

## Interactive materiality: Learning from Curators and Conservators about a 17<sup>th</sup> century turn-up book

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### ABSTRACT

In this illustrated essay I discuss my ongoing engagement with curators and conservators at different rare books repositories in Canada, Britain and the United States, especially at The Pennsylvania State University, about a mid-17<sup>th</sup> century turn-up sheet. Called *The Beginning, Progress and End of Man* an edition is held in the university's special collections department. The bibliographic identification is incomplete with no date, place of publication, printer or publisher given. I share a narrative from my perspective as a researcher of interactive books about what I am learning about the materiality of the early modern paper and how this enables the interactivity of the object.

### KEYWORDS

Conservation; Interactive books; Early modern paper; Turn-up book.

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This essay is a version of a talk I gave virtually December 14, 2022 at the symposium held for the inauguration of *Pop-App. International Centre on Interactive books*. The essay builds on previous work I have done on the turn-up from the perspective of an interactive reader-viewer-player (or ‘interactor’) interested in the affordances of the design and format (Reid-Walsh 2018). The December talk presents my ongoing thinking from a different angle — focusing on the materiality of the turn-up and how it is made. Since the purpose of the talk was to pose questions rather than presenting answers, the form of this essay is a discussion paper and the tone informal. My hope is that some of my experiences working with and learning from curators and conservators as well as my emerging thinking and question posing about the materiality and interactivity of a 17<sup>th</sup> century turn-up sheet will impel others to explore these aspects in their own areas of research on historical interactive books<sup>1</sup>.

The paper is divided into three sections:

1. An overview of the print history of the text.
2. *The Beginning, Progress and End of Man* as a material object: Learning by observing and doing; or ‘critical making’.
3. How the materiality impacts the affordances of the interactive artifact in terms of format and playability.

### Part 1: An overview of the print history of the text

Before diving into this investigation, I will introduce the object. What is *The Beginning, Progress and End of Man*? What is a turn-up?

Turn-up books or turn-ups are small printed sheets composed of one or two pieces of paper with movable flaps with four or five sets of accordion folds. The phrase ‘turn-up’ is derived from the instructions in the text to lift the flaps up or down. They are inexpensive items directed to a wide semi-literature audience, both adult and child and form part of the British ‘Cheap Print’ of the 17<sup>th</sup>-19<sup>th</sup> century like ballads and broadsides costing between a penny and halfpenny (Watt 1991; Lake 2011; Franklin 2013; Reid-Walsh 2018; Reid-Walsh 2020). The early texts published during the 17<sup>th</sup>-18<sup>th</sup> centuries are anonymous, printed on one side and produced as single strips. The later 19<sup>th</sup> authored texts published were primarily in America where many editions were made, but also in Germany<sup>2</sup>. These expand and rework the earlier anonymous text into a didactic text for a gendered child audience, sometimes including colour illustrations. They are printed on both sides and folded into small booklets. Most seen are in English but some are translated into German.

Consulting numerous editions of this text chronologically called *Metamorphosis, or a Transformation of Pictures show* how printers transformed the turn-up from a strip to booklet with front, back cover, subtitle, note to child reader not to be afraid. It elaborated the 1650 four-part British version in many ways. For

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\* Last website consultation: February 15, 2023.

<sup>1</sup> The ongoing engagement with the turn-up is documented in a series of blog posts called “Unfolding Metamorphosis” housed with the blog “The Learning as Play Blog” website at <https://sites.psu.edu/learningasplaying/>.

<sup>2</sup> Christian Bachmann’s personal email.

example, the misers' fashionable attire was updated, there were extra, numbered verses, doubling the length of the text, paratextual material was added addressing basic literacy and numeracy, and through sampler-like background and address to girl readers. These pamphlets were published in English and German (Reid-Walsh 2018; Sperling 2021)<sup>3</sup>.

Furthermore, there is a corpus of contemporaneous homemade materials constructed by school teachers, families or children in both languages, in England but particularly in America. A key question arises about which features warrant such reception and longevity (Reid-Walsh 2020; Sperling 2021)<sup>4</sup>.

