2017

Food Pirates: An exploration of food, technology and the future through sequential art

Bridgette Alsbury

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Food Pirates: An exploration of food, technology and the future through sequential art

by

Bridgette “Brie” Alsbury

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

MASTER OF FINE ARTS

Major: Integrated Visual Arts

Program of Study Committee:
Brent Holland, Major Professor
John Cunnally
Paula Curran

Iowa State University
Ames, Iowa
2017

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ACKNOWLEDGEMENTS

This work was created under the guidance of a phenomenal group of individuals at Iowa State University. I’d like to thank Brent Holland, Associate Professor of Arts and Visual Culture, Dr. John Cunnally, Associate Professor of Arts and Visual Culture, and Paula Curran, Associate Professor of Graphic Design. I appreciate their guidance, and the occasional, much-needed reminder to stop thinking about things and just do them.

In addition, I’d be very much remiss, in not thanking the following people: Dr. Kristine Larsen, who provided me a role model at a time when I really needed one. Mike and Dawn who took me to my first SDCC, and so much more over the years. Kris and Jessie and by extension Ken and Darren, for everything. Everything. Cassie, Emily, Nik, Terry, Shada, and Anna who always have my back and listen to me even when they have no clue what I’m talking about. Taylor for the critiques, the advice, and the moral support. Robert for helping to hang the show, and a lot of discussion.

Thank you all!
ABSTRACT

This document serves as accompaniment and commentary for the exhibition, “Food Pirates. Food, Technology, Pirates and the Future” which was shown March 29th through April 9th, 2017 at Design on Main in Ames, Iowa. The work comprised of the first issue of the comic book series, Food Pirates. This document serves as a supplement to the exhibit, examining background material used to build the world the comic is set in, current and historical practices in the comics industry, influences, and processes used to create the finished work.

This body of work is an exploration of what happens when I attempt to blend my need to build systems and organize chaos, with my love of technology, and the satisfaction I find in working with both words and images. It starts with a bunch of questions about food, the future, and pirates.
CHAPTER 1
“AND THEN WHAT HAPPENED?”

*The Monster at the End of This Book* by Jon Stone and Mike Smolin is the first book I can remember anyone reading to me. In the book, lovable, furry old Grover from the children’s show *Sesame Street* had to come to grips with the fact that there is a monster at the end of the book\(^1\). He politely implores the reader, not to turn the page, saying, “If you do not turn any pages, we will never get to the end of this book… So please do not turn the page.” (Stone & Smolin, 1971) But I always insisted the reader turn the page. I had to know what happened next.

This early foray into fiction and others like it cemented a lifelong love affair with a good story. I grew up consuming nearly any story I could lay my hands on. The media didn’t particularly matter—books, movies, television, the internet—anything, would do, as long as I learned what happened next.

This need to understand what happens next and the possibilities that are inherent in the question naturally grew into other areas of my life. As I reached adulthood, I fell\(^2\) into a career in tech support. I found myself exploring new hardware and software and helping to create adoption plans for the new systems. The years I spent in technology helped me to understand a few important things about myself. The first is that I need to build and interact with systems—

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1 He is, of course, terribly scared of monsters. Spoiler: It turns out that he is the monster at the end of the book, which makes the story all the more entertaining for a three-year-old.

2 I went looking for some place to access Adobe Photoshop, so that I could make artwork to share with other fans of a television show and somehow walked away with a career in tech support for higher education.
regardless of how they manifest themselves. The second thing I learned is that I need a creative challenge. Working with technology provided a challenge, but working in the industry didn't provide me with the creative challenge I needed.

In my undergraduate work, the studio practice concentrated on digital technologies. I planned to join the video game industry, until I started creating 3D models and programming games. I didn’t particularly enjoy either of these, and that, coupled with an overwhelmingly toxic and increasingly misogynistic video game industry left me with little desire to venture further down this path. The only part of the process I enjoyed was world building—writing a story, and creating concept art. I enjoyed telling a story, but not the medium I was trying to tell the story in.

Before I go further, I should stop to define a few terms that I intend to use throughout this work. I think Scott McCloud defines comics best with his definition “juxtaposed pictorial and other images in a deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewer.” (McCloud 1994, 9) The key for McCloud is the juxtaposition of images. McCloud doesn’t consider a single stand-alone panel, such as those seen in Gary Larson’s *The Far Side*, to be comics.

Comic strips are typically a collection of panels, usually three to five panels for weekday strips, and five to twelve panels for Sunday strips, which have thematic elements that unite the strips. A few comic strips such as *Little Orphan Annie*, which debuted in 1924, are serialized and have stories that continue from strip to strip, but most comic strips are self-contained with a couple of story beats and a humorous gag. Comic books are multiple page publication, where most pages contain multiple panels. These pages come together to form a cohesive narrative which is typically carried across multiple books. Modern American comic books are most often thirty-two pages, including the cover, but can be longer and are usually published monthly. The
term graphic novel was popularized by Will Eisner with the release of *A Contract with God and Other Tenement Stories* in 1978. In the current industry, graphic novels can refer to both complete stories that are published all together, such as Art Spiegelman’s *Maus*, and monthly comic books that have been collected into a single volume such as *Hawkeye, Vol. 1: My Life as a Weapon*, which collects the first five issues of Matt Fraction’s 2012 run of Marvel’s Hawkeye. I intend to use the terms comics and comic book interchangeably, while referring specifically to comic strips and graphic novels as such.

I ultimately chose comics for few key reasons. First, I wanted to tell my own stories. This didn’t necessarily eliminate concept art for video games and movies, but the practical realities of both industries³ meant that I would most likely be limited to working on commercial projects doing work-for-hire. While I don’t have an issue working on commercial projects and I hope that my work finds commercial success, I would prefer to tell my own story and retain the rights over my own intellectual property versus being under contract. The second key factor in my decision was the lack of words. Concept art is used to visually describe the world that the story is set in. It may go so far as to illustrate key moments in the plot, but it’s missing one of my favorite parts of a good book, dialog. What’s the character thinking? Feeling? What else is going on in the scene? Knowing the answers to these questions allows me to speculate on what’s happening next in the story.

³ The reality of this industry is that it's almost impossible for a single person to take on all aspects of production and get anything done in a timely manner. It takes a lot of time, effort, and money to create work. Creating concept art is only one small piece of the entire project.
I knew that I needed to include both words and pictures. This encompasses a wide territory, but again, only comics really fit. Comics proved the perfect marriage between image and word. They allow me to build an extensive world, or system, that is completely my own, and then explore all the possibilities of what happens next in this world, while merging both word and image in a way that I find satisfying.

This body of work is an exploration of what happens when I attempt to blend my need to build systems and organize chaos, with my love of technology, and the satisfaction I find in working with both words and images. It starts with a bunch of questions about food, the future, and pirates.

1.1 Artist Statement

As a small child, my favorite phrases were “Why?” “How?” and “What happened next?”

As an adult, I don’t pester everyone in my life with these questions, but I’m still asking them.

