

To See Is Also To Touch

* Summary

In our burgeoning literary world where “materialities of presentation” turn simple characters into artful representation, the shape of the words matters almost as much as the word itself. The significance of a text is developed visually and our understanding comes after we’ve *seen* the information. But what if you could not perceive visual cues? What if the font displayed was irrelevant if it was not raised into braille bumps or moon type¹? In order for literary knowledge to be grasped beyond visual perception, the field of representation must be changed to suit all types of ‘sight’ and ‘sound’. One particular project in question by a group in Boulder, Colorado called Tactile Picture Book Project brings story telling to new heights as readers are guided around a room of 3D printed pages of “Harold and the Purple Crayon,” each one sequentially placed on moving points of the wall. In this way, readers understand the text tactually and spatially. The group has worked on multiple well known children's book as well as some of their own creations. Their mission is to create and research the production of tactile texts for visually impaired children.

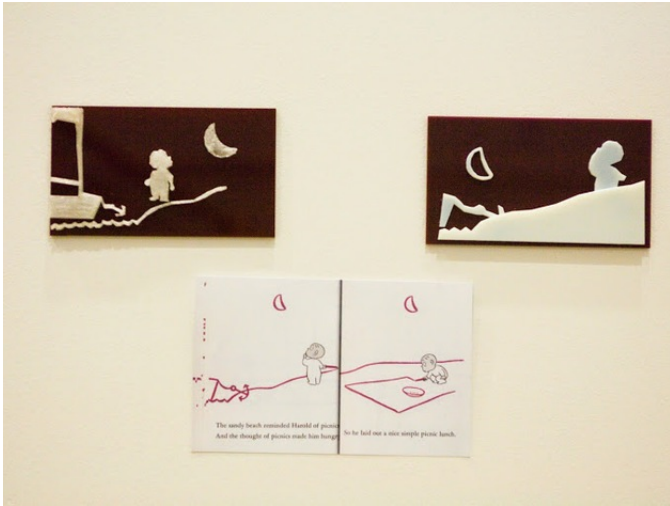
* Description

Researchers at the University of Colorado Boulder have been creating tactile projects with 3d printing in order to make a large scale story board presentation of *Harold and the Purple Crayon*. Made for the visually impaired, this project was set up in June of 2014 at the University open for students to explore with their hands and trace the replications of the lines that Harold has drawn on the wall.

Figure 1.

Figure 2.

¹ moon type is a form of tangible text which is constructed of raised curves, angles and lines that resemble close to the visual alphabet. Created by Doctor William Moon, this form of letter is especially useful for those having lost their sight later in life or with a weaker sense of touch.



Some students were blindfolded to see what they could discover. Certain problems were found from the design, acknowledging certain aspects of the tactile display that were not clear enough for an actual blind person, especially a blind child to understand fully. It's a demonstration of at least what is possible in the field of tactile books.

Figure 3.

✦ Research context



This project is supposed to consider literature and books in a non-visual space. The territory is that of artful creations and literature and accessibility for visually impaired. The research intended is to find what new and creative ways can be utilized to recreate educational and enjoyable children's books for kids who do not rely on sight to understand the world. The Tactile Picture Books Projects asks what works when trying to encourage literacy for those which visual understanding is obsolete? What does not work? Either large scale tactile spaces, or small hard cover books, the design of touch is equally important as visual design is for creative literary arts to thrive for their audience.

In another realm of accessible literature for the visually impaired is something called an Optophone, which converts light and print into tonal sounds "musical print" machine helped blind people read faster, but it also asks that one rediscovers reading as listening. Not just listening to words, however, but actually learning anew how to interpret tonal sounds representing words. While auditory learning is a good means for understanding literature and text, children are kinetic creatures and they learn through movement, feeling, taste, sound, aside from just looking and listening. Blind children especially rely on their touch to interact with their external world and become accustomed to the way it feels to be.

• Technical analysis

The Tactile Book Advancement Group is an organization with instructional information via their website in which visitors can learn the essential and most appropriate material for a "readable" book. The infrastructure can be inside formatting of a readable book or the layout of an entire room to display the narrative in a sequential walk-through. The display in Boulder had children blindfolded and then asked about their experience and whether or not the narrative was understandable. One specific issue, which was discussed in a debriefing video found on their website, was that certain obscure shapes such as the hot air balloon flown by Harold, would not be recognizable or understood by young children, especially those whom are visually impaired.

The instructional website (<http://tactilebooks.org/publishers/index.html>) goes through all the elements of building a tactile book, taking into account the effectiveness of texture, shape specifications, outlines (but not just outlining), and contrast of feelings². There can be no obstruction from the subject or else there will be confusion as to what is being represented. All of these elements are imperative in order to create a story book that blind children will be able to enjoy and learn from.

² Another research tangent would be to look at the use and influence of smell and sound in to these highly tactual narratives.

• Evaluation

What happens to the meaning of literature to one that cannot see? The removal of visual representation opens up a field for tactile representation for narrative and informative dialogue. 3D printing is a modern invention which now gives new perspective on the making of things, even including text. In this world of ever evolving technologies, creating more complex designs for machines, the interest in new building methods is growing, especially when considering more child-friendly mechanisms for learning which does not involve highly technical skills of listening or decoding. 3D printing means more tangibility to items like news, books, and even art. I would argue that it is not just the blind that can benefit from more interactive modes of learning.

The literary studies are moving outside dusty library dens and monochromatic codex print. There is more to be explored with color and texture and interactive technologies. If children's books can leap off the page and teach children through sounds and tactility, how else might we learn from non textual information. Could we even translate to older audiences? College? Could combining building blocks with mechanized screens lead to the reconfiguration of reading and understanding narrative?

Resource for further study

- Tactile Book Advancement Group (TBAG) Publisher's Guidelines
<<http://tactilebooks.org/publishers/index.html>>
- from the Royal National Institute for Blind People: RNIB's Position Statement Moon Type
http://www.rnib.org.uk/sites/default/files/RNIB_position_on_moon.doc.
- Mara Mills, New York University <maramills.org>
<<http://soundstudiesblog.com/2015/01/05/optophones-and-musical-print/>>
- Potential Uses for the Optophone by Harvey L. Lauer
<http://www.duxburysystems.org/downloads/library/history/va_1966_32.pdf>

Figures and Project found on:

- Tactile Picture Books Project webpage and blog
<http://www.tactilepicturebooks.org/?page_id=177>