

Weekend in Atlantis

by

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Abstract

This paper aims to illustrate my thought process in conceptualizing and researching for my AR picture book project. I will start with a concise summary of my background, my history with the picture books of my childhood, and some insight into my already existing artwork. Getting into my research I will present a multitude of sources in favor of picture books as an invaluable tool for early childhood development in spatial awareness, and language. I will then present a series of sources determining whether or not electronic or augmented reality components are a benefit or a detriment in developing these skills. Finally I wish to go a little more in depth about some of the leading pioneers in wordless picture book storytelling, as well as a couple of other artists who have inspired me.

Background

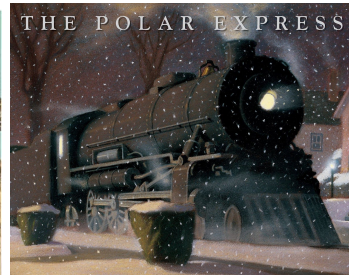
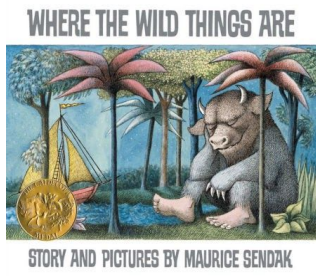
I discovered my passion for photography at a young age growing up in Suffolk County, Long Island. Suffolk County was always an ideal place for a young up and coming photographer such as themselves. Regardless of where you were there was always something interesting to find, whether it was a beach, park, or a local village or towns. Even if that didn't spark one's interest, there was still quick and easy access to New York City through the Long Island Railroad.

The majority of my artwork comes from the medium of photography and photo manipulation through Photoshop. I create what I've coined to be photographic remixes; taking parts of multiple different photos and mixing them together to create something fantastical out of the drab and ordinary; exploring themes of environmentalism, transformation, reality manipulation, and gender identity through my work through manipulated landscapes and self-portraits. I would visit the local aquarium countless times just to visit and take pictures of the sharks and other creatures on display. I took up Scuba Diving and got myself officially open-water certified in the summer of 2018;

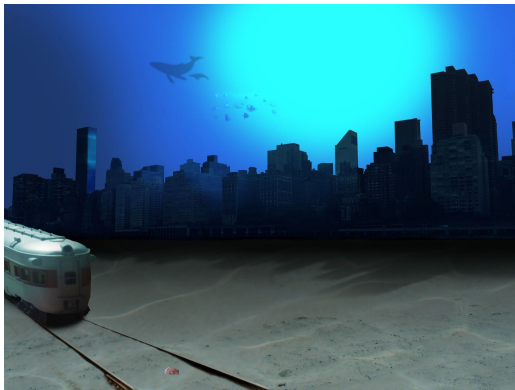
and have since gone diving in places such as the St. Lawrence River and off of the coast of Florida in Key Largo. This has given me the opportunity to take more pictures of the underwater world for use in my remixes.



I feel a lot of the inspiration for my work has stemmed from the picture books I read as a child. Like many people my age I grew up with the classics, I credit *Where the Wild Things Are*, *The Giving Tree*, *The Polar Express*, *Goodnight Moon*, and many others in helping to develop my current eye for aesthetics. However, I had a particular gravitation towards picture books that forewent a traditional narrative structure and instead relied purely on elaborate illustrations to immerse the reader into fantastically surreal landscapes. Two of my biggest influences include the artwork of Walter Wick, and his work on the *I Spy* books; as well as David Wiesner, author of works such as *Sector 7*, *Tuesday*, *Flotsam*, and *June 29th 1999* among others. Both of these authors embrace a style of purely visual wordless storytelling that dates all the way back to the work of Flemish graphic artist Frans Masereel in the early 20th century.