What happens when global warming forces refugees from coastal America inward?

What happens when corporations own the rights to the basic molecular structure of food and defend it with a heavy hand?

What happens when it all goes wrong, and the only people you can count on are your new friends and a bunch of pirates?

At its most elemental form, my practice concerns putting words and pictures together to communicate an idea—to figure out what happens next. My process almost always starts with writing and then moves to illustration, but it’s not as cut and dried as that. As I work through ideas and create narratives, I blend both the processes of writing and creating art together in such a way, that it makes it difficult to create without engaging in both.
CHAPTER 2
TELLING THE STORY: BUILDING THE FUTURE

The story comes first. It may have roots in an amusing bit of dialog, a question that I need to answer or like food pirates, an idea that I find interesting. Through research and workshopping ideas with peers, I build the system, or world the story is set in. Once I figure out how the world is constructed I write the script that becomes the base of the comic.

Food Pirates follows Rylo Sykes, a biracial woman formerly from New Orleans, who is now living in a refugee camp in Omaha, Nebraska. Rylo finds herself drawn into a murderous conspiracy, black market food piracy, and illegal gardening. In the tradition of near future science fiction like John Scalzi's Locked In⁴, there are echoes of the present in this future world. Aliens haven't invaded. The internet is still going strong, and we still don't have flying cars. The story is set about twenty years in the future against the backdrop of a country reeling from a series of natural disasters due to global warming, and millions of displaced people who’ve been herded on to refugee camps. While the story falls within the trope of a dystopian future, it doesn’t follow the lines of popular young-adult best sellers such as the Hunger Games, Rylo has no desire to save her world—It’s not something that can be fixed by a single person. She simply

⁴ John Scalzi’s Locked In is set about twenty-five years in the future. It’s not unlike the current world, however a devastating and highly contagious virus has spread through the population. For most of the population the symptoms are flu like. However, for a very unlucky 1% of those afflicted, the virus leaves the victims permanently “locked in.” They’re fully awake and aware but unable to respond to anything. These Haden’s syndrome survivors rely on the internet and technology to keep them connected to the real world. With that technology comes a whole new set of laws and problems. The story follows Chris Shane, the FBI’s first agent with Haden’s as he investigates crimes against Haden’s sufferers.
wants to survive, and keep her family alive and together. The story relies heavily on this sense of dystopia as well as portrayals of future technology to build the world, but at its heart it is a murder mystery. Hugo\textsuperscript{5} winning science fiction writer, Robert Sawyer, said in his essay “The Purpose of Science Fiction”, “At the core of science fiction is the notion of extrapolation, of asking, ‘If this goes on, where will it lead?’” (Sawyer, 2011) That’s what I've strived to do with *Food Pirates.*

*Food Pirates* started with a single idea that I found interesting, and it spiraled into asking questions about a bunch of things I find interesting, including food, technology, the climate, privatization of government services, race, and representation. In this chapter, I will examine the process of world building by first discussing our current world, and then explaining how I've adapted these concepts to my story. I’ll also be exploring the decisions I’ve made in storytelling, and why they’re important. In creating Food Pirates, I’ve asked myself a lot of questions, but the first and probably most important one was, “How can I get donuts without having to put on pants?”

2.1 Donuts without having to put on pants.

In March of 2015, a picture of 3D printed food appeared in my feeds, on the social media site *Tumblr\textsuperscript{6}.* (fig. 1) Someone I follow shared a picture of 3D printed, and someone else had

\textsuperscript{5} The Hugo Awards honor the best in science fiction books, novels, comics, artists, and other works. They’re voted on annually by members of Worldcon, the World Science Fiction Convention since 1955.

\textsuperscript{6} Tumblr is a microblogging social media site that started in 2007. On this site, users follow other users and see the things they reblog or share. Those users can then reblog posts on their feed and add comments in the form of text, images, including gifs, and even videos.
commented with a gif that was part of the “Piracy, It’s a Crime” meme (SOURCE). The gif proclaimed “You Wouldn’t Download a Pizza.” (fig. 2) Many commenters responded that if given the chance they’d definitely download pizza. Taking food and essentially turning it into software that could be passed around and recreated at will, intrigued me. What would happen if you could download and print food? I wrote a short response on the possibility of it. (See Appendix A)

At the same time, I was taking a writing class, hoping to improve my storytelling skills. At a loss for suitable ideas for a short play, I took the short response about downloading donuts and spun it into a fifteen-minute scene. As a play, it wasn't all that impressive; however, a very specific passage of it stuck with me long after I’d finished the play. (See Appendix B) Science fiction author Issac Asimov⁷ said in an interview that, “[Science Fiction] is the branch of literature which deals with the response of human beings to changes in the level of science and technology.” (Ingersoll 1987, 68) The human reaction to 3D printing food that I found to be the most promising. I kept coming back to the world that I’d casually begun to build and asking myself “What happens next?” What happens in ten years when there’s a 3D printer in every home? What happens when corporations own patents on the molecular structure of food, and it’s cheaper to simply print food than it is to grow your own? Can the code be pirated? Could you be malicious with it?

⁷ Asimov was a prolific writer who wrote over five hundred books in his life time. He’s best known for series of short stories on what life would be like in the twenty-first century, collected in his book I, Robot. Among his many contributions to the genre (and science) includes coining the term robotics.
2.2 Technology - Invent the 3D Food Printer. Spoiler: They already have. (sort of).

Creating objects, food in particular, from basic molecules is nothing new in science fiction. *Star Trek: The Next Generation*\(^8\) first introduced me to this concept. It wasn't referred to as 3D printing, it was a Replicator, a device embedded into the wall of the Starship Enterprise, that the crew used to create food and other basic things that they needed. In *Star Trek* replicators are "devices derived from transporter technology to dematerialize matter and then reconstitute it in another form." ([startrek.com](https://startrek.com)) Science isn’t quite to the point of being able to dematerialize matter, but what if there was another way? Before I could explore the possibility though, I needed to examine how 3D printing works and look at its history. Once I had a basic understanding of 3D printing I could explore the possibility of 3D printing food and how I might use it.

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**2.2.1 3D printers. How do they even work? (It's probably not magic.)**

In the summer of 2016, I got the opportunity to work at Do Space\(^9\), which has three 3D printers available for public use. One of the most common questions the staff was asked by the

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\(^8\) While I was introduced in *Star Trek the Next Generation*, it was also present in *Star Trek The Original Series* which debuted on September 8th, 1966. ([startrek.com](https://startrek.com))

\(^9\) The simplistic description was developed while working at Do Space in summer 2016. DoSpace is a non-for-profit technology library located in Omaha, Nebraska. It is "a one-of-a-kind concept: it’s a community technology library, a digital workshop and an innovation playground filled with new opportunities to learn, grow, explore and create." ([dospace.org](https://dospace.org)) Do Space opened in November of 2015 and as of November 2016 has three 3D printers available for public use.
public is what 3D printers were and how they worked. We developed an overly simplistic, but
effective explanation: “3D printers are essentially hot glue guns controlled by a computer. They
super heat plastic filament, kind of like the string from a weed whacker, and then use a nozzle to
extrude the plastic in layers that match a digital 3D pattern.”