There are only a few known, dated editions of the 17<sup>th</sup> century turn-up in public collections. Some are uncut and others cut, some are preserved flat, others pasted into folios. The texts are based on a set of loosely linked religious and traditional narratives conveyed by a combination of simple verses with conventional woodcuts (usually uncoloured). When a reader follows the directions in the text and lifts the flaps as stipulated, the bi-modal narrative is relayed by a sequence of transformations. Yet, when the flaps fall down or are moved contrary to the directions a set of incongruous transformations occur.

The earliest known turn-up was printed in London (1650) by Bernard Alsop for T[homas] Dunster. It is uncut and housed in the British Library and attached to a volume in the George Thomason Collection<sup>5</sup> (Figs. 1-2).

In 1654 a five-part edition was published Alsop's widow Elizabeth Alsop in London in 1654 again for T. Dunster. The only known copy is held at the Houghton Library at Harvard University (Figs. 3-5). Differences between the first and second editions are noted in the Harvard catalogue entry but become obvious upon seeing, touching and carefully engaging with the artifact. The strip has five sets of cut flaps. Since it has been reinforced on the back a library user may interact with the object revealing multiple ways of engagement. The most obvious addition is the second panel about Cain and Abel creating five episodes but the images have all been redrawn — for instance the Lion is anthropomorphized resembling more an image of Charles I. The verses have also been rewritten (Reid-Walsh 2020).



Figs. 1-2 | *The Beginning, Progress and End of Man* (1650).  
The British Library. General Reference Collection 669.f.15.(34.).  
Flaps closed (1), flaps open (2).

<sup>3</sup> For images of American Metamorphosis, please see “Image Gallery. A Collection of Images of Early Metamorphic Pictures”, <https://sites.psu.edu/play/image-gallery/>.

<sup>4</sup> For images of some homemade versions, please see “Image Gallery. A Collection of Images of Early Metamorphic Pictures”, <https://sites.psu.edu/play/image-gallery/>.

<sup>5</sup> See Michael Mendle in print. It is a four-part turn-up strip with images that transform when flaps lifted up or down: Adam, Eve, Mermaid; Lion, Griffin, Eagle; Young miser with money bag; Adult miser, Skeleton.



Fig. 3-5 | *The Beginning, Progress and End of Man* (1654).  
 Houghton Library, Harvard University.

In 1688-89, a third version of *The Beginning, Progress and End of Man* was produced for John Deacon (active 1682-1701) a publisher/bookseller who produced a variety of cheap and popular literature. Housed in the Bodleian Library, it measures cm 28,57 by cm 36,20, has five parts but is uncut. It was attached by the contemporaneous historian Anthony Wood into a manuscript folio in his collection. It is important to my present project since I worked with curators and printers at the library and had some blocks made from photographs of the strip<sup>6</sup>.



<sup>6</sup> See Ballads Online images in “Broadside Ballads Online from the Bodleian Libraries”, <http://ballads.bodleian.ox.ac.uk/search/?query=beginning%2C+progress+and+end+of+man>.

There are two undated editions of the turn-up that have been both cut and folded. One is a hand-coloured edition published by J. Deacon is held at Princeton University. Andrea Immel, curator of the Cotsen Children's Library, has written about it and shown photographs of it in her blog. The two colours yellow and red are effectively deployed to highlight characters and actions<sup>7</sup>.

The final known undated edition is housed at the Pennsylvania State University. Since it is located at the university where I work I have been able to extensively engage with a strip version and to examine the material more closely through repeated visits. Furthermore, to protect the delicate material, the library has made facsimiles that I can manipulate in different ways without destroying the object (Figs. 6-7).



Figgs. 6-7 | *The Beginning, Progress and End of Man* (nd.). The Pennsylvania State University Library. Flaps closed and open. Back view flaps closed.

## Part 2: *The Beginning, Progress and End of Man* as a material object: Learning by observing and by doing; or 'critical making'

In this section I discuss the *Beginning, Progress and End of Man* as a material object. I refer specifically to a few editions that I have worked with closely.

Previously I engaged with the 1688-89 version produced for John Deacon (active 1682-1701) held at the Bodleian Library, Oxford but inserted into a volume. More recently I have engaged directly with the undated 17<sup>th</sup> century edition held by special collections at Penn State. My approach combines hands-on examination of the object and facsimiles in the rare books room with 'critical making'. I am a novice to 'critical making' a term I learned by being inspired by a large *The Making of a Broadside Ballad* project at UCSB English Department led by Professor Patricia Fumerton in 2014<sup>8</sup>.