For my senior project I combined my talents of photography and photo remixing with my admiration for what I would consider to be my earliest sources of inspiration, and create a picture book in the vein of those authors' work. However, I did not want to just rest on my preexisting artistic talents for this project; I intended to branch out by implementing 3D animated augmented reality elements into the visual landscapes of my illustrations, bringing them to life in a way neither Wiesner or Wick ever could. The narrative, like most works of this genre is a light presence; but as a college student about to officially enter the adult world at such a time of hardship and insecurity, I want to tap into some of the emotions likely shared by people in my situation.



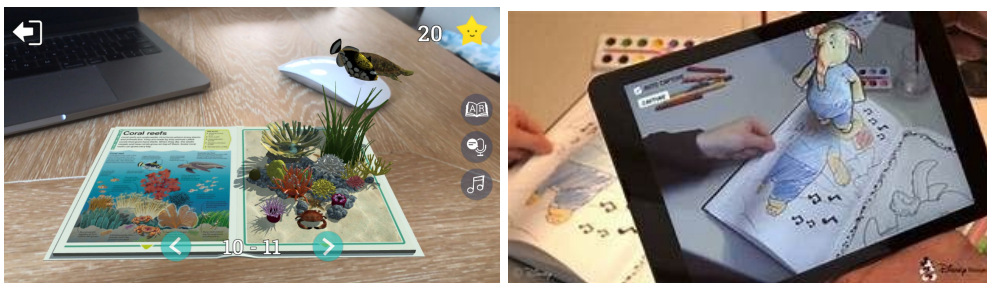
Research

As objects of artistic value, and effective tools for literary development in young students, picture books are an effective tool in shaping the early cognitive development for preschool and elementary school children. “They present opportunities for ‘visual semiosis’ which can develop a student's literary understanding and appreciation of the literary format.” (Yilmaz) What separates them from other media aimed at kids; particularly visual media is how they're best appreciated on multiple re-visits. A cartoon or animated movie, even something with the visual fidelity of a Pixar film, or the comparable level of detail seen in more experimental features like 2018's *Spider-Man: Into the Spideverse*, doesn't give its young viewers enough time to fully soak in everything that's on screen from scene to scene. A picture book invites its readers to explore and analyze its visual landscapes with a keen eye for detail, sometimes even through multiple re-reads.

A study conducted by Victoria University professor Sylvia Pantaleo, in which a group of fourth graders read and responded to a series of books including David Wiesner's *The Three Pigs* eventually concluded: “Even though books only contain static pictures, they can help children understand spatial transformations, if adults read them with the children and stimulate their imagination.” (Pantaleo) The study focused on five multidimensional types of responses from the children, namely analytical, intertextual, personal, transparent, and performative. In their responses the students had to make inferences about specific elements of visual art and design, and the meaning of these aspects. At first the students had a tendency to overthink their responses, and found justifying their answers with supporting evidence from the text to be a demanding task. However, with each book, the quality of students' written responses improved noticeably throughout the research.

Another study published by Elsevier came to the conclusion that reading wordless picture books can aid in the development of preschool-age language production. Using Computerized Language Analysis (CLAN), they found that as a result of reading wordless picture books (much like the ones written by Davide Weisner) and being asked about what they read from teachers, the number of word tokens, word types and utterances from the students increased. (Leydi, Chaparro)

As screens have started to take up more and more of our daily lives, with the alluring distractions of television, video-games, and the Internet being a constant presence. Naturally in this new digital age, children are becoming more acquainted with technology at younger and younger ages. An online US survey showed that computers and tablets are growing in importance among 3 year-olds, but not yet among 1 and 2-year-olds (Rideout). Of course with the advent of these modern advances comes not only new activities to partake in, but radical changes to the ones that have already been part of our lives. This is where electronic storybooks, and their dramatic increase in popularity and accessibility come in. Electronic, or AR storybooks generally contain features such as animated pictures, background sounds and music that help add additional flavor to the text. Animations and other Hypermedia elements can be activated via mouse click or screen touch by the reader.



Some examples of AR picture books.

