.30.1 through 4.30.5]. Although the narrative always moves forward, the readers have to share their attention, in a plot trajectory pattern decided by themselves that could vary from page to page, among the four narratives. Readers do not realize for at least the first half of the book that the narratives have any relationship to one another at all. The plots converge, become one, and then diverge again into four plots. In any case, this narrative utilizes a non-traditional pattern that demands much of the reader in figuring out its structure.

Round Trip by Ann Jonas, published by Greenwillow Press in 1983 and recipient of a Best Illustrated Book of the Year Award by the *New York Times*, is an early contender for picturebooks with experimental plotting. Round Trip is as much about the concept as it is the experimental plot, which happens to be a circular plot. The reader reads the narrative illustrated with simple black and white images about a trip into the city, accompanied by a single line of text at the bottom left corner of each double-page spread. When the book appears to be completed the reader reads the final lines, "We watched as the sun set. Time to turn around." That is the only clue to turn the book upsidedown and read the illustrations as they now tell the second half of the story, the journey home from city to country. The black and white graphic images have a somewhat odd aesthetic that is necessary to allow them to make sense rightsideup or upsidedown. The text for the second half of the journey is kept out-of-mind, if not out-of-sight, due to its brevity (one line on each spread), small size, and location in the upper right corner of each double-spread in an unreadable, upsidedown position. Figure 4.32.1 shows the cover of this book, readable upsidedown or rightsideup, with the upsidedown image and text appear to be nearly the mirror image of its upright image and text. Figures 4.32.2 and 4.32.3 show a double-page spread in the upright position and then in the upsidedown position. Going to the city this spread reads as beach cottages and marsh grass. Coming home this spread becomes fireworks exploding over a small grouping of houses. I shared Round Trip while teaching an undergraduate course on Graphic Design, without

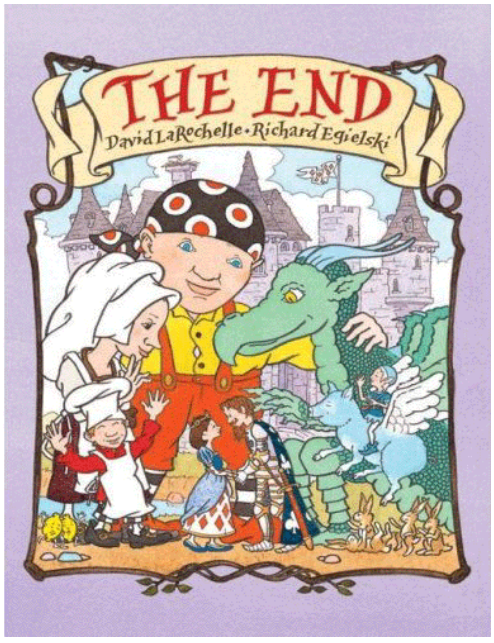
sharing the book's secret with the class. Several of my students, possibly still caught up in the linear society in which they were undoubtedly raised with all of its in-built expectations for linear published narratives, were not able to discover the last half of the journey without it being pointed out to them.

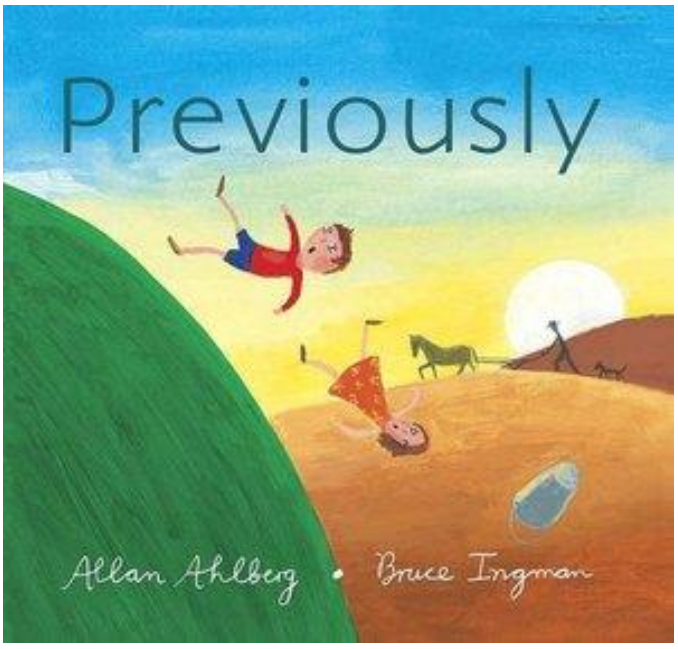
Ann Jonas is known for her experimental picturebooks. Often her experiments have more to do with how readers perceive the world around them than with experimental non-linear narratives. But Jonas did experiment with this circular, rightsideup/upsidedown narrative one more time—in color. The cover of this picturebook, Reflections, published by Greenwillow Press in 1987, is seen in Figure 4.32.4, and is readable either upright or upsidedown. One has to wonder if Ann Jonas tried this difficult and unusual type of illustration and circular narrative in black and white to simplify the project a bit, and, with its success, was drawn to attempt it a few years later in color. In either picturebook, the illustrations display

Figures 4.32.1, 4.32.2, 4.32.3 & 4.32.4 (clockwise, beginning top left).

a somewhat awkward appearance when not taking into account the scope of what is being attempted. Once that concept is understood, readers can only admire what Jonas had accomplished.

The End by David LaRochelle, illustrated by Richard Egielski, published by Scholastic in 2007 shares an important structural concept with Previously by Allan Ahlberg, illustrated by Bruce Ingman, and published by Candlewick Press in 2007 [Figure 4.33.1 & 4.33.2]. Both of these books are plotted backwards, perhaps inspired by playwright Harold Pinter's 1978 play, *Betrayal*: a theatrical production where the play begins with the ending and uses reverse chronology in subsequent scenes (divided by the year the scenes occurred, with forward chronology within each year). This groundbreaking play spawned a 1997 *Seinfield* situation comedy series episode for television with the same title, so it should not be surprising that some children's book creators are playing around with a similar concept, with the overwhelming popularity of the *Seinfield* show and its continuing popularity as a re-run series. This idea has spread beyond theatre and is becoming part of our cultural memory. It is perhaps inevitable that it might affect children's book creators who have grown up experiencing this concept in theatre or on television (http://www.haroldpinter.org/plays/title_betrayal.shtml).





Figures 4.33.1 & 4.33.2 (left to right).

In a book that is illustrated with traditional fairytale watercolor illustrations outlined in brown ink, LaRochelle's reverse chronology picturebook ends with a fairytale appropriate banner printed with the line, "The End." On the previous page, a banner tells us, "And they all lived happily ever after." On the following page the text reads, "They lived happily ever after because . . . ." The book ends with this text printed across a banner on a double-spread picture of a princess working in a castle kitchen, "Once upon a time a clever princess decided to make a big bowl of lemonade."

Previously, with very childish-appearing artwork with a bit of a post-modern aesthetic, begins by telling readers the story of "Goldilocks" beginning with, "Goldilocks arrived home all bothered and hot. Previously she had been running like made in the dark woods. Previously she had been climbing out of somebody else's window" (Unpaged). The story keeps marching backwards (as pages turn from left to right) until the final line of this fairytale states, "Previously she had bumped into a hurtling and older boy named . . . ," and, on the next page, the picturebook begins another fairytale with the heading, "Jack." Thus begins the backwards version of "Jack and the Beanstalk, "which runs into "Jill," of "Jack and Jill ran up the hill" fame. The picturebook continues to tell several fairytales backwards, each running into the next one, until the book ends with a paragraph mentioning all of them once again and ending with the line, "once upon a time."

These are just a few picturebooks with which designers and creators of children's codex printed picturebooks are pushing the boundaries of linearity and experimenting with alternate models for their plot or book structure. The final two picturebooks discussed in this section, The End and Previously, also belong in the category of post-modern picturebooks—a growing field in recent years. Fairytales have been a part of the field of Children's Literature since its inception. In the last few decades, fairytales have begun to be deconstructed and reconstructed in a variety of ways that could only be described as post-modern. In the case of these two books, the creators are depending upon the child reader's prior knowledge of fairytales in order for the reader to understand the idea behind these picturebooks. In the case of The End, the child reader needs to understand the symbols and layout of a typical fairytale—such as the way a fairytale typically begins with "Once upon a time . . ." and ends with, ". . . and they lived

happily ever after." Understanding the framework of a typical fairytale makes the picturebook much more humorous than if the child approaches the book without any prior knowledge of fairytale format. Previously demands even more shared cultural knowledge from the child reader. Readers of this book not only need to understand the framework of a typical fairytale, they also need to be familiar with the fairytales that are told backwards in this picturebook. Without that prior knowledge, the point of the book is lost. In both of these cases, the concept behind the picturebooks is more important than the narratives themselves. Readers of either of these books are caught up in the backward narrative trajectory and are not going to be focusing on characterization or underlying themes of the books.