3D printing starts, with a digital 3D model. These models are created using specialized
computer software—some of the most common are computer aided drafting (CAD) software like
Autocad, and 3D modeling software such as Revit, SketchUp, and Maya. Once the 3D model is
created it’s saved in STL format, a universal format for 3D printers. The STL format
“approximates the surfaces of a solid model with triangles,” and records the coordinates of each
of the intersecting points. (3Dsystems.com) The printer uses these coordinates to construct the
physical model.

All current 3D printing processes are considered additive manufacturing—regardless of
how the material is applied—it is applied in successive layers. The three most common 3D
processes are stereolithography (SLA), selective laser sintering (SLS), and fused filament
fabrication (FFF). Both SLA and SLS are used for industrial applications. SLA uses an
ultraviolet laser to harden photopolymer resin layer by layer until a solid object is formed. SLS is
similar to SLA, in that it uses a laser to create the layers. SLS takes a powdered substance, such
as ceramics, and heats it to just under the boiling point, fusing the powder together to form a
solid object. The third process, FFF, is most commonly available for the home user and in

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10 Autocad, Revit and Maya are all properties of Autodesk. Sketchup, originally Google Sketchup, is
owned by Tremble Software.
makerspaces, such as the Do Space. I’ll be focusing on FFF printing because it is where 3D food printing started.

FFF is the process that I explained in the analogy at the beginning of this section. The “weed whacker string” is Acrylonitrile Butadiene Styrene (ABS) or Polylactic Acid (PLA) plastic. These materials are extruded from a heated nozzle in layers to form an object. At the same time, Polyvinyl Alcohol (PVA) or High Impact Polystyrene (HIPS) filaments are extruded from a second nozzle. This material is used to form a support structure, which allows the model to have openings, or parts that aren’t supported by the previous layer. (fig. 3) Once the object is finished printing, it is put into a bath of either warm water, if the support structure was PVA, or limonene, if the support structure was HIPS. The support structure dissolves and the model is left. It can then be sanded or painted. While pure ABS and PLA filaments are the most common filaments used in FFF, other options are being explored. The open source community\(^{11}\) has developed FFF printers that print a range of food materials from cookie dough and meat paste to chocolate and sugar. However, before I look at printing food, I need to take a brief look at the history of 3D printing.

\(^{11}\) Open source communities, as they pertain to hardware and software development, are groups that develop hardware and software collaboratively. No single person or corporation owns the rights to the object being developed. These items are frequently licensed under Creative Commons or a similar license and are usually free to use, though certain distributions may have costs associated with them. Common examples of open source initiative are Firefox and the operating system Linux.
2.2.2 History of 3D Printing (It’s a longer section that you might think)

3D printing had been around for about forty years. It started as something of a joke in a column that David Jones wrote in the *New Scientist* in 1974. He proposed using lasers to solidify photopolymers. WK Swainson furthered the theory and eventually filed a patent for a process in 1977. In 1981 Hideo Kodama of Nagoya Municipal Industrial Research Institute created a rapid prototyping system that capitalized on Swainson’s process to build sections of a model in layers. In 1986 Charles Hull patented the process of SLA and formed the company, 3D Systems. In 1992, they began selling their SLA printers commercially. The same year that 3D Systems started selling SLA printers, another company, DTM, created the first SLS machine\(^\text{12}\). However, these types of printers were impractical and cost prohibitive to the home user.

FFF printers took off in 2005 when Dr. Adrian Boywer’s RepRap project was launched. The RepRap project sought to create FFF style 3D printers that could replicate themselves, making them cheap and easily available for the home consumer. Bowyer’s dream achieved reality in 2008 with Darwin, the first FFF style 3D printer that could largely print its own parts. ("About – Reprapwiki") Adam Mayer, Bre Pettis, and Zachary Smith founders of MakerBot, created and sold the first commercially available consumer FFF style 3D printer kit, the Cupcake CNC, in 2009, but it was MakerBot’s Replicator, named for *Star Trek* technology, that really captured the attention of the public in 2012, when it came assembled and ready to use, meaning that anyone could use it, not just people who were comfortable building computers. (West and Kuk 2016)

\(^\text{12}\) It would take another 14 years (2006) before SLS machines became commercially viable.
2.2.3 Food printing and organic molecular printing (The future is now. Apparently.)

With the increased availability (and visibility) of 3D printing through the FFF printers, researchers began exploring other uses for FFF printing, one of these being food. The patent for the first 3D printed food process dates to 2001\(^\text{13}\), but there doesn’t seem to be any evidence that edible food was successfully created. (Wegrzyn, Golding, & Archer 2012, 67; Lipton et.al 2015, 114) Food printing has taken much the same route as FFF printers, relying on the open source community to spark development. The Fab @Home FFF 3D printer started much as the RepRap project previously discussed. It was an open source printer that was meant to be easily replicated and assembled at home. The project was created by Dr. Hod Lipson and Evan Malone of Cornell’s Computational Synthesis Lab. Food printing was a bit of an accident, however. Lipson says in his book, Fabricated: The New World of 3D Printing, that he and his students stumbled upon food printing as “an engineering accident with the Fab@home printer. It started when one of my graduate students realized that cake frosting makes a great raw material for prototyping engineering design projects and calibrating printer settings.” (Lipson & Kurman 2013, 133) After releasing the project open source, others began experimenting with food in the Fab@Home, one notable amateur inventor, Noy Schaal, a high school student from Louisville, Kentucky, won the state science fair in 2006 for adding a “heated chocolate extruder” to her Fab@home printer and printing chocolate in the shape of the state of Kentucky. (Lipson & Kurman 2013, 134) Since the release and adaptation of the Fab@Home project in 2006, food printing has continued to advance. Lipson along with grad student Jeffery Lipton continued to develop a specialized food

\(^{13}\) The patent granted to Nanotek Instruments, Inc was for additive manufacturing equipment for the fabrication of cakes, cake batter and icing. (Wegrzyn, Golding, & Archer 67)
printer in Cornell’s Creative Machines Lab.\textsuperscript{14} In the 2016 article 3D printing technologies applied for food design: Status and Prospectus, Godoi, et al. breaks the processes being explored into four major types, extrusion, inkjet printing, powder binding deposition, and bio-printing. The extrusion method is the most common method, and one I’ve already covered. One notable difference to the FFF method is that while the material can be heated, as is the case with chocolate filament, often the material being extruded is raw and cooked later. One of the most notable examples of this is a 3D printer that debuted at Milan Expo 2015 sponsored by the Barilla Pasta corporation. It extruded pasta dough in raw shapes, that were then cooked. (Godoi, et al 2016, 45; Jingya 2015)

Ink jet food printing works by adding drops of a substance on to a surface, much like a traditional ink jet printer. The substances must be low viscosity and is not suitable for complex food building. Ink jet food printing is most useful for decorative elements such as drawing precise designs on food and filling cavities with a syrup or gel, such as adding syrup to waffles.