As important as it is for picture books to capture the attention of their young readers, a vital component that can be easy to overlook is the role parents play in exploring these books with their children. Some recent studies have shown that the joint activity of reading wordless picture books with a parent can help children with ADHD by offering scaffolding techniques important to reading comprehension. (Leonard) Unfortunately however, another Elsevier study found that “both parents and children became frustrated when parents attempted to read enhanced stories, thereby interfering in children's interactions with the program. The observations of Chiong et al.

demonstrate that the role of the adult in the new era of digital storybooks seems to be a highly complicated issue.” (Bus)

This among other things was the deciding factor that lead me into creating an AR picture book. Many of the already existing examples I’ve looked into don’t lend themselves well to the act of parents reading along and exploring visual landscapes with their child, especially since a lot of that exploratory work is already done for the reader automatically through the fully animated visuals. For my story I want to make an AR book that can be enjoyed in the same way a traditional picture book can, while still enhancing the experience with modern technology; and my solution for fixing this problem is to scale down the complexity of these animations in such a way that they add to the immersion of the environments without serving as a distraction from them.

Leading Figures and Inspired Artists

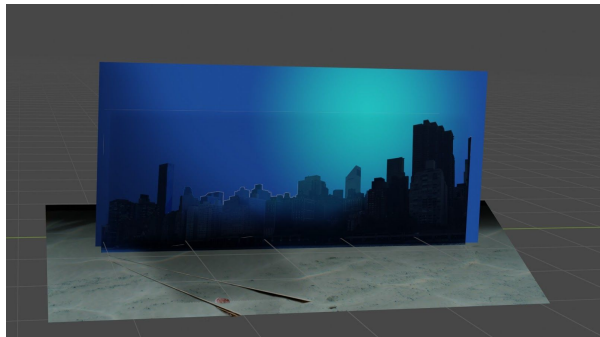
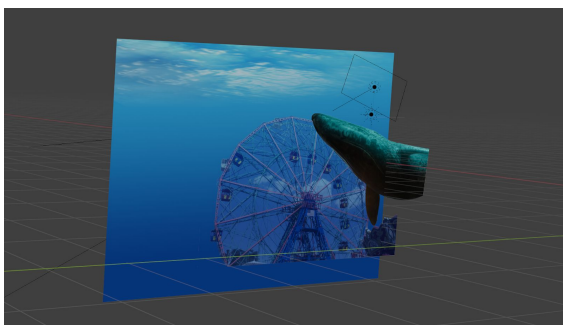
As mentioned, David Wiesner in particular has been particularly influential in the creation of this book. Perhaps the work of his that I can remember best, and maybe even my main source of inspiration for the tone of this project is *Sector 7*. This story follows a kid on a school field trip to the main observatory of the Empire State Building who befriends a sentient cloud and ends up getting whisked away to a cloud depot in the sky. The kid and cloud create a series of blueprints, allowing the young clouds there to take on the form of aquarium fish. The depot owners are perturbed by this at first, only to be intrigued by the implications of creating clouds that aren’t just round and puffy. One of the last things you see in the book is the sight of these massive ocean creature shaped clouds swimming past the New York City skyline; to this day I trace back the inspiration for most of my artwork to these images in particular.

Though Wiesner is distinctly well known for his wordless, illustration driven books, he is far from the first illustrative writer to do something like this. In interviews Wiesner has cited Lynd Ward amongst other artists as one of his inspirations. Despite being widely neglected in both art historical and literary critical scholarship, Ward had been somewhat of a pioneer for long-form narratives in the 1930s, as his stories were composed entirely of medium sequential wood engravings. (Ball, header)



Project Progress:

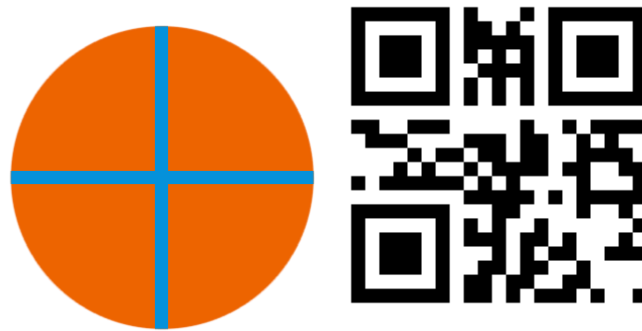
Progress on this project started out by the end of December into early January. I put together a couple of rough photo collage concepts and experimented with them in Blender 3D software to see how I could make them interactive in an AR environment. I would create the images in photoshop and import all the individual layers into blender to construct them into a 3D diorama. After trying a few simple animations like this one of a whale in front of a ferris wheel, I eventually decided it would be simpler yet still effective to keep these dioramas static, making the AR stuff more akin to that of a popup book.