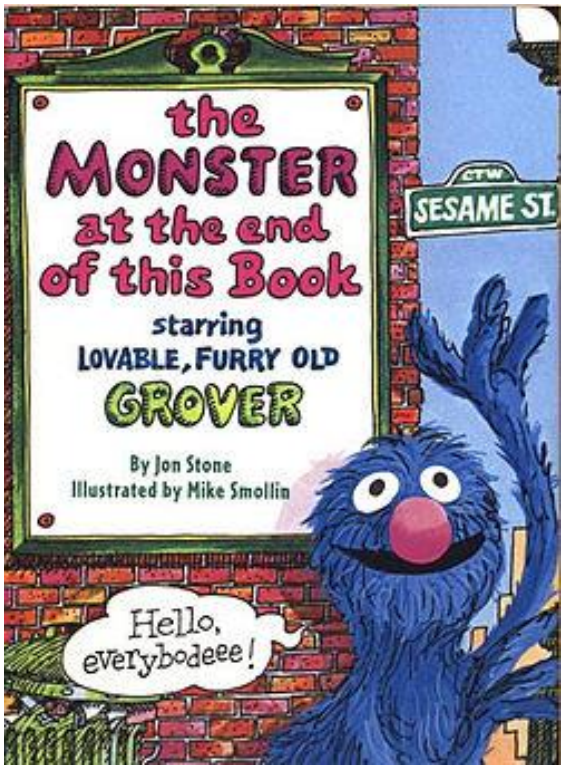
4.3.9. *Hypertext Model # 9. Post-Modern Meta-Fiction: Creating Narratives and Readers Aware of the Form of the Book*

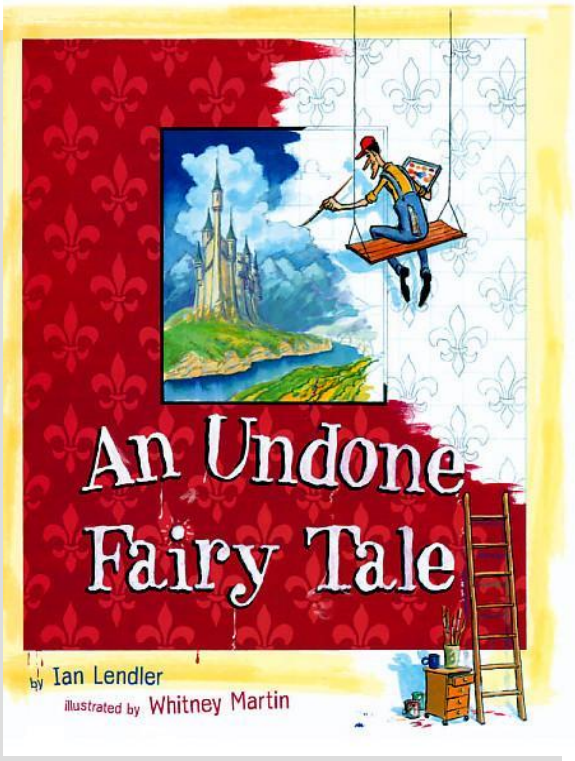
This section, as with the last two examples from the previous section, deals with post-modern content in picturebooks today. However, in the case of the examples in this section, we are discussing meta-fiction—or picturebooks in which the characters in the book are aware of the form of the book, or are aware of their presence in it, its characteristics, or are aware of the audience. *The Oxford English Dictionary* defines meta-fiction as, "Fiction in which the author self-consciously alludes to the artificiality or literariness of a work by parodying or departing from novelistic conventions and traditional narrative techniques" (http://oxforddictionaries.com/definition/metafiction?q=metafiction). So, when, in theatre, a character turns to talk to the audience, that character is aware of the form of theatre and is aware of the audience's presence in the theatre. He or she is participating in meta-theatre. When a comic strip character crawls from one frame of the strip through the gutter into another frame, or mentions the characters of another well-known comic strip to the other comic strip characters and talks about them, that character is a part of meta-comics. And, when the *creator* of an animated cartoon is shown in the cartoon he drew threatening to erase one of his characters, that cartoon is part of the field of meta-fiction as well.

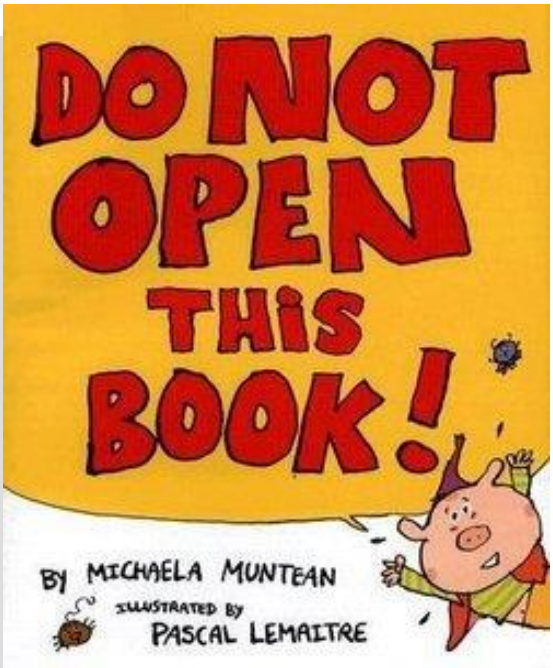
An early classic of this type of meta-fiction is the 1973 *Little Golden Book* titled, There's a Monster at the End of This Book! The book was written by Jon Stone and illustrated by Mike Smollin [Figure 4.34.1]. The picturebook stars Grover from *Sesame Street*, the award-winning television show that has dominated quality educational children's television for decades. This picturebook features Grover talking directly to the child reader and trying to convince the child not to turn the pages of the book because, as Grover warns, "There is a monster at the end of this book!" That this is a work of meta-fiction is clear because the star character in this picturebook's narrative acknowledges both the book's form (the page), the way book format works (pages are meant to turn and books have beginnings that lead to an end) and the book's audience (the child reader who is instructed not to turn the book's pages to avoid reaching the book's end) [View a preview of the book in Video 4.25, List of Videos, or at http://www.youtube.com/watch?v=_JVK0-4HQTY].

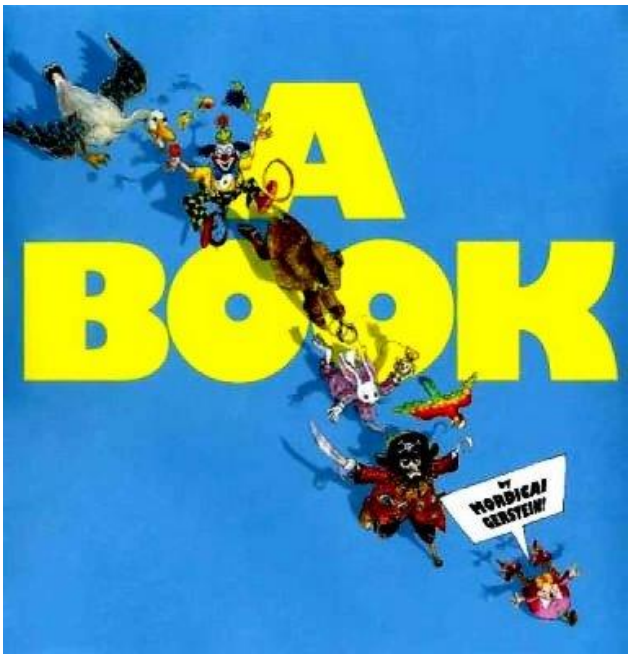
In just the last few years, several new picturebooks have been published that are introducing the form of the book and the function of its parts to the child reader. An Undone Fairy Tale, by Ian Lendler, illustrated by Whitney Martin, was published in 2005 by Simon & Schuster [Figure 4.34.2]. In this fairytale, purportedly about a princess who bakes pies so well that the king hides her away in a tower so she won't leave, the reader is told to read slower by the narrator in order to help out the illustrator, who is painting the illustrations like a billboard painter hanging in the corners of the double-page spreads. Apparently the reader is reading too fast so that the illustrator, named Ned, is unable to complete his work. By the end of the book the prince falls through a tower floor due to an incomplete illustration, crayons are being substituted for trees, and snails for horses in illustrations that are fast becoming bedlam. Ned, the illustrator, ends up quitting and the narrator has to complete the illustrations, so that the final illustrations come out looking like children's scrawlings. This is a beautifully illustrated book, and funny enough to delight young readers. Their knowledge of a typical frame for a fairytale is necessary to the story. In order to help the young reader keep a clear view of what is going on in all of this chaos, certain rules of layout are followed. The type font for the narrator's comments to the reader is a sans serif modern font, and the type font for the actual fairytale is a more classic looking serif font. In addition, the scenes

with Ned, the illustrator have a white background, while Ned's illustrations for the picturebook have a painted background.



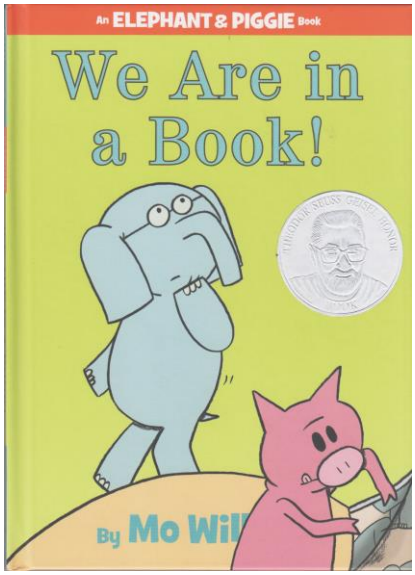


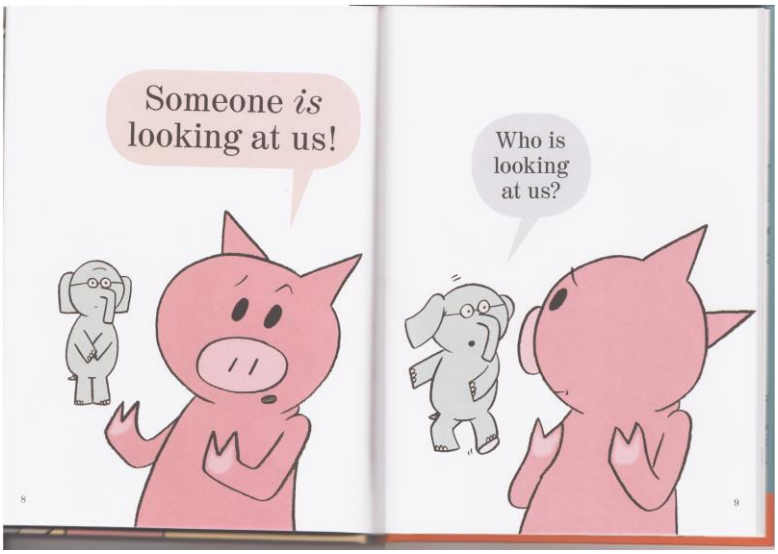


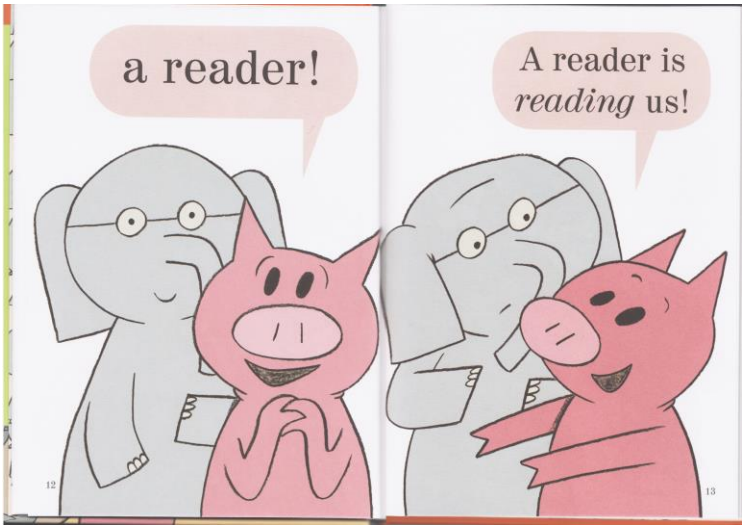


Figures 4.34.1, 4.34.2, 4.34.3, 4.34.4 (left to right, top to bottom).