The term 'critical making' is popular in art, media archeology and especially associated with new media studies. It can be understood as a way to bridge the gap between the arts and science and combine creative production with critical thinking (Vargas 2021). In their introduction the three editors of the making a ballad project, Andrew Griffin, Patricia Fumerton, and Carl Stahmer describe their large-scale project as follows:

We asked ourselves what we'd learn if we made a broadside ballad from the ground up; *The Making of a Broadside Ballad* provides our answers to that question. The [makers of this edition](#) undertook an ambitious training program alongside professional craft workers from across the country, including papermakers, woodcarvers, ethnomusicologists, and printers. We made paper from used clothing, carved woodblocks from planked box-wood, composed ballad-style verse, recovered an early modern tune, set type, printed the cuts and type together, and then performed our product, "The Ballad-Makers Complaint" (Griffin, Fumerton, and Stahmer [2016]).

<sup>7</sup> Please see Immel 2021: <https://blogs.princeton.edu/cotsen/2021/06/the-beginning-progress-and-end-of-man-rare-harlequinades-of-emblems-acquired/>.

<sup>8</sup> See Fumerton 2015, <https://press.emcimprint.english.ucsb.edu/the-making-of-a-broadside-ballad/impact>.

Andrew Griffin in his article *Why making?* describes how the present-day field of book history pays close attention to materiality “material objects, material practices, material networks of exchange and communication”. Yet he notes this emphasis has been limited to the archive where the approach examines old object but in a new way. By contrast the ballad making project emphasizes a different approach for they ask how “material objects operate in the world, but also how they are made, from what they are made, how it feels to make them, how it feels to interact with the technologies required for their production, and how they are built from the pulp up”. He continues how by emphasizing the “materiality of the objects has, until this project, largely been matched by a blindness to our own bodies: the apparently immaterial scholar largely looms bodiless over printed works rather than getting his or her hands dirty”. By contrast the knowledge they gain is both cerebral and sensory (Griffin [2016]).

Griffin concludes by linking the concept of ‘critical making’ usually associated with the digital humanities to earlier technologies: “By learning to make paper, set type, and print broadside ballads, we forged a new relationship with printed works that lets us understand those objects in novel ways” (Griffin [2016]). He stresses throughout the importance of the senses is acquiring this kind of hands-on knowledge.

Working alone I have greatly scaled down their approach to focus on starting to learn how to set type in the hand print period and how to print illustrations from wood blocks on a hand press. Furthermore, I am learning about the materials used in the paper 17<sup>th</sup> and 18<sup>th</sup> centuries. What remains constant is the connections between ‘making’ and ‘critique’ and an emphasis on using my senses, not only sight but touch and on occasion my muscles! I have been fortunate to observe and to work hands-on with curators, printers, conservators and other specialists to gain some knowledge of the many practical aspects of print making. I also engage in hands-on discovery in both the rare books room in the print making room. These kinds of knowledge enhance my ability a critic of an interactive object to analyse the images, words, and especially the format of this unusual text<sup>9</sup>.

Below I share some thoughts about my ongoing engagement with ‘critical making’ and what I learning. My overall intent is to answer three questions: how are the turn-ups printed, what is the paper composed of and how is the interactive design of the flaps and folds formed? In so doing I can understand the connection between materiality and interactivity with respect to this object. I draw on my experiences working with the turn-up for a length of time in two libraries: in the Bodleian library and at Penn State University. In each location I have engaged with curators, conservators and learned about printing on a period press through observing master printers and by supervised participation. In my discussion I focus less on the process of setting the type for the words than on the use wood blocks to form the interactive illustrations.

At the Bodleian library I worked directly with Dr. Alexander Franklin, Project Coordinator, Centre for the Study of the Book at University of Oxford. Through this network I was able to take a course with Richard Lawrence and learn about the Bibliographical press and some basics of the printing of words and images in the hand press period<sup>10</sup>.