Powder binding deposition is the second most popular food printing method. It uses SLS and other similar techniques to bind powdered food together. Liquid food binding is also in this category. With liquid food binding, a liquid food binder is printed drop by drop on to a bed of food powder.

The final category outlined by Godoi, et al is bio-printing. This is by far the most advanced method of printing, relying on building the food with cellular building blocks. In 2014, Prof Gabor Forgac and researchers at the University of Missouri were granted a patent for a

\textsuperscript{14} The Creative Machines Lab started at Cornell but later moved to Columbia. Lipson is still in charge of the Lab. Lipton has since graduated with a PHD and is now a post doc researcher at MIT’s CSail labs.
process that attempts to create porcine (pig) flesh that is edible. Their process, like all the other processes discussed, involves successive layers—in this case muscle cells—to form a solid 3D object.

While Lipson, Forgac and others are experimenting with 3D printing food from already prepared substances, researchers at the University of Illinois Urbana-Champlain are beginning to print organic molecules. Martin Burke and other researchers have created a machine that can automatically create custom organic molecules from basic building blocks, such as carbon. They’re specifically looking at creating custom pharmaceuticals for individuals, but what if it could be used for other applications?

In 2013 when Lipson wrote Fabricated: The New World of 3D Printing, he envisioned a future where food could be printed in a much more complicated process than simple layered extrusion. By mixing up “a paste of chemical building blocks and use a digital recipe,” anyone could 3D print food that imitated real food. (Lipson & Kurman 2013, 147) In Food Pirates I’ve taken a lot of liberties. Rylo’s food printer, which builds food on a molecular scale doesn’t yet exist. Science isn’t to that point. However, the possibility of this technology existing in the next twenty years is what drives me to what’s next.

2.2.4 Can you commit murder with seemingly benign technology? Well, actually...

Most college undergraduates who’ve taken a creative writing or a literature course will be familiar with “The Hero’s Journey”. “The Hero’s Journey” is a theory on storytelling, specifically mythology, that was introduced in Joseph Campbell's The Hero with a Thousand Faces in 1949. It starts with “The Ordinary World”. By current standards, Rylo’s world doesn’t seem ordinary. She’s living in the aftermath of a great tragedy, but this isn’t a story of Rylo
saving the world, so for her, this mess is normal. The next step in Campbell’s theory is “The Call to Adventure.” I needed something that would get Rylo off the couch and propel her into action. As I mentioned previously, Food Pirates is a murder mystery. What better way to get Rylo off the couch than to have her investigate the murder of her aunt, which was carefully disguised to look like a tragic accident. Yes, poor Aunt Cleo had to go, and all signs pointed to the food printer as the culprit.

In the play I wrote, Nico is trying to find a food pattern that has had the Digital Rights Management (DRM) software removed. She is attempting to commit software piracy. Software piracy is a crime, one that comes with a certain amount of risks. Aside from the possibility of being caught, incarcerated, and/or fined a great deal of money, those who choose to commit piracy on the internet, often run the risk of exposing their computer to malicious code. Removing a virus from a computer is annoying at best, and can come with some devastating financial consequences depending on the type of virus. But what happens when the virus infects the food patterns that the food printer is using to create food? Of course, most individuals committing piracy on the internet understand the ramifications of their acts. I couldn’t envision Aunt Cleo, pirating food patterns, so I decided to be a bit more subtle.

I needed to create a system that would allow Aunt Cleo to unknowingly ingest the food made with this malicious code. Again, I found inspiration in current technology in explaining how the future system would work. I turned to a class of devices collectively known as the Internet of Things (IoT). IoTs are all devices that have some kind of connectivity, whether to another device, or directly to the internet, but are likely something that humans can’t physically input data into, or the data they can input is very limited. Common IoT devices range from early warning systems for tsunamis, to newer model cars, to smart thermostats for the home. The
biggest problem with these IoT devices is that they frequently have security flaws in their firmware, and because they are devices that are meant for a specific purpose, security flaws are often ignored or patching is so complicated that when a patch is created, it’s often ignored. There were three instances of IoT devices being hacked that I inspired me. The first was a Jeep that was remotely hacked while in motion and reported by Wired.¹⁵ Hackers had access to many of the car’s systems and could force the car into a ditch. It fascinated me that a device that I’d never considered advanced enough to hack had been completely taken over by the hackers. While a Jeep would make an effective murder weapon, it wasn’t the subtle tragic accident that I wanted as a plot device. For that I found inspiration in two medical assistive devices, the wireless enabled insulin pump and wireless enabled pacemaker. I was a little shocked to discover that not only did these items exist but security researchers warned that both were vulnerable to hacking. It intrigued me that these devices could, in theory, be used to commit the perfect murder. Who would question a heart patient who had a heart attack? Or a diabetic patient that went into a diabetic coma? Both were theoretically possible by hacking these devices. I believed that I could commit the seemingly perfect murder with the food printer in the same way. A glitch in the food

¹⁵ Security researchers Chris Valasek and Charlie Miller hacked a Jeep Cherokee while Wired writer Andy Greenberg was driving the car at 70mph (with Greenberg’s permission). Valasek and Miller were able to remotely access the car’s heating and cooling system, radio, windshield wipers, accelerator, brakes and GPS system, while sitting in Miller’s house some ten miles away. During the test, they were able to successfully force the car off the road and into a ditch. They say it’s possible to access the steering controls when the Jeep is in reverse. Chrysler has since created a patch for this issue, but the patch must be applied manually at the dealership and so there are likely still Jeeps that are vulnerable. (Greenberg 2015)
printer could cause one of the compounds to create a poison instead of the correct compound. Doctors could write it off as a freak accident.

My current body of work ends with the beginning of “The Call to Action”, Aunt Cleo’s death. In later issues, Rylo will realize that it’s the code that’s being downloaded off a hacked database that killed her aunt. Why would anyone hack the database? This will be something that I will need to investigate and resolve as the story goes forward. It will provide tension and allow me to further explore the human side of technology.

Technology is not the only factor in building the world of Food Pirates, but it’s a very big factor. It provides inspiration, plot devices, and the opportunity to explore the current world possibilities. My goal in developing this world was to create something that could exists in twenty years. I think that by exploring the possibilities of current technology, I’ve managed to provide a glimpse of a possible future.

2.3 IP Laws, Food as Software, and Private Law Enforcement

Inventing a world means inventing the laws and rules by which it operates, or, in my case, amending the laws already in place. One key conflict in Food Pirates is that corporations have patented the molecular structure of food. Licenses, similar to our modern software licenses, are required to grow food. Real food becomes a luxury that most don’t even bother with. Congress has granted corporations stronger intellectual property laws, and the right to police their claims. In this section, I’m will review how this could happen based on already existing laws and practices, specifically, the US patent laws, the DMCA, and the privatization of government services.
2.3.1 How do you patent a living thing?! Paperwork.