Do Not Open This Book!, by Michaela Muntean, illustrated by Pascal Lemaitre, was published in 2006 by Scholastic Press. In this book, a small pig is trying to write a picturebook and is continually frustrated by the reader opening the book and turning the pages before the pig has completed his work. As shown in Figure 4.34.3, the pig keeps talking to the reader directly and trying to stop the reader from turning the pages of the book too soon, to no avail.







Figures 4.35.1, 4.35.2 & 4.35.3 (left to right, top to bottom).

The next examples are both recent publications writing about the form of a book. Mordicai Gerstein's A Book, published by Roaring Brook Press in 2009, tells the story of a family who live in a book. Everyone in the family believes they know what type of story it is of which they are a part. However, the youngest member of the family is not sure what her story is and sets off to find the story where she belongs. She explores various types of stories such as mysteries or adventure stories. The narrator and characters mention parts of a codex book's format, such as the pages or gutters. The perspectives in this book are all in bird's-eye view. Readers of this picturebook are looking down on the characters as they move about on the book's pages. This is a very unusual perspective for a picturebook, the bird's-eye perspective the reader has of the illustrations and of the book's characters walking around on the book's pages (and would be rather difficult to illustrate effectively as well) and Gerstein has even included shadows to help reinforce the illusion [Figure 4.34.4 shows shadows on the book's cover].

We Are in a Book! by Mo Willems, received the Theodor Seuss Geisel Honor Award upon its publication by Hyperion Books in 2010 [Figure 4.35.1 shows front cover]. This is one of several books that star the characters Elephant and Piggie. In this picturebook illustrated with simple, child-friendly images, both characters' words are displayed in the same serif type font (serif fonts are an older form and considered the more classic, traditional typefaces), in speech bubbles colored to match the characters (grey for Elephant, pink for Piggie). This book, while about a post-modern subject, is still set in a traditional picturebook setting.

In the narrative, the characters sense someone watching them and both characters step forward and stare straight out from the book page toward their audience. Piggie declares that a reader is reading them [Figures 4.35.2 & 4.35.3]. The two characters realize that the reader is reading what the characters say in the speech bubbles and this realization empowers the story's characters to trying saying words to make the reader say certain things. They also become afraid of what will happen when the book's end is reached.

Meta-fiction and other post-modern content can produce more informed sophisticated child readers, *if* they continue to be well-grounded readers who have a strong understanding of our culture's

fairytales and folktales, and who understand how a print book works. If either of those prerequisites begins to fail, then young readers' ability to understand post-modern content may fail as well.

4.3.10. *Hypertext Model # 10. Reinvention through Imitation: Picturebooks Emulating Computers and Other e-Media*

In the Introduction to this Dissertation Noel Carroll's stages of new technology or media development were discussed, and this theory has been something of a theme throughout these chapter discussions (Carroll 3-17). To recap briefly: Emerging media first attempts to legitimize its existence and prove its worth by imitating the older established medium and showing that it can accomplish the same things. Next, the newer medium has begun to be accepted and begins to explore the things it can do that are new and different and that, perhaps, the older medium could not accomplish or had not attempted. In a third stage of medium or technology development, an even newer medium emerges as competition and the older medium re-examines itself and begins to explore how it can accomplish some of the things the newer medium can do that the older medium had never attempted or could not conquer in the past. In effect, the older medium, inspired by the newer medium's challenge, re-explores, re-examines and re-invents itself to remain creative, current, necessary, and to survive.

Jason Shiga's Meanwhile: Pick Any Path. 3,856 Story Possibilities picturebook, discussed in the two previous sections, displays some computer characteristics. The artwork concept is reminiscent of computer technology, including all of the tubes (or wires) and rectangles interconnecting the narrative frames and pages throughout the picturebook. The cover calls to mind a computer motherboard [Figure 4.31.1] or a computer chip [Figure 1.2]. There are paths linking frames and squares and images to other frames and squares and images and book titles, and, just as with the computer comparison examples, there is a high degree of

interconnectivity between the multitude of parts. An interior spread of the book is laid out to create an image strongly reminiscent of a circuit board [Figures 4.36.1 & 4.36.2]. The typographic font used for the headlines on the information pages of the book is a techno, square style of font, emulating the look of computer fonts and bitmapped text. The many plots inside the book's covers focus on three main machines: a mind-reading device, a time machine that can travel backward in time by only ten minutes, and a doomsday machine. Readers of the book choose plots that allow them to interact with the various machines in the narrative.

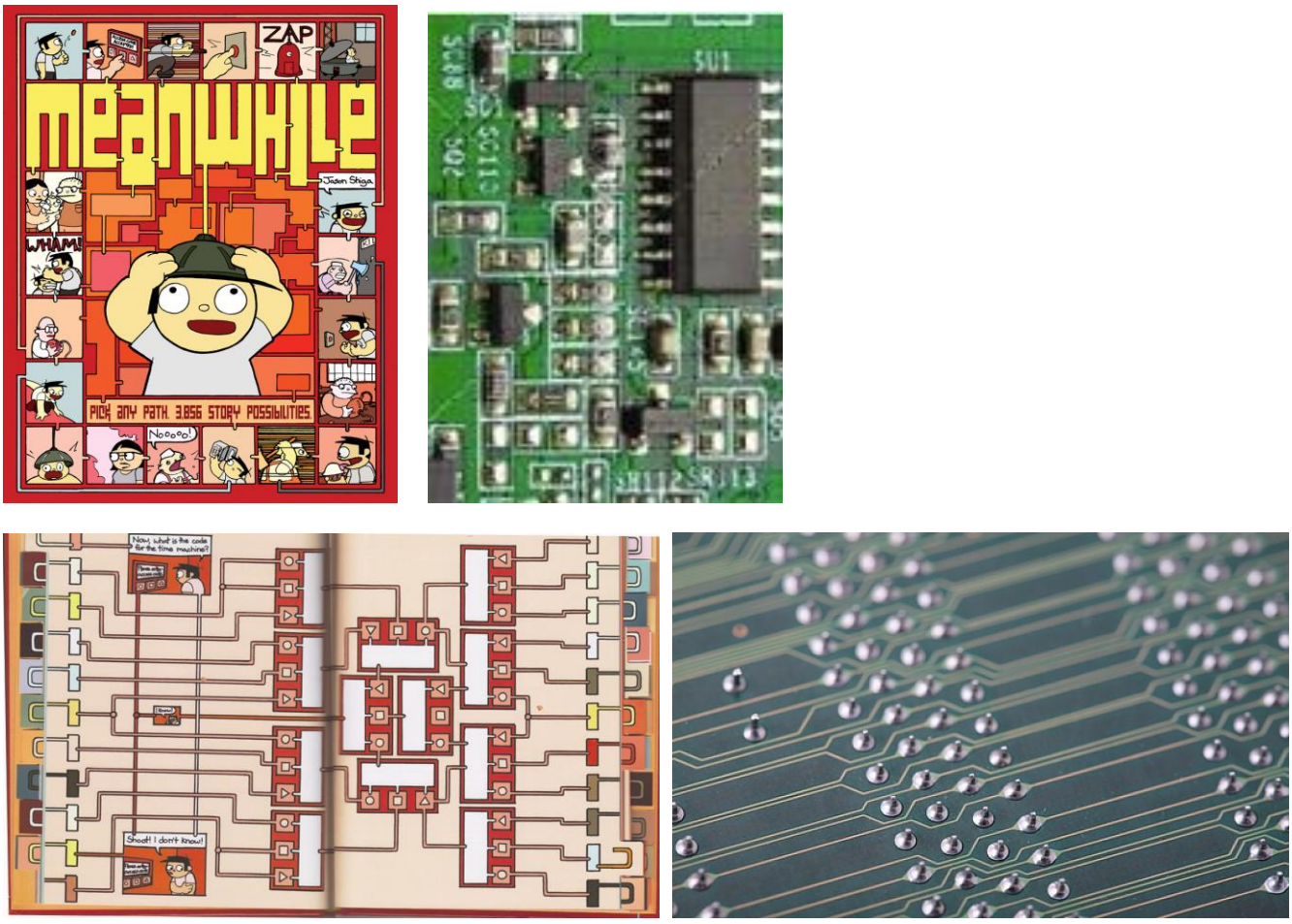
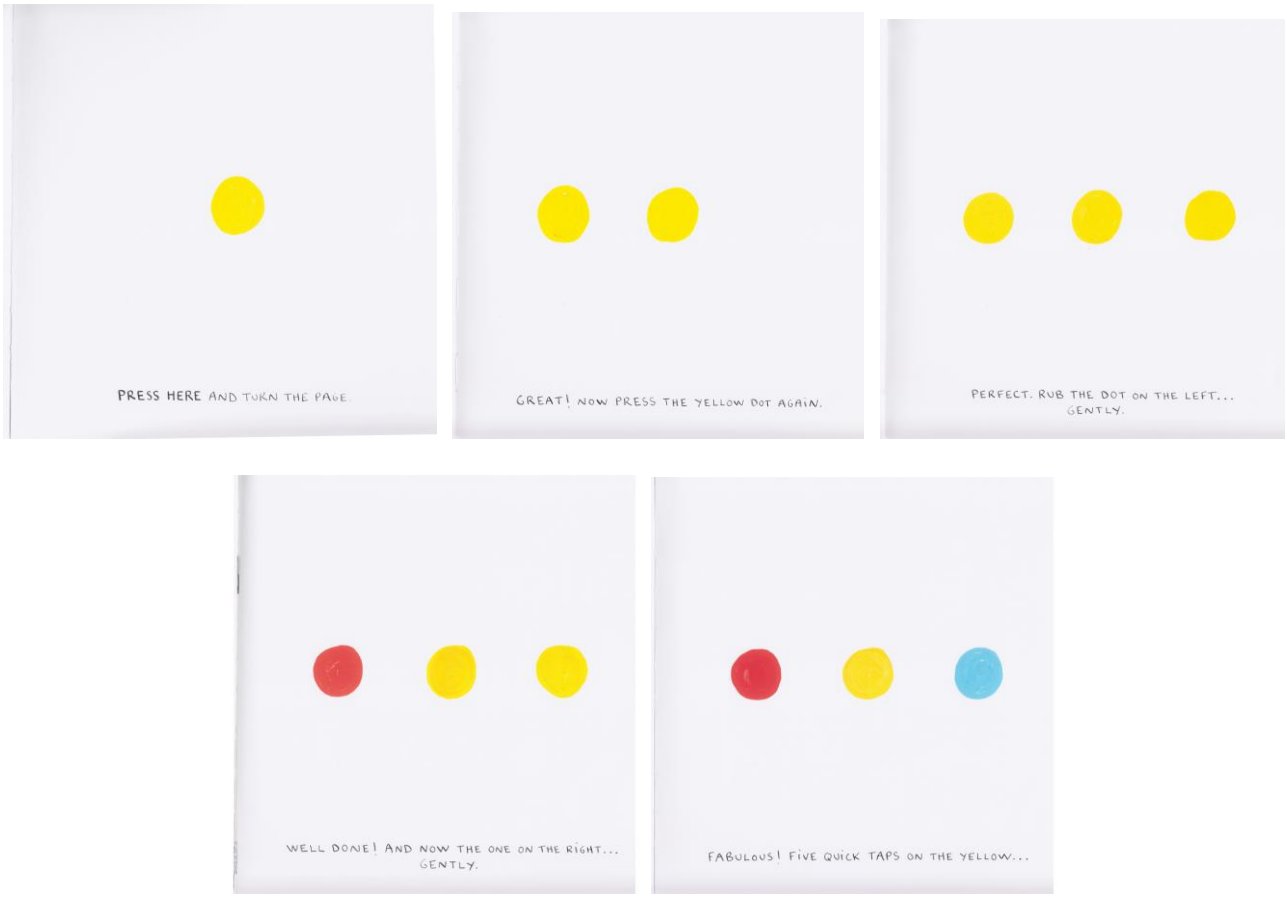