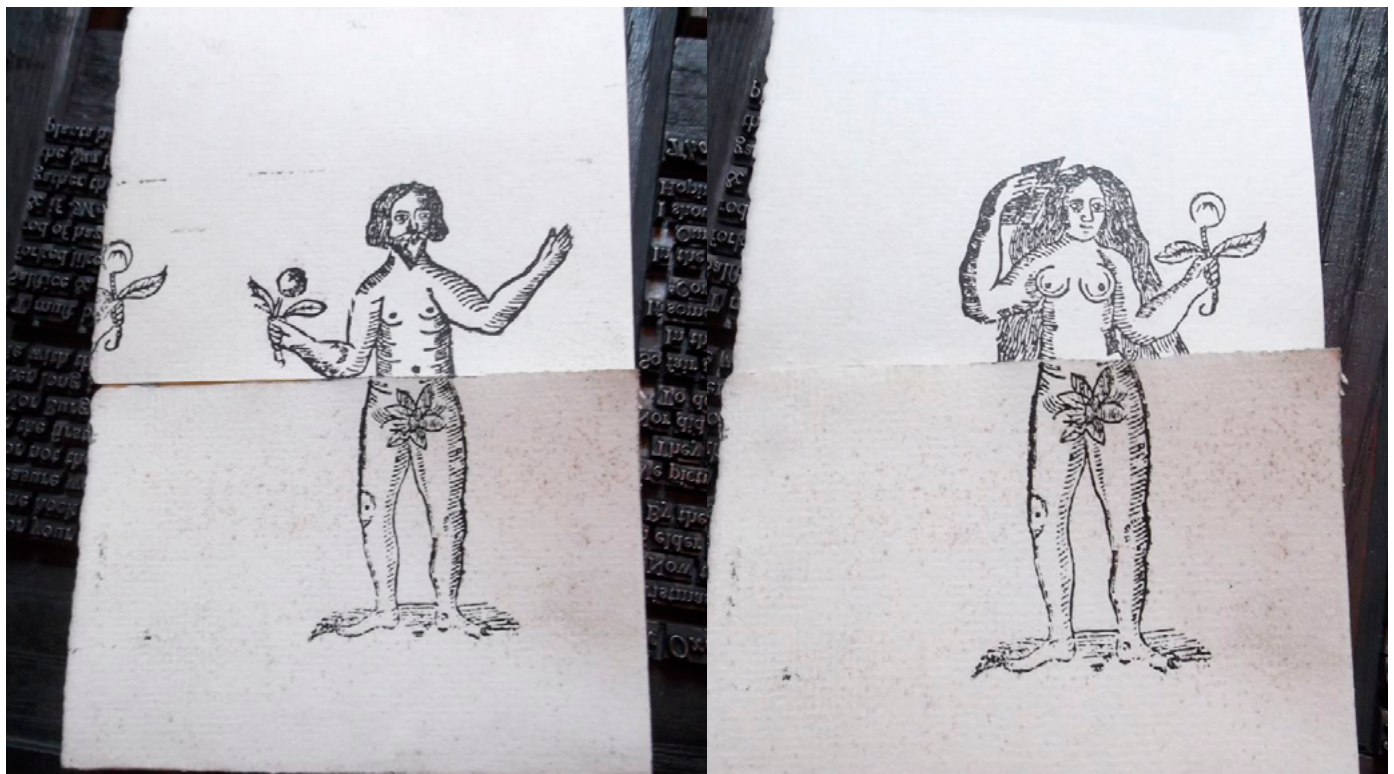
At the Pennsylvania State Library I have worked with curators such as Sandra Stelts and Dr. Clara Drummond and the senior conservator William Minter. I have taken a workshop on paper making and tutorials on wood block printing. My continued ‘critical making’ here combines observing, participating and asking questions.

<sup>9</sup> See Fumerton [2016] article about ballads to explain the category of ‘Cheap Print’ or popular print in a 17<sup>th</sup> century context.

<sup>10</sup> See “Centre for the Study of the Book”: <https://www.bodleian.ox.ac.uk/csb>; “The Bodleian Bibliographical Press”: <https://britishletterpress.co.uk/community/learning-more/the-bodleian-bibliographical-press/>.

