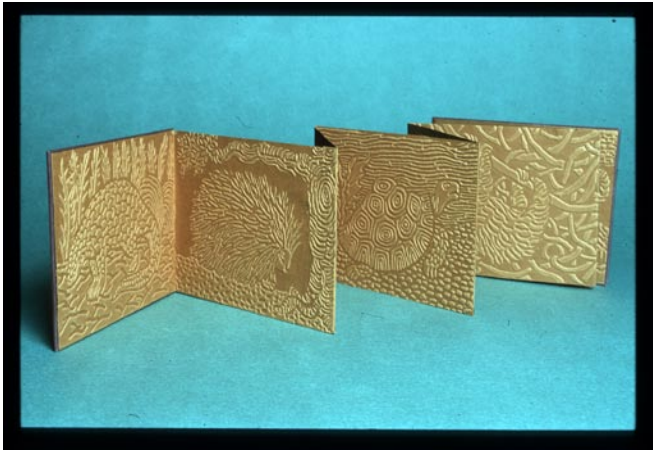


Tunnel Book: A Theatrical Structure

By Rand Huebsch

In 1990 I attended the Morgan Library's show *Be Merry and Wise*, which presented three hundred years of English children's books. Among the objects were two 19th-century tunnel books; those portable tableaux fascinated me. A printmaker, I had always been interested in visual narratives, and the tunnel format seemed ideal for presenting images from my personal mythology. The following thoughts arose from my years of happily exploring the format, both as artist and as teacher.

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Constructing the Book

Originating during the Italian Renaissance for studying perspective, the tunnel book is a fairly simple structure. It consists of a series of parallel image-bearing panels; except for the solid back panel, they all have cut-out areas. The panels are attached on two sides to accordion-folded strips. When those strips are extended, the book can stand upright to present a unified scene. ("Peepshow," an early term, attests to the book's theatrical nature.) To construct the book, only a few materials are needed: a pencil, a ruler, glue, bone folder, scissors or X-acto knife, a protective cutting board, such as

a plexiglas sheet, and images on paper. Those can include: prints, drawings, watercolors, rubberstamps, xeroxes, collages, photos, text, or mixed media. Most of my limited-edition books are comprised of hand-colored etchings, and it is as a draftsman that I usually approach image-making.

Intuition and a willingness to let the book evolve are key to conceiving the imagery for a tunnel book. For *Night Desert*, as well as other books, I made a construction-paper prototype in the following way. After cutting four 5" x 8" panels, I sketched images on the perimeter of the first panel, then used an X-acto knife to remove the unwanted interior areas. (The knives are very sharp and should be used carefully.) I placed the first, front panel over the second panel and traced the interior contour onto it, to serve as a rough guide for the second sketch, and so forth. (Most people will want only a unique book, but I wanted to make an edition, so I used the four completed panels as templates for transferring the design to tracing paper and then used white carbon paper to re-draw the image onto a wax-coated copper plate. Then I removed the drawn lines with a stylus, to expose the areas of metal that were to be etched and ultimately hold the printing ink.)



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When designing a book, you should periodically set the panels in an upright position, one in front of the other, so as to better visualize their interaction. For example, you may see that the visual balance needs adjusting and can then cut away or add elements. For many years I made do with ink bottles or paper cups as props. Now, for that purpose, I make wire easels, which are much steadier supports and make it easy to experiment with the spacing between panels. (When deciding on that spacing, sit fairly close and at eye level to view the panels. That will let you know if they form a united vista or if, instead, there are visual leaks between panels.) I based the easel design on that of the ones used for displaying small photos. Sixteen- or eighteen-gauge wire is a good thickness: it can easily be bent, but is strong enough to support paper.

There are other ways of developing imagery. For *Fable 1*, I played with copies of four etchings that I had done as unrelated images and experimented both with their sequence and with variations on the cut-out areas. (If using original drawings or photos, you may want to make xeroxes of them for planning the prototype.) You can also start from a single two-dimensional image: allocate some of its elements to the front panel, some to the second, etc. It will soon become evident, however, that the extra dimension makes additional demands. Recently I adapted a Renaissance painting of a deep-space interior, in which curtains framed the scene. The question arose: in a three-dimensional version of that scene, what is behind the curtains? (Part of my answer was to use the same curtain imagery on both the first and second panels of the book.)

The number of panels for a book is often determined by the complexity of each panel, as well as the amount of overlap. The English books that first inspired me had at least ten panels, each one fairly simple. That same number is contained in Edward Gorey's *The Tunnel Calamity*, which has a peephole on the front cover. I usually put a lot of information into each page, with considerable overlapping, so that four panels are sufficient for the book. Sometimes I make several options and, using the wire easels, see how each one relates to the other panels in the series.