Figure 4.31.1, Figure 1.2, & Figures 4.36.1 & 4.36.2 (left to right, top to bottom).

Press Here is an ingenious picturebook created by Hervé Tullet, published by Chronicle Books in 2011 (published 2010 under title of *Un Livre* by Bayard Editions in France). An

example of an older medium stretching or reinventing itself by trying to imitate the effects of a newer medium, in this case the codex book imitates the computer. The effect is achieved simply and effectively, but experiencing the design result is a difficult task when just viewing the sequential images printed here. Become immersed in the dynamic effect that the book achieves by viewing a digital video introduction of the picturebook in Video 4.26 [List of Videos], or at http://www.youtube.com/watch?v=Kj81KC-Gm64.



Figures 4.37.1, 4.37.2, 4.37.3 (top row, left to right), Figures 4.37.4, & 4.37.5 (second row).

Simply by pressing colored buttons (painted dots) that appear to be "hyperlinked," shaking the book, and tilting the book, children will leave this book convinced that it is either a computer, a computer game, or magic. Whatever it is, the book trailer tells the child it works through the

power of imagination. Any child knows that when buttons are touched on a computer, things happen. When items are touched on a web-site or in a computer game, things change. And when children press the painted buttons in this picturebook, changes occur here as well. In Figure 4.37.1, the reader is told to press the yellow "button" in the center of the page and turn the page. On the next page [Figure 4.37.2] there are now two yellow buttons—one in the center as before, and now one to the left of center. The reader is told to press the yellow dot again and turn the page. Now there are three dots [Figure 4.37.3]. The reader is instructed to rub the yellow one on the left gently and turn the page—it appears to turn red (just as hyperlinks change colors when touched) [Figure 4.37.4]. Then the reader is told to rub the one on the right and turn the page—it appears to turn blue (rather like hovering over a hyperlink can produce change) [Figure 4.37.5]. There are a couple of missing pages-spreads at this point, but basically, by tapping on each dot five times rapidly, the reader ends this sequence with three columns with five appropriately colored buttons—red, yellow and blue—in each column (The multiple-touch is reminiscent of the double-click that activates many computer actions). Tullet does not attempt to create perfect looking dots or buttons—they are close to what a child would paint themselves. The background white color keeps the book clean and simple in design. The text is handwritten. The book design is, well, something with which a child would feel comfortable. The first few pages of the book are laid out with all of the text and pictures only on the right-hand side of each double-page spread. As the changes on the pages occur, all of the buttons always appear in the same location or grid. This regularity in layout helps the reader enter into the hyperlink-like or computer-like changes that are occurring—helping the apparent changes in the page to appear mechanical in nature or computer generated. After the reader has settled into the concept behind the book, the narrator begins pushing the concept a bit and has the reader shake the book, make some of the

buttons glow and others disappear (by turning the background black and tapping on the yellow ones). The buttons move, grow and shrink and the narrative ends as it began with one yellow dot in the center of the page and the narrator's urging to do it all again.

After I purchased this picturebook, I shared it with several members of my family. It was noteworthy that, as I watched them read the picturebook, each person actually performed all of the actions as requested in the book's text without any instigation on my part. Not one of my children just read through the book without performing the requested tasks. They all suspended their disbelief without hesitation and helped create the changes in the book's layout.

There are assumptions this picturebook, of necessity, makes. Children have to understand how computers or computer games or web-sites work to get this book—some sort of technology that includes buttons that create visual change when pressed. And, in order for this book to be funny, the child reader needs to understand that codex books do not normally work in the way that computers do. In typical board books for toddlers, painted dots tend to be just that—painted dots, about which, sometimes, a story is written. But in Press Here, the painted dot becomes something that appears to operate very similarly to a hyperlink, and most children of our culture today are intimately familiar with the computer and computer games where pushing "buttons" and other objects produces the sorts of change implied by this picturebook.

4.4. Summary and Conclusion of Chapter Discussion

Chapter Four has considered ten identified areas where the advent of hypertextual narratives and other *e*-media are potentially influencing the design of children's picturebooks. These include the following: 1) Designers of the picturebook have developed parallels for hypertext's pop-up windows that offer extra information for immediate clarification of text.

Hypertext's use of callout text and images reached through hyperlinks to secondary windows that appear when the hyperlink is activated correlates to the uses of margins for similar purposes in, first, children's non-fiction, and, recently, fictional picture books; 2) Picturebook concordances could be seen as the equivalent parallel to that type of hyperlink in hypertext that leads to an entirely different web-site or large body of extended supporting knowledge. Some hyperlinks in web-sites take the reader, not just to a small, secondary window for a small image or piece of callout text as in the first hypertext model, but to another comprehensive web-site that will offer the reader complete contextual background information, an entire body of knowledge or an archive applicable to the item or term to which it is linked. This correlates to recent picture books that are offering concordances usually following the completed narrative, complete with images, context information and facts that pertain to the subject of the fictional narrative; 3) Picturebook creators are perhaps learning from computer games or web-sites that include hidden elements that can only be discovered through experimentation (i.e., through being clicked on, bumped, jumped on by game characters, etc.) by extending the picturebook through the use of hidden elements. Book creators have begun to hide clues within their illustrations, or hide illustrations along a particular theme, such as a rabbit concealed in every image in the book for the reader to search out; 4) Interactive web-blogs and web-sites are developing readers ready to be more engaged physically with the text. The influence of blogging, of the "everybody is an author" syndrome, and of interactive news reports and television shows correlates to emerging picture books that attempt to interact with the children and have them become a part of the story experience. One example of this includes books where children are invited to search for treasure in the real world by following clues hidden within the book's images; 5) Picturebooks have begun to imitate hypertext's ability to incorporate flash animations or digital movie clips into

layouts. Flip books, a toy book form that has existed since the Victorian Age, have created film clips for their owners for generations. And, although picture books, by their very definition, are a sequential medium almost like a short movie, some authors, like Jules Feiffer in his book, Meanwhile . . . , are adapting the picture book format to that of a comic book or graphic novel format to better capture the feeling of the passage of time—a double-sequential narrative, one might call this form. Other methods to play with creating "video" and showing the passage of time in illustrations are achieved by creating illustrations that take into account how readers in our culture read a picture or sequence of pictures to incorporate time passage, as from left to right, as well as through innovative layout and design of those images as with creatively designed book covers in combination with their dustjacket covers; 6) Hyper-textual telescoping and zooming (a photographic technique that can be used to describe a common on-line activity) now has made the transition to picturebook design. This discussion focused on the hypertextual method of telescoping through a search for a subject, in and out, out and in, until the final destination is achieved. Children's book creators such as Istvan Banyai are beginning to experiment with similar sorts of telescoping/zooming perspectives in their book creations and sequential images; 7) Multiple open windows and on-line multi-tasking has a mirror in the simultaneous multiple-plotting utilized in some recent picturebooks, such as several by David Macaulay, especially his Black and White with its four simultaneous plots that eventually intersect and then diverge again; 8) Non-linear hypertext could also be translating to non-linear plotting in the picturebook. Examples of circular, reverse and branching non-linear picturebooks were introduced, such as The End and Meanwhile: Pick Any Path. 3,856 Story Possibilities; 9) Post-modern meta-fiction is teaching readers to be aware of the form behind the book, with books like Michaela Muntean's Do Not Open This Book or Mo Willem's We Are in a Book!;

and, (10) In the process of reinvention through imitation and exploration, following Noel Carroll's stages of media development, picturebooks are beginning to emulate computers and other *e*-media, such as computer games and web-sites, as in books like Press Here by Hervé Tullet.