### Bodleian library

At the Bodleian library I was able to engage several times with the turn-up inserted into a volume of ballads collected by Oxford University historian and antiquarian Anthony Wood in the 1600s. They also have online digital scans. Since the library has period presses on site and provide workshops on printing in the handpress period, I derived the idea to ‘make’ a facsimile of the object. This was too ambitious but through the Centre for the study of the book was able to involve Richard Lawrence in the project and the library used the scans to make reproduction blocks in order to make a partial facsimile on a period press. The first set of spectacular transformations were chosen to start: Adam, Eve, mermaid/(merman). The Library wrote about this project on the library blog *The Conveyer* (Centre for the Study of the Book 2017) with links to my own blog. The piece is called *Transformations in print* from which I extrapolate below. The images are shown first: Figs. 8-12.



Figs. 8-9 | *Transformations in Print*. In *The Conveyer Bodleian Library* [blog]. Feb. 5, 2017.

### Transformations in print

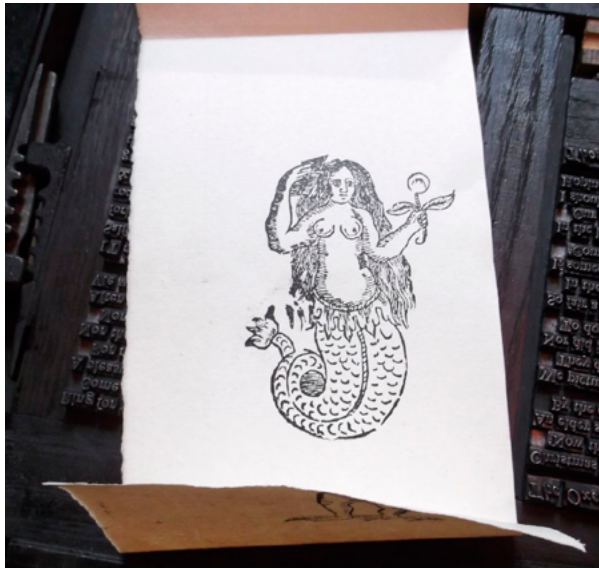
Richard Lawrence at the Bodleian’s Bibliographical Press<sup>11</sup> is experimenting with printing transformations using two blocks; here using reproductions in zinc based on the Bodleian’s copy. From this experiment it appears that the transformation could be achieved using two blocks, ‘Adam’ and the ‘mermaid’; one printed on the centre of the sheet, and the other printed over this on the outside, after the upper and lower edges were folded to meet in the middle. As further evidence for this hypothesis, the Bodleian’s copy shows blocks printed over the deckled edges of the paper<sup>12</sup>. We still wonder why, in these 17<sup>th</sup> century editions at

<sup>11</sup> See “Printing and book arts at the Bodleian Libraries”. In *Bodleian Libraries. University of Oxford*: <https://www.bodleian.ox.ac.uk/csb/book-arts>.

<sup>12</sup> See please the record of the Bodleian’s copy (“Wood E 25(10)”): <http://ballads.bodleian.ox.ac.uk/view/sheet/23300>.

least, the title (on the outer side) and imprint (on the inner side) are interrupted by large gaps at the latitude of the join.

Thanks to Kim Vousden<sup>13</sup> for graphic design to prepare the images for reproduction as printing blocks (Centre for the Study of the Book 2017).



Figs. 10 - 12 | *Transformations in Print*. In *The Conveyer Bodleian Library* [blog] Feb. 5, 2017.

### The Pennsylvania State University

Back at Penn State University I have continued to reflect on and to mull over this experiment. I realized that the material logic of the making provides an opposite perspective on the images and text from that of a reader-viewer-player or interactor (Reid-Walsh 2018) and subsequently opens up different ways of engaging with and interpreting the text. With regard to the first panel of transformations displaying, Adam, Eve, the mermaid (and merman) to read and view the panel in the intended way according to the words, your engagement (loosely) enacts the formation of Eve from Adam's rib whereby we are told to "turn up the Leaf and see his Wife". To do so you lift up the top flap and encounter Eve with her "Virgin Blush aray'd" (modernized spelling). But an opposite pattern is displayed and enacted when printing the wood block images. Surprising to me, there are only two blocks, Adam and the mermaid, for there is no Eve

<sup>13</sup> Kim Vousden, graphic designer, typographer and image maker: <https://kimvousden.com/>.



block at all. This is contrary to the narrative stated, illustrated and enacted in the text where Adam dominates, Eve follows and the mermaid is introduced as a “stranger maid” who is a danger to males due to her beguiling beauty, so that they are warned that their “Eyes look not on the Mermaid’s face”. In the realms of making, the mermaid is the core block and key figure in the narrative.