The completed panels are connected by hinges to accordion-folded strips. Heavy paper should not be used, as it will not score well. The strips tend to contract slightly once the book has been placed upright. Therefore, if you want a 2" space between each panel, measure a 2 1/2" section on the strip. To support the panels properly, the strips must be of sufficient width. For example, on a book that is 6" high, use a 2" width strip and position it at the midpoint of the panel. Bone folders are excellent for scoring the strips and the hinges that will attach them to the panels. I also use the connecting strips as surfaces for images that comment on the panels. If you are going to make a number of copies, templates for measuring and scoring are helpful in speeding up the production.



To avoid overlapping, the hinges should be no wider than the accordion strip. Assemble the book in the following way. Measure and mark on the backs of the panels for positioning of hinges. These marks will serve as guides when you assemble, so that all the strips will be aligned correctly with the panels. Glue hinges to the backs of all of the interior panels. Hinges are not needed for the book's front and back panels: the accordion strips are attached directly to their backs. When you glue the hinges, make sure that their fold is aligned with the outer edge of the panel. Then start gluing the strips. The strips will attach to the other side of the hinges on all the interior panels. Remember that the fold of each accordion segment between panels faces inward. For all gluing, use a bone folder for pressing the elements together. Place a piece of tracing paper between the folder and the elements, so that any excess glue will be picked up.

As sculptural pieces, tunnel books require a degree of engineering. For example, a small book does not need as sturdy a paper to be stable as does a larger book. To strengthen the structure, the paper or board for the front and back panels should be heavier than that of the interior panels. As a rule, use card stock for inner panels and two-ply museum board for covers. Or you can use the same paper for all the panels, but

reinforce the front and back ones with a second sheet of paper (for the front panel, that requires cutting away at least as much on the support paper as was cut from the image panel). If you don't want the side strips to be visible when the book is collapsed, the book's panels must be at least as wide, at the hinge point, as half the length of the strip segment between two panels. In designing my books, I have not been concerned about that issue.



Esthetics of the Book

The tunnel book has a built-in paradox: it's a three-dimensional structure comprised of two-dimensional elements. That dichotomy gives the format a special visual logic that allows for stylization. Perspective can be manipulated and "forced," in the manner of a museum diorama. In *As You Like It*, the front panel depicts only the upper body of a Shakespeare character. He looks directly at the viewer, and his arms form a framework that encloses the succeeding panels, which show smaller, full-length figures from the play. *The Burglars of Bremen*, based on a Grimm's tale, depicts interior/exterior space. On the right side of each panel, a braying farm animal stands outside a cottage; on the left side, within that cottage, is a frightened human figure.

With its linked parallel planes, the tunnel book can imply the passage of time or a series of events. In *As You Like It*, each panel depicts a separate scene. Unified, they comment on each other, so that the book recalls those early Renaissance paintings that simultaneously displayed several episodes of a saint's life. *Circe* presents a chapter from the *Odyssey* in which a sorceress transforms sailors into swine. In the farthest and "earliest" panel, she offers a bowl of potion to an unsuspecting man. In the next one, a pig-headed human figure appears, and so forth, until the frontmost panel, where a swine leaps. As each page has a framework of stylized brambles, the book is ambiguous: it may be showing different beings at a single moment, or one being in various stages of a metamorphosis.



One can exploit the architectural aspect of the tunnel format. In *The Wunderkammer of Rudolph II*, I show a 17th-century cabinet of curiosities. One of my students made elaborate, calligraphic cut-outs within the panels of her mosque-like book. Another student made a visual journal in which she adhered elements from travel photos to panels that were framelike in shape. Onto those panels, and also onto the connecting accordion strips, she had rubberstamped Japanese ideograms. For image ideas one can look at: interior scenes by the Dutch painter Pieter de Hooch; Persian or Indian miniatures for their non-Western perspective; and German Expressionist films, such as *The Cabinet of Dr. Caligari*, with their stylized lighting and distorted sets.

Currently I am exploring several elaborations on the format. *The Canterbury Tales* is an accordion-tunnel book, similar to the carousel format, but not identical. In its accordion form, the book presents the figures in procession, while each tunnel segment shows the history of a specific pilgrim. *The School for Scandal* is a collapsible toy theater; to each panel a rod affixes a shadow-puppet marionette, so that the viewer can manipulate the stationary figure. The back panel is adhered to the interior of a shallow covered box; the cover is hinged such that it serves, when the box is opened, as a floor for the extended theater. In the works, for a group printmak-



ing show, is a collaborative tunnel book, with each panel by a different artist. Within the basic framework of the tunnel format, the possibilities are endless.