While more areas of focus could undoubtedly be identified and examined, this chapter discussion has focused exploration on ten areas that offer a *beginning* for examining the possible influences of new hypertextual or *e*-media on children's printed picture book design and content within the general constraints of the codex book format.

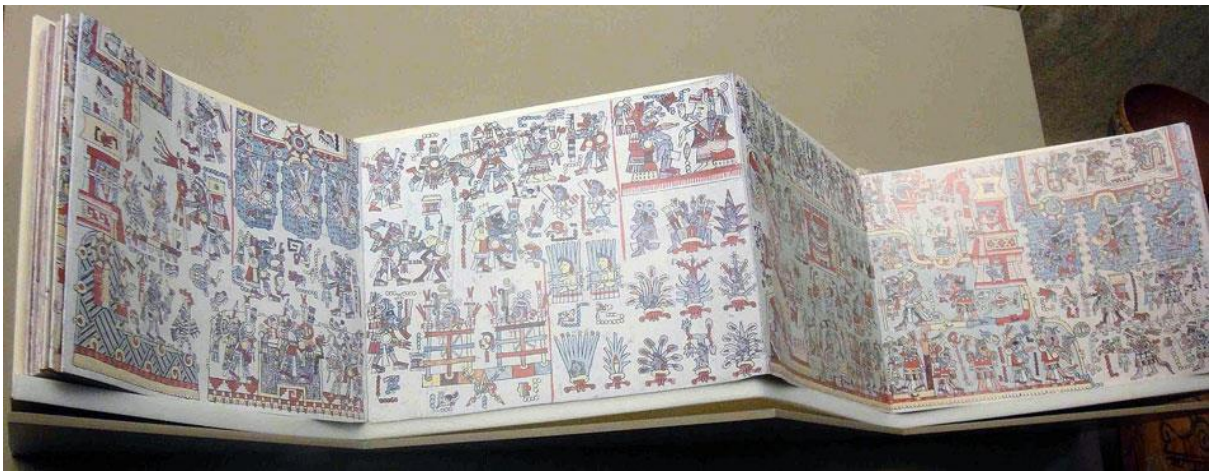


Figure 4.1.2, and 4.38 (top to bottom).

Recalling the Introduction to Chapter Four, debate could be engaged, perhaps, as to whether these formats that have been noted and examined here for their picturebook parallels are actually new models, or whether they could be discovered and identified simply by examining models *other* than the linear-oriented phonetic alphabet and the linear-oriented codex book form that have been pillars of Western societies for the last several hundred years, especially since the advent of Gutenberg's press. Take one more look back at the screenfold-format bark books of the Aztecs that could be stretched out and hung up along an entire wall as shown in the *Codex Zouche-Nuttall*, displayed in its screenfold format in the British Museum [Figure 4.38]. The cuneiform markings in such bark books were mnemonic devices as described on the Aztec at Mexicolore Website, "The books were 'mnemonic', which means that the pictures they contained served as prompts or key reminders of lists, songs, stories, religious rituals and myths that were not written down but formed part of Aztec oral history. The Aztecs would tell these stories while they displayed the codices at religious ceremonies or formal occasions" (http://www.mexicolore.co.uk/aztecs/writing/an-introduction-to-aztec-books). This sounds very similar to a description of the way a *PowerPoint* presentation is utilized at a Conference—similar concepts conceived centuries apart using different technologies. Such screen-fold books (often non-linear) might have encouraged long and short readings of the same text [A close-up of the mnemonic cuneiform is shown in Figure 4.1.2] (Rothenberg 27).

The creativity behind the conceptual design evident in this example appears similar to the innovation shown in a number of the inventive examples discussed in this Chapter. After absorbing the implications of all of the explorative discussion in this Chapter, after uncovering some truly mind-stretching applications of the codex book form used to fashion ingenious picturebooks, I look at that early Aztec example with a fresh eye and an opened mind that begins

trying to apply the principles inherent in its design to yet another exciting picturebook application—to the possibilities of a picturebook that could be read in codex, spine-bound format as a shorter or more traditional narrative, then as an expanded, wall-spanning, unbound book as a longer or less-traditional narrative that reveals extra features or more information of some sort when viewed in its expanded format.

Perhaps, in the end, as experimenting with narrative and illustration forms continues both in hypertextual media and within the traditional picture book format, writers and illustrators, scholars and critics will begin to discover that these new forms of experimentation are actually not new, but, instead, stem from ancient forms from oral societies or non-western, non-codex using, non-linear societies. As Mignolo suggested in his essay, "Signs and Their Transmissions," from A Book of the Book, "Paradoxically, modern technology has returned us to the 'beginnings of the book' (*biblos*) in that microfilms, screens, floppy disks, and tapes have become the new kind of surface on which writing is inscribed. The new forms of storage and retrieval of information are in the process of eliminating our bookish habits" (370). As children begin to read *e*-picturebooks (among other new forms of illustrated narrative) on *e*-readers, computer tablets and smart phones, this quote appears quite prescient. Still, in realizing that these "new" emerging forms may not be so new after all, perhaps fresh vistas for study, as well as expanded sources for inspiration and further creativity, will be opened for experimentation and exploration.

So, as this discussion concludes after a thorough examination of the changing pages of the codex picturebook, we leave the pages of the printed picturebook with this idea that developing technologies are relieving us of our "bookish habits."

CODA

Some Final Thoughts

C.1. Word Versus Image: The Need for Balance

Dr. Leonard Shlain (1937-2009) was a surgeon, inventor, chairperson of laparoscopic surgery at the California Pacific Medical Center in San Francisco, and an associate professor of surgery at University of California, San Francisco. He was a self-professed admirer of Marshall McLuhan's theories on communication, and authored several noteworthy books, including one to be discussed here titled, The Alphabet versus the Goddess: The Conflict Between Word and Image, which was published by Penguin/Viking in 1999 (This entire section, unless otherwise noted, is cited to https://www.youtube.com/ watch?v=2QQuD62RxrU).

In this text, Dr. Shlain sets forth a dynamic argument in favor of the importance of societal support for more balanced human brain education—supporting education of children's developing brains that are taught to value both text and image—which, he hypothesized, would also lead to a more fairly balanced culture, particularly with regard to women's and men's rights. After a brief introduction of several of his key points will follow a consideration of its application to this discussion.

Shlain began his hypothesis by noting that, although all vertebrates from fish forward have bi-lobe brain structure, the two lobes tend to mirror each other, doing principally the same things on both sides. However, this is not so in the human brain, where the right and left brain have continued to develop to perform different functions (with some residual similarities

remaining from before this development). In Shlain's words, "Dividing the Human brain didn't just double its potential—it raised it to an infinite degree." He also noted that, as the human brain developed and grew larger, women had to bear smaller babies with more immature brains, to avoid dying in childbirth due to the size of the infant's head. On the other side of birth are some pieces of the baby's brain development, Shlain postulated, calling these post-birth pieces "Culture," shared through the alphabet and language that babies are taught following birth. It was noted that Humans spend the longest time mothering. What takes from weeks to a year or two in most animals can be a lifetime job for human mothers.

Shlain emphasized that each of us actually has two people inside of us—a right-brained person and a left-brained person—we are not all one or the other. The right brain analyzes image and emotion, parts of a whole, and patterns; and the left side of the brain handles language and words. The large frontal lobes of the cerebral cortex is a later development in humans, he noted, and it handles executive decisions, including self-control, planning, reasoning, or abstract thought.

Shlain pushed this separation a step further: Within each brain are two sides that display "masculine" and "feminine" skills or traits, he tells his readers—and explains that he is simply assigning certain traits to the masculine or feminine side because they were developed through countless years of human males or females doing certain tasks in early hunter/gatherer cultures. The right hand/left brain is the active, sequential side—it throws the weapon, and later on, wields the pen for writing. The brain section that controls aiming and killing is located in the left-brain hemisphere for both men and women who are right-handed. The left brain (for right-handed people) is also the brain that is most instrumental in reading and language. In contrast, the left-hand/right brain is the nurturing and protecting side—it holds the shield and takes care of the

baby (in both men and women who are right-handed). Shlain next turned to human sight. He informed readers that rods cover the entire retina—and they see the big picture and any movement in the periphery vision; they see better in the dark—they are controlled by the right brain hemisphere (the "feminine" side of the brain, and, interestingly, women have more of them than do men). These correspond to, and probably developed from, the needs of the woman protecting the crops and children while tending the fields and the home. They had to watch for danger, for possible predators or poachers of their crops. In contrast, cones cover less than one percent of the area of the retina, right in the center, and are used for visual acuity, distance vision and scrutiny that shows fine detail—skills needed by early hunters watching for their prey and then aiming for the kill. This is the skill that is used to focus on the words in a book and to read their fine detail. Cones are controlled by the left-side of the brain—the "masculine" side. Men have more cones than do women.

Dr. Shlain next proposed that the catalyst for a dramatic cultural shift in the West toward patriarchal societies and religions venerating one male god, along with the diminishing of the role of women and the arts in society, was the advent of the alphabet and of literacy. He recalled the words of Marshall McLuhan that "the medium is the message" (UM 13). To clarify, the process by which we deliver and receive information is more vital than the information itself.

Shlain noted that *listening to others and speaking orally involve both the right and left brain*—and the visual becomes a part of the message in an oral society, where this type of language exchange is practiced. He references an old Chinese saying, "Let us draw closer to the fire so that we may see what we are saying" in support of this point (Avs.G Loc 927). But, he notes, *reading and writing the written word involves only the left brain* (in right-handed people). Added Shlain, "when you write, you write with only one hand" (https://www.youtube.com/

watch?v=2QQuD62RxrU). And, up until the invention of a practical keyboard typewriter in the 1860s to 1870s, for literally 5000 years, the hand that writes is the same one that hurls the spears, he adds. When you read, you read with only the small amounts of cones in your eyes—where text alone is concerned, the rod is cut out of the equation.