In a blog post called *Mermaid at the Centre*, Colette Slagle and I discussed how since the paper is laid horizontally and the long edges turned down and up to make flaps, the mermaid is printed first so she is the prime image! When the two edges of paper are folded to meet in the middle, the Adam woodblock is placed over the break.

Moreover, this pattern remains constant in all the editions whether composed of four or five panels. The first set is always Adam, who turns into Eve, the intended transformation of Eve into a mermaid, and the (presumably) unintended one of Adam in into a merman. While there is text to support the first three figures, there is nothing to describe or comment on the merman. Indeed, the myth of Adam and Eve is balanced visually by the folk myths of the mermaid and merman. Does this disjuncture go beyond amusement to suggest a counter origin story? (Reid-Walsh and Slagle 2018).

This counter narrative or counter origin story exists only by examining and working with the blocks themselves. This invites another question: “How would the turn-up be interpreted if the material aspect were dominant or at least understood by textual reader-viewer-players?”. A clue is provided by the way the hidden figures are displayed by the properties of the design and the qualities of the paper: due to the weight and dimensions of the top flap it tends to fall down. Due to the flexibility of the paper it moves easily and the flap stays put when opened. Previously, I understood this counter narrative to exist only when an interactor engages with the turn-up in a disobedient manner and by disregarding or ignoring the words turns the flaps in an opposite direction. Examining and valuing the affordances of the material aspects has provided me with key insights I wish to pursue further.

### Part 3: How the materiality impacts the affordances of the interactive artifact in terms of format and playability

To follow through these questions with regard to the materiality of the paper (and block) at Penn State University I have engaged in ‘critical making’ by observing and participating in printing two segments of the *Beginning, Progress and End of Man*. We used two blocks the mermaid block used previously and a lion block that I obtained subsequently. In this exercise no transformation was attempted and we used the iron Washington handpress Press dated 1839. Conservator Bill Minter and I focused on how the facsimile blocks functioned on different papers ranging from contemporary printer paper to art paper to rag paper in terms of the clarity of the impressions. We also took into consideration the state of the blocks and Bill adjusted them as necessary.

The photos below show the initial results: in **Figs. 13-14** the clarity of the impression of the lion block contrasts with the faint impression of the unadjusted mermaid block. **Fig. 15** shows how differently the mermaid block functioned when adjusted expertly by Bill. The clarity of the image on the rag paper is startling in comparison to the other two impressions.

While the above experiments were undertaken at the conservation centre the following activities have been undertaken at the special collections reading room. The initial examination was undertaken when the turn-up was delivered to the university when Bill Minter and the former head of special collections Tim Pyatt looked at the object on a light box. Subsequently with curatorial Clara Drummond’s approval and conservator Bill Minter’s expertise I have looked carefully at the turn up sheet using a light box and a magnifier. As can be seen in **Fig. 16 a, b** the materiality of the paper is revealed in terms of vertical chain lines.