Here's a link to an early animation sequence.

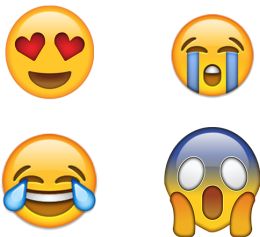
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I, unfortunately, had to halt production on the AR component during the break because the program wasn't working with my computer, though little did I know more issues with that would materialize later down the line. I had decided to use Spark AR as my program of choice for bringing these elements to life; a program which required a login to my Facebook account before I could fully use it, Using the target tracker feature in Spark AR, I used small trigger images placed inside the illustration to activate the 3D dioramas when viewed through a phone. At first I tried creating custom QR codes, but upon multiple tests I could not get them to work. I tried creating bright, rigidly shaped symbols in photoshop, but they didn't seem to work either.



Early target image drafts

Originally, I thought this was the program refusing to work, but then I copied one of the tutorials I was following and set a png of an emoji as the target tracker, which



seemed to do the trick. I'm sure there are other images that can work with this program, but I've only ever gotten emojis to work. The problem with the story that I wanted to tell was that I wanted it to feel like a dream-like stream of consciousness, which made it difficult to put into words exactly where I wanted the story to go. After receiving criticism for not having a fleshed out idea on where I wanted the story and to go, or

how I wanted the images to be sequenced I got to work on a rough storyboard with cutouts, stock images, and a few finished images I already had completed.



Early draft vs. finished concept

Many of these early drafts featured low resolution placeholder images of locations in New York City that I had every intention of visiting later, preferably some time around March when the weather became warmer. Unfortunately due to circumstances that were out of my control that ended up not coming to pass, leaving images such as this one largely unchanged since I couldn't find high quality stock images of the exact places I wanted to visit.

The look of the protagonist was another decision that wound up being affected by COVID-19, but to a lesser extent. Much like most of what was present in the storyboarding phase, she was originally intended as a placeholder that I would later replace with an actual person. I was in talks with one of my friends to model for me and I even based the look of the character off of her and her drawing style. However after receiving feedback on my storyboarded images, I decided to keep her as she was since



people really seemed to appreciate her level of expressiveness that couldn't really be replicated with an actual person. I also thought the way in which her simplistic form stood in direct contrast with the busy, intricately detailed environments she was occupying gave a more surrealist tone that drove home the themes of alienation and feeling out of one's depth that I wanted to convey. Her transformation sequence at the end into a creature that matches the

complexity and detail of its environment signifies the growth that she must go through in her real life to make it in an ever changing and ever more confusing world.





As stated earlier, work on this project didn't begin until a few months ago, but I knew I wanted to do a picture book in this vein as my senior project for at least the last two years; and in that time I created a whole library of images I had taken that could be used in this project well in advance. This reserve library gave me a bunch of content to pull from when putting together my image composites, and really saved me from being in more trouble than I would've otherwise been when COVID struck; cutting off my access to the city and places like zoos and aquariums where I could gather all of my underwater assets. However these added complications meant I still had to pull from outside sources that weren't my own. I bought myself a monthly Shutterstock account that gave me access to ten image downloads a month. I made sure to use these stock images sparingly, even editing them when I could so that I could still say they were partially of my own work.



Stock image background vs. finished composite

There were other google image sources I had to pull from for various fish species that I wanted to include as a means of giving authenticity to the ecosystem I wanted to portray. The leafy sea dragons in the image above for example will probably have to be

changed if I intend to work on this project further and distribute it through commercial means.