Title 35 of the US Code provides for the establishment of the US Patent office and the things that can be patented. Traditionally, naturally occurring organisms, aside from plants\(^\text{16}\) were barred from being patented. This changed in June 16, 1980 when the Supreme Court of the United States released their ruling on Diamond V. Chakarabarty. In 1972, Anada Chakrabarty, a scientist working for General Electric developed genetically modified bacteria that would break down crude oil. He filed a patent for the process of developing the bacteria strain, the method of delivering the bacteria, and the bacteria itself. The patent was granted for the first two, but denied on the third. The decision was appealed to the Supreme Court, where they sided with Chakabarty. They agreed with his argument that since the bacteria strain was not naturally occurring, but instead manufactured, it could be patented like any other technical innovation. (Brennan 1980) In the wake of this decision many living, but manufactured organisms have been patented. In creating printed food from the molecular structure up, the printed food in my world, would certainly fall under these patent laws, allowing for corporations to patent the complete organism. This also brings up a particularly interesting ethical question: would 3D printed food actually be alive in the first place? In the previously mentioned patent for printing edible porcine flesh, Prof Gabor Forgac is very careful to specify that the researchers on the project are working with nonhuman cells, and consider meat to be a post-mortem tissue. I can see this same approach being applied to all aspects of the future printed food industry to avoid the ethical complications of the potential to print life.

\(^{16}\) Plants were already considered patentable under US Code 35 Section 161 provided they were not simply found in an unaltered state or propagated from a tuber.
2.3.2 Food as Software

So far I’ve only focused on the physical product of the food printing. That’s the finished component. Food printing is both a physical object and software. The database of food available for download that I’m imagining would be similar to the Software as a Service model (SaaS). SaaS is a method of selling software in which the end user does not own the software, but instead pays a subscription fee for access to the software. This model has been around since 2001, but in the last five years the industry has aggressively pursued this model to increase revenue, not only for major server software such as Oracle, but consumer software such as the Adobe Creative Suite and Office 365. I envision food patterns working in much the same way—subscription fees would give access to the tiers of food patterns, but there would also be the ability to buy individual single-use patterns similar to heading to McDonalds for a cheese burger.

2.3.3 The Food Police - Privatization of Government Services.

The idea for the Food Police has roots in the current trend of government services privatization, particularly prisons. Privatization of prison became popular in the 80’s. State and federal officials contract with a private, for-profit company to build and run prisons. States are often contractually required to keep the prisons at capacity, and must pay a fine if they are not. Critics of this system say that it leads to higher arrests and sentencing of minorities. (Greybill 2016)

In the world Food Pirates is set various patent laws have been given real teeth by Congress, but the public police forces, particularly in regions where there are a lot of refugees, have no means of enforcing them. They’re too busy worrying about general disorder to care that someone is pirating donuts. The corporations are thus given the ability to hire private police
forces to ensure the protection of their intellectual property. This conflict materializes in the first issue with a raid on the camp, and I intend to introduce more of it as the series moves on.

2.4 Climate Change and Refugees

Aside from the technology and associated laws that govern my future world, there are two other factors that set the scene for this comic. The effects of climate change on the environment, and the effects of climate change on the people.

Climate change is not a political issue. It is a matter of scientific fact. Unchecked pollution is harming the planet. If we don’t do something, bad things are will happen—bad things are already beginning to happen. In Food Pirates, I attempt to find answers to several worrying environmental questions:

What will the world look like in 20 years?

Where will sea levels be?

What of massive storms such as Hurricane Katrina or Sandy?

Where will the people from the U.S. coast go when they can no longer live on the coastline?

My initial concept was a combination of the sea level rising and a massive hurricane destroying New York City which forces the population, who are now refugees, to the Midwest. In popular media, there is a long-standing tradition of destroying New York City. In his book, *The City’s End: Two Centuries of Fantasies, Fears and Premonitions of New York’s Destruction*, Prof. Max Page believes that one of the reasons New York is so often targeted is that the city is a symbol or stand in for all things urban. I admit that is the primary reason I initially chose the city. As someone who’s grown up and lived in the Midwest, it’s hard to imagine a more urban
environment than New York City. I wanted to use the city versus country trope as a means of creating conflict and tension. I must admit that the idea of dropping millions of New Yorkers in the middle of Omaha, Nebraska filled me with a tiny sliver of maniacal glee. The possibilities for trouble would be endless.

Unfortunately, the science for destroying New York City in twenty years didn’t pan out. There are a lot of estimates on how much sea levels will rise, and when—from more conservative estimates of 11 to 38 inches by 2100 to predictions of 7 feet (which is enough to wipe out all of London) if the Greenland ice sheet melts. ("Sea Level Rise") Using the interactive map “Surging Seas” on the Climate Central website, I determined that even if the oceans were to rise 10 feet, New York City would certainly flood, but not be completely under water. ("Surging Seas: Sea Level Rise Analysis By Climate Central")

The Coastal South, however, proved to be the perfect setting. Even now, Miami is experiencing flooding due to sea level rise. A study released in June 2016 found that flooding in the coastal areas of Miami Beach, Florida has risen 400% since 2016. The authors cited a complex array of issues, from increased high-tides, to an overall sea level rise making the streams that carry water out to sea less effective, to rain induced flooding increasing by 33%. (Wdowinski et al. 2016, 1-8) I also mention several hurricanes very briefly, and plan to explore their impact on the world in future issues. Although much of this is worst case scenario, as dystopian futures often are, they’re exaggerated possibilities grounded in the real world.
2.5 I always wanted to be Han Solo (or Indiana Jones):

Telling the kinds of stories I wanted to read as a kid.

As a child, in the 1980s, television and movies shaped a lot of my imaginative play. I wanted to be Han Solo when I grew up, or possibly Indiana Jones, or maybe a Goonie. I wanted to be the person in the story that was actively out doing something, and not the girl who was trailing along or worse, waiting to be rescued. As a child and even into my teens it was difficult to find female characters who were out having adventures and not stuck in the roll of ineffectual sidekick, love interest, or both. Mario’s princess always needed saving. Girls couldn’t be Goonies, they had to be the girlfriend, or the girlfriend’s whiny friend. Indy’s female companion was always, the dame, never a partner. Princess Leia had to be rescued from the Death Star and she never got a light saber of her own.