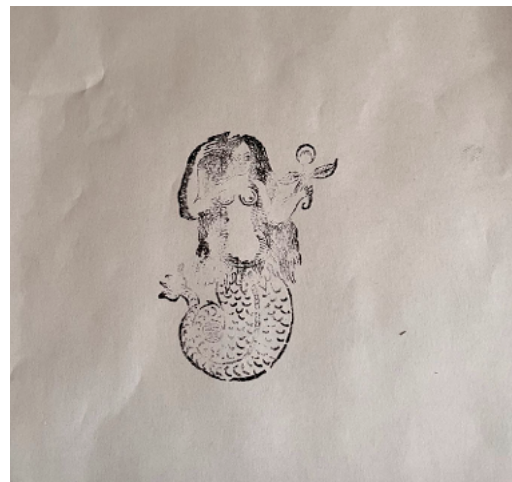
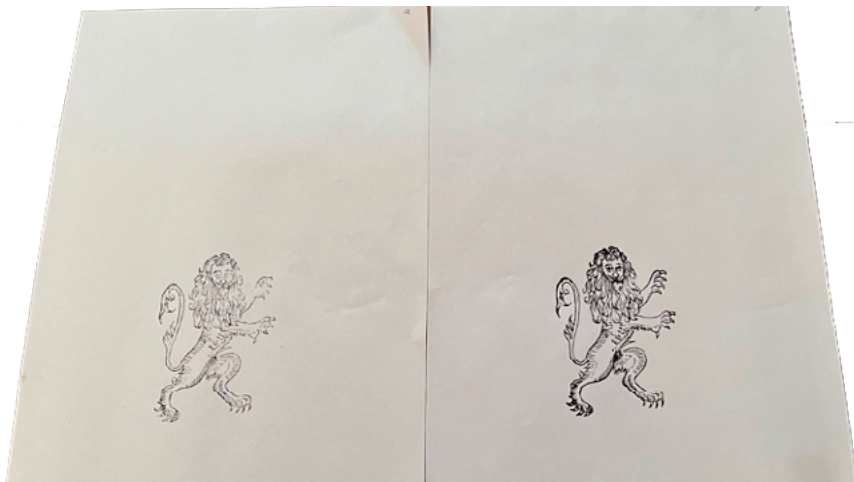


Fig. 13 || Lion block.

Fig. 14 || Unadjusted mermaid block.

However, no water mark is visible. Subsequently, with special permission, Dr. Sarah Rich, Professor of Art history was allowed to bring a microscope into the reading room. I watched while they examined one section of the turn-up book. Looking at the object through the microscope it is apparent that the paper was made of flax. Dr. Rich showed how under the high magnification the fibres look like miniature bamboo with horizontal notches. The color is yellowish. While the partial examination does not indicate that the entire sheet was made of flax, the colour and the texture suggests it is all flax. At the same time, the qualities of flax are significant to the interactive qualities of the paper even it is a flax mix.

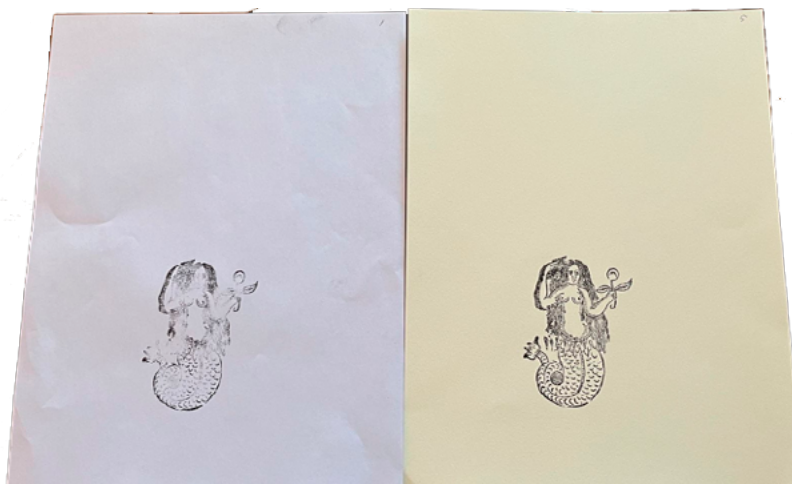


Fig. 15 || Adjusted mermaid block on Japanese and Stonehenge rag paper.