Description of books

Table 2, tunnel book, four hand-cut panels, hand-colored embossings on black museum board, side strips printed with hand-carved rubberstamps, 5”h x 8”w x 9”d.

Night Desert, tunnel book, four hand-cut panels, hand-colored embossings on black museum board, side strips printed with hand-carved rubberstamps, 5”h x 8”w x 9”d.

Circe, tunnel book, four hand-cut panels, hand-colored embossings on black museum board, side strips printed with hand-carved rubberstamps, 5”h x 8”w x 9”d.

To create the images for the books *Night Desert*, *Table 2*, and *Circe*, I first made a prototype by drawing with colored chalk on black paper and seeing how the panels related to each other. Then I made embossing plates in the following way. Using the prototype as a guide, I drew the image on tracing paper. Then I transferred it (re-drew it), using white-powder paper, to copper plates that had been coated with an acid-resistant waxlike ground. With a metal stylus, I removed ground from those areas of the plate that were to be etched, almost as if making a relief print. As the drawn lines represented areas that would not be etched, I scraped away the ground on either side of each of those lines. (Unetched areas of the embossed plate are recessed on the print, while etched, recessed areas of the plate create the raised areas of the print.) The plates were placed in acid for about 20 hours, so that they were deeply etched, to form embossing molds.

I used an etching press to emboss on black museum board, after which I cut away the non-image areas with an X-acto knife. I then hand-colored the embossment with Caran d’Ache crayons held at an angle, so that only the raised areas

received the color. I connected the panels by hinging them to accordion strips that were stamped with rubberstamps (printed with silver water-based block ink) that I had carved with a linocutter from Staedtler Mars polymer erasers.

Not Out of the Woods yet, five panels, hand colored etching.

One of my first tunnel books, “Not out of the Woods yet,” was done in pen and ink and colored crayon. For many years I intended to make printing plates for an edition of the book and recently did so by re-drawing all of the linear elements contained in the original book onto copper plates that were etched. After the plates were inked and printed on an etching press, the prints were hand colored with Caran d’Ache crayons and water. (I welcome the color variations within the edition that this method entails.) Then I cut away the open areas with an X-acto knife and connected the panels with accordion strips that were printed with related, etched images.

The Lives of Quadrupeds, accordion book, eight panels, each panel 6”x 8”, uninked embossed Canson Mi-teinte paper.

The Lives of Quadrupeds was in part inspired by the dioramas at the Museum of Natural History in New York City and was printed from uninked embossing plates on Canson Mi-teinte, a paper that comes in many colors and is used primarily for pastels. When I first started making deeply etched embossing plates, I experimented with various printing papers, to see how they would take the uninked emboss, and discovered that Canson slightly lightens on the raised areas. It also looks like leather, as a result of the printing. As the book’s panels are essentially bas reliefs, they are especially dependent on the light source and alter in appearance when the book is placed upright, like a miniature folding screen, and re-positioned in various ways.

The School for Scandal, materials include foam core, Caran d’Ache crayon, cardboard, string, and pen and ink. 15”h x 19”w x 12”d. (Photo by Marcia Rudy):

Essentially a large tunnel book, the piece was made for an exhibition of toy theaters in New York City. Some of the figures have movable parts to which strings are attached, so that the viewer can manipulate them, just as some of the play’s characters manipulate and scheme. The book does not illustrate a specific scene, but rather was intended to convey the general satirical tone of the play. As a collapsible and lightweight piece, the theater was easy to transport. At some point, I’d like to make very large “tunnel books” that could be used as portable stage sets, possibly carried on and off the stage by the performers when they enter and exit.

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Rand Huebsch is a printmaker, book artist, and teacher. In addition to working with traditional print processes, he has experimented with more recent techniques, such as carborundum aquatint, alumigraph, and gesso-printing. In 1986 he co-founded the Manhattan Graphics Center, and he has curated printmaking exhibitions for the New York Hall of Science, and has occasionally ventured into the world of shadow puppetry. His technical articles have appeared in "Movable Stationery" and "Printmaking Today." He recently published an article on curating a printshow in "Sigla Magazine" <<http://www.siglamag.com/arts/0502/An-Exhibition-Evolves.php>> Among the collections housing his tunnel and accordion books are those of the Victoria and Albert Museum, the Detroit Institute of Arts, the Fogg Art Museum, the New York Public Library, and Yale University. Photographs by Daniel Falgerho, <<http://www.falgerho.com>>, except "School for Scandal" which is by Marcia Rudy. Rand Huebsch can be reached at <rahuebsch@earthlink.net>