I made a very deliberate choice, in choosing to make Rylo, my main character, female and biracial. The kind of story I was telling could have worked with a male or female character, and it could have worked with any race. I chose to make Rylo a woman, because even now, the types of stories with female characters that I wanted in my childhood are largely missing. A 2016 report released by USC Anneberg found that female characters fill only 28.7% of all speaking rolls in film, and less than 40% of all speaking roles for scripted television. (Smith, Choueiti and Pieper, 2016) Comics aren’t much better. Women in comics, even those having adventures, are often so over-sexualized that in 2012 a group of artists came together to form The Hawkeye Initiative. These artists take female superheroes, often times posed in a ridiculous, hyper-

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17 Goonie – For the 1985 film The Goonies, directed by Richard Donner and starring Sean Astin, Corey Feldman, Josh Brolin and others. Goonies followed the adventures of a group of preteen boys as they attempted to find hidden treasure.
sexualized manner, and replace them with Hawkeye\textsuperscript{18} or another male superhero (fig 4) to illustrate how ridiculous the female character looks. ("The Hawkeye Initiative")

The choice to make Rylo a person of color was also very deliberate. In 2015, the Pew Research Center released a report that found that apron 6.9% of American adults considered themselves to be multiracial. The report also found that the number of Americans who were white and black biracial doubled from the 2000 to 2010 census and they expected this growth to continue as cultural taboos held in various generations disappeared. (Parker et al. 2015, 5-7)

Despite this, the same Anneberg report mentioned previously found that only 28.3% of the 414 stories they examined had non-white speaking character in them. (Smith, Choueiti and Pieper 2016)

Being able to recognize one’s self in the popular media that they consume has an influence on feelings of inclusiveness in society. The musical, \textit{Hamilton}, about the first treasury secretary, Alexander Hamilton, was a smash phenomenon in 2016, winning many awards, including a Pulitzer Prize, and selling out for months in a row. It was written by Lin-Manuel Miranda, who is Latino, and is unique in that the entirety of the cast is made up by people of color. Daveed Diggs, who plays both the Marquis de Lafayette and Thomas Jefferson in the musical, and is himself biracial, said in a March 30th, 2016 interview with Charlie Rose that working on the musical gave him something he’d never experienced before, ownership of his own history, “…I mean this is the only time I’ve ever felt particularly American is in the last like eight months that have been working on this.” (Rose 2016)

\textsuperscript{18}Hawkeye is owned by Marvel Comics. Hawkeye was chosen in part because of blog posts written by Gavia Baker-Whitelaw, Noelle Stevenson, and Blue.
In recent years, the comic book industry has seen an increase in diverse characters. There are several very popular female-led superhero books, such as *Captain Marvel*\(^{19}\) and *Ms. Marvel*\(^{20}\), as well as non-superhero books like *Bitch Planet*\(^{21}\), and *Lumber Janes*\(^{22}\). They’ve also see an increasing number of people of color taking the lead role, from *Ms. Marvel* and Brian

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\(^{19}\) The current Captain Marvel, Carol Danvers, is not a new character. She first debuted in the 1960s, and was frequently seen as Ms. Marvel. In 2012 she assumed the role of Captain Marvel, and the book, written by Kelly Sue DeConnick, become wildly popular particularly among female fans.

\(^{20}\) With the name Ms Marvel no longer being used by Carol Danvers, Marvel introduced a new character, Kamala Khan, a teenage Pakistani American girl of Muslim faith. The first Ms. Marvel issue with Kamala debuted in February of 2014, was reprinted 8 times, and became Marvel’s best-selling digital issue of all time. Ms. Marvel is written by G Willow Wilson and drawn by Adrian Alphona. (Wilson 2016)

\(^{21}\) *Bitch Planet*, written by Kelly Sue De Connick and drawn by Valentine De Landro, takes place in a dystopian future, where women can be imprisoned off planet for being non-compliant. It’s a feminist take on the exploitation film genre of the 60s and 70s. (Hennon 2014)

\(^{22}\) *Lumber Janes* is a young adult graphic novel, set in a girl’s summer camp, were some very strange things are going on. It was created by Noelle Stevenson, Grace Ellis, Shannon Waters, and Brooke Allen. Lumber Janes has won two Eisners and a GLAAD Media Award.
Michael Bendis’ *Spider-Man*, Miles Morales\(^{23}\), to *Bitch Planet* and Hope Larson’s *Goldie Vance*\(^{24}\).

In populating my fictional world, I wanted to add to the diversity developing in comics and increase the inclusiveness of the medium. I wanted to not only tell the kind of stories that I was missing as a kid, but also the kind of stories that others may be missing as well.

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\(^{23}\) Brian Michael Bendis created Miles Morales for Marvel’s Ultimate universe (Earth-1610). He first appears in August of 2011 following the death of Earth-1610’s Peter Parker. Miles is of Black Hispanic descent. When Marvel ended the Ultimate imprint in 2015, Miles was added to the main Marvel universe (Earth 616).

\(^{24}\) *Goldie Vance*, written by Hope Larson and drawn by Brittney Williams follows the exploits of teenaged Goldie Vance as she attempts to solve mysteries.
CHAPTER 3
THE MEDIUM

Comics are a relatively young medium—only about eighty years old. They are the outgrowth of earlier newspaper comic strips, which are not much older, and Depression era scrambling for businesses to keep the lights on. Comics are a commercial medium; for most creators, myself included, the end goal is to have their book reproduced and into as many hands as possible.

In this chapter, I intend to discuss the more practical aspects of medium, as well as my own experiences. I’ll be taking brief look at the history of comics, and then discussing the comic industry now, including publishing models that I find to be particularly advantageous to the independent creator, and how the internet has changed the various aspects of the industry including funding and distribution. Finally, I’ll look at creators that influenced me early on, and how I finally settled into the medium.

3.1 A brief history of comics

Comics didn’t burst on to the scene fully formed in the 1930s, they evolved directly from the comic strip and prior to that from a number of other sources which experimented with the merging of words and pictures. One of the first of these was the Bayeux Tapestry. The Bayeux Tapestry featured a series of sequential events that read left to right. There are no panel borders, but there are obvious divisions between events. The text runs along the top of the middle register,

25 The Bayeux Tapestry is somewhat misnamed as it’s embroidered wool on linen. It is 20 in x 230 ft and details the Norman Conquest of England in 1066. It was believed to have been created by Queen Matilda and used as a banner in a banquet hall to celebrate William I’s defeat of Harold and the Saxons.
and explains what is happening in the scene, or gives useful information such as identifying the person in the scene. Around the same time, in Mexico, a Pre-Columbian society told the epic story of 8-Deer “Tiger’s-Claw” in a series of images and text that read from right to left. (McCloud 1994, 11)

Changes in technology also aided in the birth of comics, the most important of these was Guttenberg’s printing press in 1440. The growth of various printing techniques allowed for further experimentation with words and pictures, from William Hogarth’s Harlot’s Progress26, to Thomas Rowlandson’s Dr. Syntax27. Rodolphe Töpffer’s M. Crépin28 is particularly notable as a specimen of the proto-comic, as it featured the first use of panels borders. Though the panel borders may have been more of a practical choice rather than a deliberate artistic decision, according to McCloud, he at least realized that in creating the work he was “neither artist, nor writer.” (McCloud 1994, 17) It would be another sixty years however, before the modern comic

26 William Hogarth’s Harlot’s Progress, 1731, was a series of paintings and then engravings that was exhibited together. Harlot’s Progress had a very definite moralizing narrative. These engravings proved popular with the middle class and were sold as a subscription. The subscriptions allowed Hogarth to raise money for expenses associated with printing the comics.