Fig. 16 || Vertical chain lines, no water mark.  
 a - b

I have been reading up on papermaking, engaged in a paper making session with Bill Minter and attended lectures by experts, most recently by the renowned professor Timothy Barrett of the Center for the Book at the University of Iowa. He has done extensive, noninvasive research on both oriental bast fibres and western bast fibres like flax and hemp and is fascinated by the quality and permanence of early handmade papers. In his lecture, he talked about the qualities of 15<sup>th</sup> century paper and also about paper that was not considered ‘good’ quality. During the chat session after his lecture, he discussed the importance of all hand-made paper and how non-quality paper expanded the readership of different classes and ages. This line of thought is supported by an article on the English Broadside Ballad Archive (EBBA) project site discussed earlier where there is an article called *Other Common Papers: Papermaking and Ballad Sheet Sizes* (Egan and Nebeker 2007). They refer to Alfred Shorter who describes how “coarser rags, netting, cordage, canvas, bagging, and other materials of flax and hemp [were used] in the manufacture of brown and other common papers (emphasis added). Brown papers were used, as today, for wrapping objects and for other non-print purposes”. At the end they speculate about what paper was used for the cheapest of print products, broadsides: “To meet the needs of the lowest end of the print market, the broadside ballad market, papermakers probably used some combination of linen and the ‘coarser rags, netting, cordage, canvas, bagging, and other materials of flax and hemp’ that Shorter describes, in order to produce the cheapest ‘white’ paper that was suitable for print” (Egan and Nebeker 2007)<sup>14</sup>.

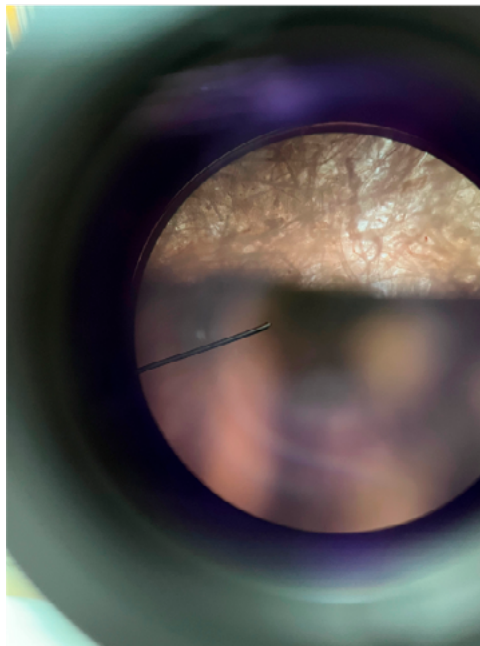


Fig. 17 || ‘Under the microscope.’ Flax fibres.

<sup>14</sup> See Shorter 1971, 13-14.

## Conclusion: What I have learned and what I would like to know

This essay is a discussion paper since the project is ongoing and I am continuing to work with and learn from curators and conservators to refine my thinking and questioning. Below is a summation of what I have learned to date about the materiality of the paper and how this enables the affordances of the interactivity of the printed turn-up sheet. I include a few questions and possible directions for future research. Concerning the materiality of the paper, when I examined the paper with magnifiers and a light box I saw that the chain lines are vertical and that there are no apparent watermarks. The dimensions of the printed object are cm 30,00 x 36,00 folded to cm 16,00 x 36,00 and the paper is turned to a landscape orientation. How can we determine the size of the original sheet? My questions here are: “Can we locate the missing bibliographic information about the date, print, publisher and place of publication?”

The printing exercise with adjusted wood blocks showed how the ink pressed clearly into the rag paper. The microscopic view showed the paper is made of flax. Despite a small sample being viewed, the colour and the texture suggests it might be all flax. My question is: “How could we determine if the sheet is all flax or a flax mix without destroying the paper in the process?”

Concerning the interactivity of the materials, my tactile investigation reveals that the paper is still soft and flexible. It has an almost invisible texture that provides some substance. According to Bill Minter, this softness is due to the material itself which has not been treated or has worn off if treated contemporaneously (Reid-Walsh 2022).

This soft pliable quality enables the flaps to be turned up or down easily and allows the flaps to ‘stay’ put for a short time when placed. Similarly, when moved, the accordion folds stay in place for a short time. These qualities encourage both conventional and ‘upside down’ interactions and interpretations.

Further research questions stem from the qualities of the linen paper. These include are all the 17<sup>th</sup> and 18<sup>th</sup> century turn-up sheets composed of the same kind of paper? Could the paper be connected with the timeline of the harlequinade turn-up books? Could it be that the phenomenon of the turn-up book spanning the later 17<sup>th</sup> to 18<sup>th</sup> centuries and then petering out is linked to the change in paper and the shift to machine made paper at the end of the 18th century? These questions provide a possible next stage in my project!

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