Even after getting Spark AR to work, I ran into a couple of snags trying to accomplish what I wanted with it. I thought I could compose the different layers as image planes in blender and then export the whole thing as a 3D object. This turned out to be more complicated than anticipated and I had to find several workarounds to get what I wanted. Whenever I tried to export the diorama as a 3D object it would always come out completely textureless. I tried this with .obj, .fbx, and .dae files and they'd still end up rendering as a collection of gray squares and rectangles.



Desired result vs. actual result

Yet every time I imported the diorama into Spark AR, I kept getting the same textureless geometric void. So, in the end the work around I discovered was to export the background and the ground as their own separate objects since they were the only assets with any three dimensional depth. I would import those objects into Spark, reapply the textures through the materials setting, and then import all the other non-3D image planes on top of them, essentially recreating the diorama in SPARK instead of exporting it from another program.

COVID really threw a wrench into the initial vision I had for this back at the beginning of fall semester last year. I wanted to have a fully printed book ready for the

senior show with some means of viewing the AR component at the viewers own behest. Because of the lockdown I had to rethink and cut back on how I was going to show the contents of my project during the senior show in a way that would bring my vision across in an online setting. I am grateful that I didn't have to completely reinvent my project from scratch in order to meet these new constraints; if anything this made some of the process easier since there were certain logistics I had yet to figure out. Things such as getting the book printed and bounded, or figuring out how the viewer would interact with the AR components. All I had to worry about now was putting in the work and archiving the evidence that I did it. So long as I could present my illustrations, and the AR dioramas through either 3D renders in Blender or video of them working in Spark AR, I could convey what my project could've been under different circumstances.

Conclusion

Overall I do feel more than a little demoralized for not being able to deliver on what I originally set out to make. Even under the circumstances I wish I was able to deliver on more than what I had accomplished. However I feel motivated to try and pursue this project further and really make something out of it. Originally I was planning to just make the book on its own without any further bells and whistles, however incorporating the AR and 3D modeling aspects encouraged me to reach outside my comfort zone, if just a little. I will take what knowledge I have now and apply it to this project and any other independent projects I intend to tackle in the future.

References:

Yilmaz, Rabia M., et al. "Are Augmented Reality Picture Books Magic or Real for Preschool Children Aged Five to Six?" *British Journal of Educational Technology*, vol. 48, no. 3, 2017, pp. 824–841., doi:10.1111/bjet.12452.

Pantaleo, Sylvia. "Elementary Students' Analytical Responses About David Wiesner's The Three Pigs." *New Review of Children's Literature and Librarianship*, vol. 24, no. 2, 2018, pp. 167–188., doi:10.1080/13614541.2018.1533616.

Bus, Adriana G., et al. "Affordances and Limitations of Electronic Storybooks for Young Children's Emergent Literacy." *Developmental Review*, vol. 35, 2015, pp. 79–97., doi:10.1016/j.dr.2014.12.004.

Common Sense Media, and Victoria Rideout. *Zero to eight: Children's media use in America*. Common Sense Media, 2011.

Chaparro-Moreno, Leydi Johana, et al. "Wordless Picture Books Boost Preschoolers' Language Production during Shared Reading." *Early Childhood Research Quarterly*, vol. 40, 2017, pp. 52–62., doi:10.1016/j.ecresq.2017.03.001.

M.A. Leonard, E.P. Lorch, R. Milich, N. Hagans

Parent-child joint picture-book reading among children with ADHD

15) Söffner, Claudia. "David Wiesner and the Art of Wordless Storytelling by Eik Kahng Et Al (Review)." *Bookbird* 57.2 (2019): 81-2. *ProQuest*. Web. 12 Dec. 2019.

Ball, David M. "Lynd Ward's Modernist "Novels in Woodcuts": Graphic Narratives Lost between Art History and Literature." *Journal of Modern Literature* 39.2 (2016): 126-43. *ProQuest*. 31 May 2020 .