27 Thomas Rowlandson’s Dr. Syntax in Search of the Picturesque, created in 1812, was a series of etchings, hand colored by water color, that were bound into a book that told the story of the fictional Dr. Syntax traveling to places around England.

28 Topffer’s M. Crepin, was created in 1837, using the lithograph process. Topffer was not a printer himself, and so used lithograph crayons on paper. The paper was then heat transferred to the stone and printed. It was largely believed that he worked the way he did, to save money when printing.
strip would appear and it owes much of its birth to the rivalry between Joseph Pulitzer and William Randolph Hearst.

Inspired by Jacob Riis’ photographs of the New York City slums, Joseph Pulitzer hired Richard Outcault, in 1894, to provide humorous illustrations of the New York City slums for Pulitzer’s newspaper, the *New York World*. Pulitzer was a social activist, as well as a canny businessman, and felt that a humorous take on the slums might make the middle-class take notice of them, and sell papers. Early on, Outcault’s illustrations featured a stereotypical Irish slum family, the Dugans, including a toddling boy with enormous ears, and a bald head, dressed in a yellow smock. His name was Mickey Dugan, but everyone referred to him The Yellow Kid. As the illustrations progressed they focused more and more on a gregarious, and diverse group of immigrant kids, who stuck together, and frequently “stuck it to the man”—a theme that many think was Pulitzer’s\(^29\) influence. The Yellow Kid was always front and center in these illustrations. The illustrations became known as *Hogan’s Alley*, but they weren’t comic strips yet. In 1895, the *New York World* started running a full color Sunday supplement and *Hogan’s Alley* became a feature. It was during this time that Outcault began experimenting with text, frequently adding it directly to the image. In 1896, William Randolph Hearst, owner of the *New York Journal*, managed to lure Outcault away from Pulitzer’s *New York World* with the promise of a larger salary. Outcault took the gang from Hogan’s Alley with him, but he couldn’t take the name and so the illustrations, which in a few short months of joining Hearst, solidified into the beginnings of the modern comic strip format, became known as *The Yellow Kid*.

\(^{29}\) Pulitzer, a German immigrant had a very European Marxist belief that the only way to rise out of poverty was for the working class to band together against the bourgeoisie.
short months of joining Hearst, solidified into the beginnings of the modern comic strip format known as the Yellow Kid.

The first few decades for the twentieth century saw an explosion of comic strips, both at Pulitzer’s World, and Hearst’ Journal, as well as the New York Herald and the Chicago Tribune. During this time, syndication was born, allowing papers all over the country to purchase the rights to run various comic strips. The very first comic book relied on this syndication for material.

At the height of the worst of the Great Depression in 1933, Max Gaines, a salesman at Eastern Color Printing in Brooklyn, trying to figure out ways to keep the presses at Eastern running, proposed that they create a book of old comic strips, and then market to a manufactures as a premium. Premiums were items that businesses offered to consumers for free to increase sales. Gaines created a booklet called Funnies on Parade that they marketed to Proctor and Gamble. For an Ivory Soap label, plus five-cents, people could write in and receive a copy of Funnies on Parade. The comic book was a huge success. Gaines went on to create premiums for Wannamakers Toy Store, Woolworths, and several others.

Eastern Color Printing, was a print house however, not a distributor. They had no desire to distribute these new comic books. Gaines, found a willing partner in Malcom Wheeler Nickelson’s National Allied Publication. The first true comic book, which wasn’t simply a reprint of syndicated comic strips, New Fun Comics, was released in 1935. Wheeler-Nickelson proved to be a bad business manager, however, and his interest in the company is taken over by Jack Liebowitz and Harry Donefeild. Detective Comics, which would eventually feature Batman,

\[30\] At the time they were publishing pulp fiction.
was released in 1937 and proved so popular that the company changes its name to Detective
Comics Incorporated, and then later to DC Comics.

By the end of 1941, there were thirteen publishers in the New York City area, publishing
an array of superhero titles, however, the publishers farmed out actual creation to “shops.”
(Lente and Dunlavey 2012, 39) These “shops” were typically large rooms where groups of artists
did nothing but crank out comics all day. Jules Feiffer said, of the typical shop, “Artists sat
lumped in crowded rooms, knocking it out for the page rate. Penciling, inking lettering in the
ballots for $10.00 a page, sometimes less; working from yellow type scripts which on the left
described the action, on the right gave the dialogue. The work was relentless. Some men worked
in the bullpens during the day; freelanced at night.” Of the golden age publishers in New York,
only three are still in existence, DC comics, Marvel (then Timely), and Archie (then M.L.J
Magazines.) (Lente and Dunlavey 2012, 40)

By 1947, comics had become one of America’s favorite periodicals. One out of every
three periodical sold in 1947 was a comic; industry studies showed that 95% of boys and 91% of
girls ages 6 to 11 read comics. Teenage readers of both sexes were in the 80% range, and 41% of
adult men, and 28% of adult women read comics. (Lente and Dunlavey 2012, 61) Unfortunately,
the 1950s were a particularly dark period for comics. A perfect storm of titles that were
particularly violent, and the crusades of psychologist Dr. Fredric Wertham resulted in Senate
hearings, and ultimately, the creation of the Comic Code Authority (CCA). The CCA, was a
voluntary governing body created by the industry that served to censor the worst of the violence,
sometimes in arbitrary, and bizarre ways. (Lente and Dunlavey 2012, 89) While it was voluntary
to join, and work with the CCA, it was almost impossible to sell a comic without the CCA’s
stamp—distributors wouldn’t touch book without a CCA stamp. The only group that managed to
avoid the CCA’s censorship was the Dell publishing group, who were publishing Disney comics. This censorship really hurt the medium’s ability to appeal to anyone over the age of 11; it ended up labeling an entire industry as a children’s medium and most publishers were forced to close. The 1960s saw rebirth of superhero comics, with many iconic titles released by Marvel such as Spider-Man and Fantastic Four, but comics would never regain the truly mass media status that they had prior to the CCA.

3.2 Comics Now

I don’t think it’s hyperbole to say that there is very little that has changed the modern world, and will continue to change the world, the way the internet has. Like the printing press before it, the internet has fundamentally changed how information is distributed to the masses. It’s changed the landscape of contemporary comics as well. The days of working in a shop full of cartoonist cranking out pages is long gone. Today, most writers and artists making comics work from home studios around the world, turning work into their editors digitally. Some artists even work completely digital, using a Wacom Cintq31 or similar device to draw directly into the computer. House styles, which had started to fall by the wayside with some publishers as early

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31 A Wacom Cintq and similar devices are drawing tablets that allow artists to directly draw on the computer. There are two basic types of these devices—the tablet kind and the monitor kind. The monitor kind, of which the Cintq is the primary option, allows the artist to directly draw on to the screen of a pressure sensitive monitor with a special stylus. The hardware translates both movement and pressure into the art on the screen. This is the easier of the two types of hardware to use as the artist is working directly on the work. The second option is the tablet. The tablet is a flat piece of hardware that resides on the desk. It too translates pressure and movement to the computer, however there’s a slight disconnect in drawing as the artist is not drawing directly on to the work, but on flat surfaces, while they’re looking at the work.
as the 50s, are now completely gone. The superhero genre, which is still the mainstream face of
comics, is dominated by D.C. and Marvel, but other publishers are providing a range of genres
that meet the needs of most fans. Marvel and D.C.’s comics are still work-for-hire endeavors.
Creators working on these books have very little rights to the intellectual property that they
create. As I mentioned previously, while I have no problems working on commercial endeavors,
I don’t really want to be stuck working solely on someone else’s intellectual property.
Thankfully, in the modern landscape of comics there are a multitude of options. In particular I
will look at the rise of creator owned books, web comic, and crowd sourced self-publishing.