From these assembled facts, Dr. Shlain hypothesized what the effect on a culture would be of introducing a radical new means of communication that reinforced the masculine hand, the masculine part of the eye, and the masculine part of the brain—which is exactly what happened with the introduction of the Western alphabets and literacy. His conclusion is that it imbalances the human brain, as well as the cultures that adopt such alphabets. Before the flowering of culture due to the acknowledged *benefits* that accompany literacy (i.e., fostering the Renaissance, or the Scientific Revolution), Shlain asserts, "that any culture that adopts an alphabet goes through a period of demonstrative madness . . . where they denigrate women, and the reason why is because the left hemisphere doesn't really like the right hemisphere and, if you give it more power, what it tends to do is that it tries to put down the right hemisphere" (http://www.alphabetvsgoddess.com/). He made the point that the left-brain (the old hunter's brain) had to learn to kill with dispassion, and one of the effects of that developed dispassion is that the left-brain works to dominate the right, more nurturing, side.

Jumping forward to the Nineteenth Century (his text covers much more ground in between these two bookends of his timeline), Shlain bookmarked two important events: One was the discovery of electromagnetism, and the other was the development of photography—allowing humans the ability to easily replicate the image. "Photography did for imagery what the printing press did for the written word," commented Shlain, "They were cheap, easy and available; and, by the end of the Nineteenth Century there was virtually no one that had not sat

for a photograph at least once" (http://www.alphabetvsgoddess.com/). These two technologies began to interweave, film and movie theatres emerged, and within six years, more people visited theatres than church, he noted. Since that time in the last century, more and more image-based media have emerged. And with the advent of the World Wide Web and all of the *e*-technologies developed to access this resource, the shift back toward an image-based culture and away from a text-based culture has been rapid (http://www.alphabetvsgoddess.com/).

Shlain's text appeared just a decade and a half ago. His book is still a relative newcomer, with the emergence of the World Wide Web only occurring in 1993, just six years before Shlain's text. In fact, many of the new and already globally-adopted *e*-technologies that rely on the Web for operation (i.e., smart phones with text-messaging, *e*-readers with incorporated Wi-Fi, and computer tablets like the *iPad*, etc.) emerged after his book's release.

Sadly, Shlain passed away from cancer in 2009. This happened before many studies had been undertaken, data had been collected and studied, or results of those studies published regarding the effects of many of the newest *e*-technologies on this first generation of Digital Natives (and on the culture in which they have grown up). While Shlain would have had access to some data regarding technologies such as film and television, the Web-based technologies that operate at dramatic speeds have swept the globe at even faster rates than these previous image-based electronic media did. The speed and breadth that is in-built in the nature of the Internet has affected the nature of the *e*-technologies that utilize it, and on the speed and breadth of the cultural shifts it is catalyzing. The smart phone and the computer tablet have been around for just a very few years, and yet one cannot imagine our culture without their presence The *BlackBerry* smart phone was introduced in 1999, but not until 2003 in its

most familiar version, a version that is now considered old-fashioned. While the groundbreaking *iPhone* was not launched until 2003. The first pen-driven tablet PCs entered the market in 2002, but the groundbreaking, market-grabbing *iPad* was only launched in 2010 (http://www.britannica.com/). One has to wonder what Shlain's thoughts would have been about the rapidity of change that has come to both our culture and to our children's brains and behaviors. This startling rapidity of cause and effect is shatteringly unprecedented. The instantaneous speed of the emerging *e*-media and technologies is reflected in the speed of the neurological and cultural shifts they are catalyzing.

It is my view that Leonard Shlain's discussion offered the balance needed to judge the new technologies. As Dr. Seuss' Lorax "speaks for the trees," so Dr. Shlain "speaks for the image" and what right-brain skills and perspectives can offer Humanity. It is a perspective that deserves to be heard after, as Dr. Shlain argued so fluently, five millennia of alphabetic dominance in Western Culture.

However, I am also a lover and fashioner of the written word, and value the numerous and vital benefits literacy and writing offer personally, and to one's culture. I like to write children's narratives and design picturebooks in new and old forms. So, as a practitioner and student of both word and image, of both old technologies and new, I applaud Dr. Shlain's final plea, not for the dominance of word or image, but for the balanced integration of both in our society. I would like to see this view exemplified by a balanced introduction and practice (in schools, in the home, personally, and by the leaders of our culture) of technologies that support *both* views of the world; that promotes the health and development of *both* sides of the human brain, as well as the skills they support.

With this last thought in mind, it has been my pleasure in the discussions within this Dissertation to be examining a now well-established technology, the children's picturebook, that introduces a child, who is just beginning to develop word and image literacy, to a literary art form (or an artistic literary form) that prepares and educates them in both disciplines in a typically balanced (and sometimes inspired) way. The technology of the picturebook encourages the whole of the child's brain to master the language of both word and image as they work separately and as they interact together—which leads quite naturally into the next thought.

C.2. Illustrated Children's Books: A Good Beginning for Balanced Brain Use; or, How the Innately Balanced Nature of the Children's Picturebook Increases Their Potential as Effective Early Educators

". . . and what is the use of a book," thought Alice, "without pictures or conversations?"

− Lewis Carroll, Alice's Adventures in Wonderland[115] −

Most of us can still remember that brief period in childhood where we wondered, like Alice in the above quotation from Lewis Carroll's seminal 1865 book, Alice's Adventures in Wonderland, why anyone would ever choose to read a book without pictures. Little did we realize at the time that the pictures entertained us as we listened to a parent reading the story to us, operating in similar fashion to the images in a movie. Later, as early readers, we also used the pictures to help us decode words and sentences. While reading requires more left-brain activity, and visual comprehension engages more right brain input, children's picturebooks have a heritage of traditionally combining both text and words. These are often married together with mind-challenging design of the "technology" on which they are published—the codex book, in the case of the traditional print picturebook. An abundance of examples of truly excellent print picturebooks have been perused in these discussions here. In addition, the preliminary

[115] (http://www.gutenberg.org/files/11/11-h/11-h.htm).

examination in this Dissertation of the best of the emerging *e*-picturebooks demonstrates that at least a few of the new designers are taking advantage of the technologies on which these new electronic picturebooks are published. Just as the best creators of quality print picturebooks often take into account the power of their medium (the power of the page turn or the potential of the margins or gutters, etc.), these digital designers are utilizing, for their *e*-picturebook designs, the potential strengths and possibilities of inbuilt features of their publishing mediums (such as incorporating the use of the inbuilt *iPad* camera or accelerometer into the design and illustration of the published *e*-picturebook). This balanced presentation of text, word and technology makes picturebooks, whether in print or digital versions, an ideal teacher of knowledge for the developing child's brain.

The age of the reader has always kept picturebook text fairly brief, and this helps prevent the picturebook's textual narrative from dominating over its images (although, as has been previously noted, the length of text appears to be dropping even more as image-based *e*-technologies spread and begin to dominate our culture). Readers of picturebooks, or even of young-adult literature, are still mastering language and cannot yet handle extensive and complex text. A picturebook's images not only support the textual narrative—they support the developing reader's skills by reinforcing the text for the child. Over time, the text in quality children's picturebooks has often developed into an art form of restraint and word-based imagery. A selection of picturebook authors valued for their artistic prose includes Cynthia Rylant, Audrey Wood, or George Ella Lyon. Picturebooks are meant to support developing literacy skills in the child reader's brain. The often basic vocabulary employed in such books need neither limit the books' ability to teach and share information, nor limit the enjoyment generated by their textual narratives. A now-famous anecdote tells of Houghton Mifflin Education Division Director,

William Spaulding, who challenged Theodor Geisel (Dr. Seuss) to develop an alternative to the educational "Sally, Dick & Jane" graded primers used in schools at that time. Geisel was to develop a picturebook for children using a limited number of words from a list of words every six-year-old should know. Dr. Seuss wrote the rather long The Cat in the Hat using only 225 words. It was published in 1957 and immediately became a classic. What child is not proud of themselves, early on in their reading career, because they can read such a complicated, lengthy story? Yet the trick that Dr. Seuss used to create this apparently lengthy picturebook was to use a limited list of words repeatedly, while incorporating simple rhymes that encourage memorization, to help the child reader decode unfamiliar words where necessary and recognize them again in the future. In that way, the young child practiced word recognition by reading necessary words many times throughout the narrative—and Dr. Seuss managed to conquer his challenge without sacrificing the quality of the narrative (http://www.newyorker.com/archive/2002/12/23/021223crat_atlarge?currentPage=1).[116]

In addition to the ever-present text, the image has always been present in the picturebook as well. However, in the beginning years of this field, images were limited by technology: They were printed in black and white (although sometimes hand-colored later). They were often generic, sometimes not specifically designed for a particular text. Frequently, they were poorly fashioned wood-cuts (before Thomas Bewick's development of end-wood engraving that supported greater artistic detail in engraved images). The technology of the letterpress kept illustrations separated from the text (except when innovators such as William Blake introduced experimental methods of metal engraving to try to conquer this limitation). Over time, the technology of half-tone photography helped master the art of affordably printing the image, and

[116] Dr. Seuss beat his own record in his 1960 classic, Green Eggs and Ham, utilizing only fifty words—the result of another bet with his editor Bennett Cerf, which cost Cerf $50 (http://www.catinthehat.org/history.htm).

the quality and size of images in children's books began to grow in size, as a result—although illustrations still remained predominantly black and white (with any color added after printing and by hand). Printing the full-color image with reasonable effort at an affordable price took some time and innovation. It was not until the 1950s that the off-set lithographic printing press was adopted widely in the United States, and not until the 1960s to 1970s that color images began to be a viable option in children's picturebooks.[117] As these technologies have developed, picturebook illustrators have designed ever more dominant images to pair with text that is sometimes quite minimal.

Today, in some picturebooks, the image dominates; in others, the text takes control; and in a few cases the form of the book is the master. Still, almost invariably, if you are presented with an example of children's literature, it will contain images as an important feature. In some books (and, in my view, the best of the picturebook form), word and image dance with each other, each offering something that the other does not. Teachers and parents who engage with a child and help them read a picturebook can often aid the child in learning to explore the pictures, the words, and even the book form when each becomes important to the story. Mentors can encourage a child to learn to be a sophisticated reader who sees potential symbolism in different techniques the book creators used to create the whole. With guidance, when a character in one

[117] The process of lithography originally, and in many cases still, uses a stone plate and the principle that oil and water do not mix. While a complex multiple-pass stone-plate lithographic process created in Germany in the 1790s by Alois Senefelder did initially introduce color printing to specialty children's picturebooks, the cost and effort required were excessive and the World Wars killed the industry for a time. The lithographic off-set printing press was patented by Robert Barclay in England in 1875, which used the innovation of a metal cylinder instead of a flat stone. However, the cylinder was first covered with a specially treated cardboard that transferred the printed image from the stone to the surface of the metal. Later, rubber was substituted for the cardboard (Meggs 146-150). In 1901 in the United States, New Jersey printer, Washington Rubel accidentally discovered that printing directly from the rubber produced a sharper image. A press developed from Rubel's discovery was introduced by the Potter Printing Company of New York in 1903, and Washington Rubel's press had reached San Francisco by 1907. Nevertheless, letterpress printing with metal type remained a dominant form until, finally, the massive reinvestment required to switch technologies industry-wide occurred in the 1950s. It wasn't until the 1960s and 1970s that off-set color printing began to dominate the printing of books; and, gradually, the larger and more economical off-set presses began to allow the widespread adoption of full-color printing in children's picturebooks (http://www.Britannica.com/).

of a picturebook's images attempts to jump across the gutter of the book, children can learn to understand that this is humorous because the creator of the book is using part of the book form to create a barrier for the character in the illustration. The gutter may become a river, or a ditch, or simply the gutter of a book—depending upon what the creator establishes in the textual narrative. Sophisticated young readers who can search out deeper meanings even in their first books have a better chance of later becoming deeper thinkers and leaders in a society that needs a great deal of help solving problems that confront us.

If we are truly interested, as a society, in rearing our children to explore both sides of their brain's power, in allowing them to explore both their right and their left-brain skills, it is my view that the children's picturebook will remain an ideal tool to accomplish this goal. We will need to teach our children the language of the alphabet and the language of the image in the future—and the picturebook does both. In a sense, children of the picturebook start out their "reading" career in a bi-lingual frame of mind. In the long run, teaching our children to effectively process both text and images could produce more balanced citizens and leaders to deal with the problems that undoubtedly will face our world far into the future—problems that will sometimes demand the skills fostered by the alphabetic brain, and sometimes those encouraged by the image-oriented brain, and sometimes the skills encompassed by both sides of the brain. Like Alice, we as humans need both pictures and conversation.

C.3. Books Without Pictures: The Codex Book as Technology and Art Form— Was It the Earliest Form of Virtual, "Stand Alone" Movie-like Narrative?

A few years ago, when my second daughter was small, and still not a mature reader, I was reading a chapter book to her, really getting into the story, moving my finger rapidly across the page so she could improve her reading skills by following along. I read with expression,

adding touches of drama here and there, changing voices when the text called for it. Suddenly, she looked up at me and said something like, "I like it when you read to me, because I can see the moving pictures in front of my eyes." At the time I enjoyed the fact that I could share this sort of experience with my daughter. I realized that I was helping her improve her reading skills. She could more quickly decode the text by following along with my moving finger as it scanned the words while I narrated the story. By acting as storyteller (almost like an oral storyteller, except that my text was provided for me) I was able to improve her reading experience at that stage in her reading development while helping her toward "expert reader" status. I remember telling her that, if she continued to practice her reading skills, someday she would be able to

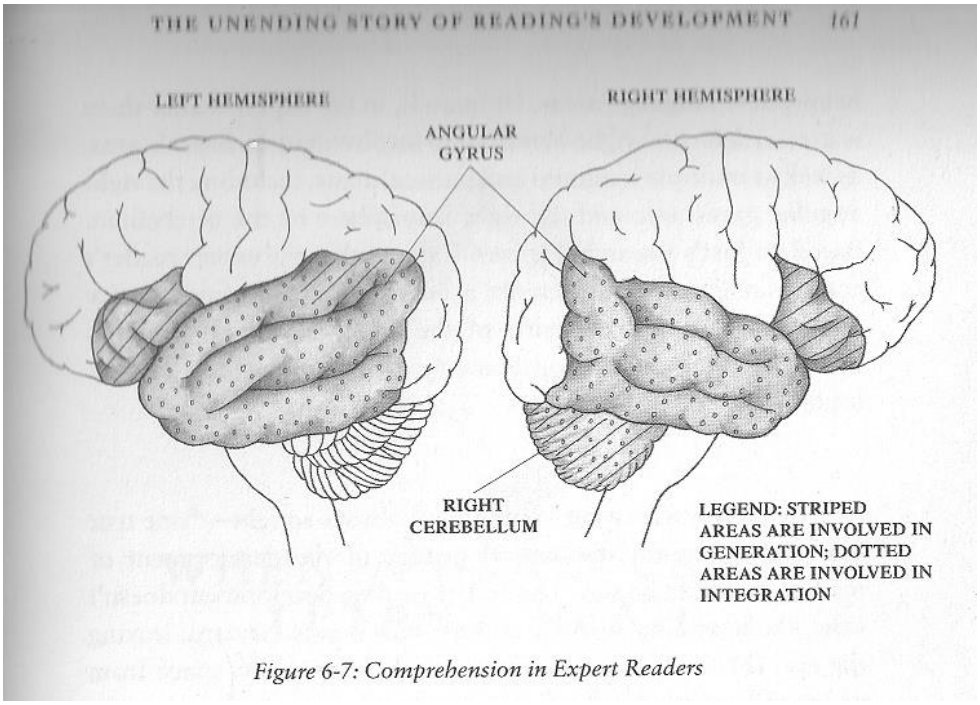


Figure 4.39.

create those moving pictures in front of her eyes as she read.

It takes a few years for young readers to reach the stage where they can read a book that does not have pictures and create a virtual moving narrative in their own mind all by themselves.

It is one of the marks of a mature reader, this capability of creating a virtual movie inside one's head while reading narrative.

When one reads a narrative well enough, the story almost becomes a secondary reality that cocoons the reader in their own virtual world. They become immersed in the story and those moving pictures begin to spring into life. Readers create images of characters, settings, and moving visual sequences in their minds that reflect this secondary reality that the textual narrative is revealing. In a way, the reader becomes movie director, set designer and editor—completing a virtual moving narrative of the solely textual narrative. Reading is a very active experience for the mature reader—a whole brain reading experience. Figure 4.39 shows the brain of an expert reader trying to comprehend the text they are reading.[118] As MaryAnne Wolf, author of Proust and the Squid: The Story and Science of the Reading Brain, describes this process,

> . . . when readers generate inferences about what a text might mean, researchers find a bi-hemispheric frontal system activating around Broca's [left hemispheric speech] area [striped areas in the diagram are involved in generation activity]. Furthermore, whenever the words used are semantically and syntactically complex, this frontal area interacts with [the language comprehension region called] Wernike's area in the temporal lobe, with some parietal areas, and also with the right cerebellum. Second, and equally important, when expert readers integrate this generated inference with the rest of their background knowledge, an entire language-related system in the right hemisphere seems to be used [dotted areas are involved in integration of information] (161-162).

Wolf stresses that the right hemisphere system is needed by the expert reader far more than for an early reader's much simpler decoding tasks that are controlled to a great degree by the left hemisphere's language centers: "The right hemisphere language system becomes as expansive and broadly distributed as the left hemispheric language areas in the expert reader" (162). Wolf describes the difference between the novice and expert reading brain, "The expert reader's comprehending brain presents a beautiful change from novice reading: by using many parts of

[118] (Wolf Pr&Squ 161).

the brain, the expert reader is living testimony to our continuously expanding intellectual evolution" (162).

Throughout history moving theatrical narratives have been performed for an audience. Street theatre and puppet theatre, circus performances, minstrels and oral storytellers all perform in real time and in real space before a physical audience. The audience watches the narrative. They observe the moving actors and listen to them speak. They listen to a narrator and they examine the scenery and costumes. The audience may enjoy the narrative with all of its visual glory, special effects, movement and color—but the audience has little creative input regarding the version that they see. The voices of the actors are already chosen, the scenery and costumes are already designed. The audience sees one version of the story, and it is not their own.

The oral storyteller perhaps comes the closest to providing the listener with greater creativity in the listening experience, acting as narrator and director in the process. The storyteller provides drama and interest through vocal variation and hand gestures, body language and facial expression. Some storytellers may point to things in the real world (such as a large tree or sunset) to aid the listener's comprehension. They could use props, a real doll that is mentioned in the story, perhaps. They might say something like, "This is the very doll I took away from the scene of the crime . . . ," to draw listeners into the tale and add a sense of drama and verisimilitude. The audience in this instance, if they are really drawn into the tale, may create moving pictures in their mind. They may imagine how the characters look, their color of hair, whether they are tall or thin. They may create settings and costumes in their virtual version of the story. Yet the impetus for this virtual creation is not the listener—it is the storyteller. The storyteller helps to create the virtual "movie" by providing the narrative and acting as a sort of projector and soundtrack of that virtual version by using another powerful and much earlier

technology—the technology of language, expertly used. In all of these examples, even in the example of the oral storyteller, the audience of the story needs someone else to make the event happen. They are not creating their virtual story on their own.

The reader of a fictional, text-based narrative, however, (one without even a single illustration accompanying the story) needs no one else to create the virtual movie inside their own mind—their virtual secondary world in which the narrative takes place (In fact, no illustrations is preferable for this sort of deep reading experience because the reader needs to read quickly enough to be able to enter the deep reading "zone." Intermittent illustrations that might appear in a young adult novel would tend to distract from the textual story and keep the reader outside of that zone. And, while children willingly enter the image-based world of the picturebook, with pictures consistently presented on every page to draw especially the non-reading child into that secondary world and keep them there throughout the book (Because Picturebook language is consistently presented with images, the reader is not jolted from text to pictures and back again, as with an illustrated novel.); still, illustrations offer the *illustrator's* vision instead of the reader's vision of the narrative. All the reader needs to do is to read the story expertly enough to enter the secondary reality of the narrative deeply enough that the reader's brain begins to create a virtual, visual, moving narrative in their mind-space. This version features the reader's own artistic choices, with their own versions of characters and costumes, settings and soundtrack. If a reader desires, they can even change their visualization on a second reading by making different virtual choices, whether consciously or subconsciously. Every reading experience could create a slightly different virtual mental movie of the narrative. If, for example, as many readers do, I read a book as a child, then again as a young adult, then later in life—because I have grown and changed and added experiences and knowledge to my

life between each of those readings—I come to the book a more experienced reader each time I revisit the narrative. As a result, there is a very good chance that the "virtual movie" created when I read this book will be different at each reading. "We forget that every text is, in a very essential sense, 'interactive,' changing according to a particular reader at a particular hour and in a particular place," states literary critic Alberto Manguel (Jackson D 158). Maggie Jackson, in her book, Distracted: The Erosion of Attention and the Coming Dark Age, clarifies Manuel's words, stating, "In other words, the attention we accord each text essentially creates the book for us, the reader." (158).

This capability of the book may make the codex book form the very earliest literary medium or technology with the power to create a virtual reality, a personalized movie-viewing experience for the reader without requiring anyone else, be they performer, puppet master or storyteller; and without requiring any other technology to create the story for them. Just a solitary reader and one small book can create this moving magic.

Viewers of film are entering the virtual world as well—and they need no one else to be present to create the magic. They just have to turn on the television or enter the movie theatre (as the reader needs to open the book and "enter the story"). However, once again, the virtual world they enter is not as creative as the movie they create in their own mind when reading a codex book. They are limited to the director's version of the story—the director's choice of actors, settings, etc.

This makes an arguable case for the codex book not only being a candidate for being the earliest technology that has the capabilities to create a virtual movie for its audience; but also that the book could be, arguably, the most powerful of the narrative media in important ways. It is astounding that such an old medium, such a low-technology form (it needs no electric outlet, or

projector, no connection to the Internet, no physical stage, etc.), that does not even contain illustrations, has such sweeping capabilities. After all of these centuries of use and with all of the new electronic technologies that exist now to compete with it—this narrative form still exhibits significant powers. The only requirements to create the moving magic are a book with a story inside, and an expert reader who is so good at decoding that the process has become invisible and the reader's mind has the freedom to create those moving images.

The problem is that, although this literary medium is as powerful as ever, although it challenges its "audience" and actively engages its readers' minds—so it is not a passive sort of viewing of the story as is the experience of viewing television and films—still, this wonderful literary medium could be endangered. Many studies show reading times are dropping, or numbers of books sold are sliding. In contrast, hours spent watching television, and using other screen media are increasing dramatically. The medium of the codex book is only powerful if readers are reaching the "expert" stage that allows the mind to create the inner virtual movie. The codex is only powerful if someone will willingly spend time reading it and has developed the capability to read well.

Does Human Culture really want to lose the capability to spark the magic of such a low-tech "movie" form—this form that requires the least set-up and that engages and challenges readers' brains, helping to improve cognitive capabilities while practicing a whole host of other mental skills such as language? Let us hope that this magical medium is not lost for lack of users, whether expert or not.

"In old days books were written by men of letters and read by the public. Nowadays books are written by the public and read by nobody**."**

– Oscar Wilde –

C.4. In Conclusion, whether Society is Ready or Not . . . .

Our transition generation has an opportunity, if we seize it, to pause and use our most reflective capacities, to use everything at our disposal to prepare for the formation of what will come next. The analytical, inferential, perspective-taking, reading brain with all its capacity for human consciousness; and the nimble, multifunctional, multi-modal, information-integrative capacities of a digital mind-set do not need to inhabit exclusive realms. Many of our children learn to code-switch between two or more oral languages; and we can teach them also to switch between different presentations of written language and different modes of analysis. Perhaps, like the memorable image captured in 600 BCE of a Sumerian scribe patiently transcribing cuneiform beside an Akkadian scribe, we will be able to preserve the capacities of two systems and appreciate why both are precious.

− Maryanne Wolf −[119]

I know of no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise their control with wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education. This is the true corrective of abuses of constitutional power.

− Thomas Jefferson −

Despite legitimate concerns about children and emerging adult's inappropriate exposure to too much *e*-media or *e*-narratives, hybrid forms of *e*-narrative are frequently exciting, influencing older forms to "*e*-volve," or reinvent themselves in dynamic ways—and these innovations *will* and are attracting the attention of the child and emerging adult "reader," (with "reader" being given a broad latitude of meaning here). Whether adults—whether scholars, teachers, parents, doctors or future employers—are ready for these new hybrid forms of "reading" or not; whether we feel comfortable with these changes; and whether we undoubtedly and rightly continue to feel that reading in its historic sense involving the codex book form must continue to be a teaching priority with our younger generation for a multitude of important reasons; still, Children's Picturebooks and new forms of children's published narratives will continue to *e*-volve in form, content and function. Our children and young adults, whether parents and teachers are aware of it or not, will continue to experiment and explore these

[119] While I would like to include the image Wolf describes, I have thus far been unable to locate it. This is an example where the written description creates a virtual image in the reader's mind that is fascinating enough to challenge the reader to compare that virtual image with the actual one—demonstrating the dynamic interplay of word and image and how they often feed off of and interact with each other (Pr&Squ 229).

emerging "published" narratives—and will become comfortable with using, if not addicted to using, the emerging technologies with which they are constructed and on which they are displayed and published.

It is this writer's view that it is essential that responsible adults (including teachers, parents, scholars, government and civic leaders, and the medical community) commence, without delay, the comprehensive exploration and study of these new *e*-narratives, as well as the children who enjoy them and the technologies with which they are published, not only to understand their form, but to also understand the ramifications of their constant use by the young reader/viewer with their plastic, growing minds that have limited time to acquire knowledge for a lifetime. We need to acquire the knowledge to fully explore the potentially negative as well as positive impacts of new *e*-narratives and *e*-media on our children. We must also consider the impacts, both individually and culturally, of potentially and rapidly losing skills that took centuries, even millennia to develop. In his text, Understanding Media: The Extensions of Man, Marshall McLuhan theorized to his readers that, ". . . it is the medium that shapes and controls the sale and form of human association and action. The content or uses of such media are as diverse as they are ineffectual in shaping the form of human association. Indeed, it is only too typical that the 'content' of any medium blinds us to the character of the medium" (20). The reason immediate study and discussion are necessary in this case is precisely because of the character or nature of these new e-mediums, a nature that involves both speed and power. These *e*-media work at lightning speed. And because nearly all *e*- or screen-media involve connection to the World Wide Web, they also wield enormous capability to disseminate messages throughout the world almost instantaneously. As information and communication specialist and sociologist Manuel Castells (born 1942; and a member of the governing board of the European

Institute of Innovation and Technology since 2008) observes in his 2001 text, The Internet Galaxy—Reflections on the Internet, Business and Society, "The Internet is a communication medium that allows for the first time, the communication of many to many, in chosen time, on a global scale" (Opening *The Network is the Message* 2). As a consequence of the speed, power and ubiquity of these pervasive *e*-technologies, the shifts, both individually and culturally, that are occurring across the Globe are happening faster and more dramatically than such changes have perhaps ever happened throughout the known history of Humankind (even faster and more sweeping than the Gutenberg Revolution, a historical event of dramatic and far-reaching consequences). We must be aware of the ramifications of such broad, sweeping changes on our children and emerging adults, as well as on the societies of which they are a vital part. These children are this world's future leaders and decision-makers, and the issues faced by the cultures in which they grow and mature are issues they, themselves, will ultimately have to resolve.

Final Thought:[120]

when we consider the great number and variety of tools for conversation that go beyond speech. For although culture is a creation of speech, it is recreated anew by every medium of communication—from painting to hieroglyphs to the alphabet to television. Each medium, like language itself, makes possible a unique mode of discourse by providing a new orientation for thought, for expression, for sensibility. Which, of course, is what McLuhan meant in saying the medium is the message.

– Neil Postman[121] –

[120] Figures shown include (left to right): Figure 4.40.1, Smith, Jessie Willcox"s, "Picturebooks in Winter," an illustration from Robert Louis Stevenson's A Child's Garden of Verses, published in 1885; and, Figure 4.40.2, an eight-year old girl reading an *iPad*. Photograph by Paris Eve Reinhard.

[121] (AOD 11%).

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List of Figures

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PART THREE

Chapter Four

List of Videos & Screen Captures

[NOTE: Page numbers reference the first appearance of the video or screen capture in the discussion.

All hyperlinks in this List and in this Dissertation are operational as of date of publication. As hyperlink addresses can change frequently for various reasons, if a problem with a link occurs, try searching YouTube or the Web by video title. Such a search could find the video which may still exist under the same title at a different address.

Some entries do not contain hyperlinks due to copyright concerns (these are mainly screen captures). To view the content discussed, refer to the Works Consulted citations.]

PART THREE

Chapter Four

Vita

Stella Kaufmann Reinhard, a U.S. citizen, was born in Akron, Ohio to Dr. M. Kenneth Kaufmann and wife, Stella, the fifth child of seven. Raised in a college town in Southern, Illinois, she graduated Valedictorian from Greenville High School in 1975; received her Bachelor of Arts degree with math major and English minor from Greenville College in 1979; and married James Stewart Reinhard. She enrolled in the Graphic Design program at the University of Illinois, taking more coursework in the art field as she also gained design experience in the workplace as a staff artist for Solo Cup Company's national headquarters while her husband finished medical school. After moving to New Hampshire for her husband's psychiatry residency at Dartmouth Medical School in Hanover, Stella ran her own graphic design and advertising firm, *Stellar Art*, working with clients such as Dartmouth Hitchcock Medical Center, historic Hanover Inn, Hopkins Center for the Performing Arts, and BaySon. She also worked with and served for a brief period as Acting Art Director of Wheelock Associates Advertising Firm. After starting their family, she and her husband moved to an historic home in Salem, Virginia in 1994. Stella completed her Master of Arts degree program in children's literature from Hollins University, Virginia, in 2003. Moving to Richmond, Virginia due to her husband's governor's appointment as Commissioner of Mental Health for Virginia, Stella commenced teaching as an adjunct faculty for the Communication Arts department at Virginia Commonwealth University. She also began working on her Ph.D. in Media, Art and Text at VCUArts, during which time she has presented research papers at a number of international conferences; among them, the International Conference on the Book in Edinburgh, Scotland, 2009, where she was awarded a Graduate Assistantship; and the University of Cambridge's 2010 *The Emergent Adult: Adolescent Literature and Culture* conference at Homerton College. Her course work complete, she and her family returned to their Salem home, where they currently reside.