Intellectual property ownership from both the golden and silver age of comics is a bit of a
thorny mess to untangle. The Copyright Act of 1976, was the first major update to the copyright
laws since 1909 and served to help clarify the term work for hire. Most publishers claimed that
artists and writers creating work were hired to create for the publishers, and so all work belonged
to the publishers. The key to the definition in the 1976 law was that both the publisher and the
creator had to explicitly agree to this. The publishers did not have explicit agreements. Marvel, in
particular, was ruthless in getting their artists and writers to retroactively sign agreements. They
held over thirty-thousand pieces of original art in a warehouse, they agreed to return it to the
creators, but only if they signed the agreement. Jack Kirby, in particular, was given a raw deal
from Marvel. Kirby made several requests to get his original artwork back and after several years
of stalling, in 1984, Marvel sent Kirby a four page agreement that requested that Kirby give up
all royalties, and in return, Marvel would gift Kirby eighty-eight of his original pages. Kirby had
already signed his rights away twice, and refused to sign the third, insulting agreement. Kirby
eventually went public with his feud. Marvel received a lot of bad press, and finally, in 1987
Kirby received 1900 of the pages that he’d draw for the company—only about a fifth of his total
output for Marvel. This and other maneuverings by the big publishers inspired a creator’s rights movement in the 1980s, which led to some reform and liberalizing of royalties. (Lente and Dunlavey 2012, 157-162) But even with the reforms, creators did not own their own work.

3.2.1 A trend towards creator-owned work

In 1991 three of Marvel’s top artists, Jim Lee, Rob Leifield, and Todd McFarlane demanded creative control of their own work. They wanted to publish a new line of comics in which they’d own the rights to their own creations. Marvel, which had recently been acquired by Ron Perelman, was on shaky financial ground because Perelman had issued junk bonds in the company name. For these bonds to be successful, stock prices had to remain high. The executive editor at the time, Terry Stewart, knew that if they pulled their top artists from Marvel owned creations, in this case, X-Men, X-Force, and Spider-Man respectively, and allowed them to do their own work, then Marvel would lose revenue and stock prices would drop. Stewart denied their request and the three men, along with four other top selling Marvel artists: Erik Larsen, Whilce Portacio, Marc Silvestri, and Jim Valentino left to form Image Comics. (Lente and Dunlavey 2012, 204-204, “Image Comics”)

Image Comics, which recently celebrated its 25th birthday, is now the third largest comic book publisher in the US. (“Image Comics”) The majority of the work that Image publishes is creator owned.\(^{32}\) It uses a system much like the publishing of prose books where the publisher license the rights to publish the creator’s book. The creators are paid royalties, but all rights are

\(^{32}\) One of Image Comic’s imprints, Top Cow, publishes licensed material including a Tomb Raider comic. Tomb Raider is a popular video game published by Square Enix.
wholly retained by the creators. Image Comics publishes a number of well known titles under its own name and some of its imprints, including Todd McFarlane’s *Spawn*, Robert Kirkman’s *Walking Dead*, and Brian Michael Bendis and Michael Oeming’s *Powers.* While Image’s early years featured a lot of superheroes, or superhero type stories similar to DC and Marvel, they are now best known for the things that you can’t get at the big two. Image’s current lineup of creator owned books features everything from a 40-year-old woman trapped in the body of an eight-year-old trying to find her way out of Fairyland in Skottie Young’s candy colored *I Hate Fairyland*, to criminals who can stop time by having sex in Matt Fraction and Chip Zdarsky’s *Sex Criminals* to a gender bent retelling of the Homer’s Odyssey set in space in Matt Fraction and Christian Ward’s *ODY-C*. Image attracts some of the best in the industry and has a range of stories in part because the books are creator owned, and the editors at Image are willing to take a chance on off-beat stories.

There are others publishing creator-owned work. Darkhorse and IDW publish a mix of creator owned, and licensed properties, and there are also imprints of major book publishers publishing comics now. Instead of focusing on monthly comics, these imprints only publish graphic novels. A couple of more notable companies are First Second, an imprint of MacMillian, and kid’s book giant Scholastic’s imprint Graphix. First Second publishes works by both Faith Erin Hicks, and Gene Luen Yang, who I’ve found inspiration in. Scholastics imprint Graphix is worth mentioning because they are Rania Telgemeir’s publisher.

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33 In 2004 Powers moved to an imprint of Marvel, but 2000-2004 it was published through Image.
When the New York Times decided to end their “Paperback Graphic Books” bestseller list on January 29th, 2017, Raina Telgemeier’s middle-grade graphic novel, *Smile*, published by Scholastics had spent 240 weeks—over four years on the best seller list. (“Paperback Graphic Books - Best Sellers.”) The book, is an autobiographical account of Raina’s middle school years, when a freak accident at the age of twelve leads to the loss of her two front teeth, several years of braces, dental surgery, false teeth, and the social pressures of not being normal. It started life as a web comic.

3.2.2 Web Comics! YOU GET A COMIC! AND YOU GET A COMIC...

Web comics started in much the same way the medium originally began—as strips. There is some argument as to exactly what the first strip is, but by the late 90s, there were several. Early strips such as, *Penny Arcade* by Jerry Holkin and Mike Krahulik, and *PVP Online* by Scott Kurtz, both started in 1998, relied heavily on themes of technical and gaming culture. These themes reflected the population of the internet at the time. However, as more people joined the internet, download speeds increased, and it became easier to put things on the web, the field of web comics opened. The web stopped being a novelty, and became a legitimate means of distributing comics. The two major comic awards, The Harvey Awards, and the Eisner’s both have online categories now that recognize advancements in the field.

One of the biggest advantages of web comics is the threshold for publishing comics and reaching a wide and diverse audience is extremely low. A creator simply needs a way to create the comic, and access to the internet. There’s not even a need to pay for a service to host the comic, as websites like Tumblr will do it for free. Unfortunately, that’s a disadvantage as well,

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34 Middle-grade books are typically aimed towards kids in the 8-12 year old range.
the ease means that anyone can do it. Quality is not controlled by an editor, and fans have so many options that getting noticed can be difficult. Creators publishing their own work must be both creator, editor and marketing department if they want their comics to be noticed.

Monetizing web comics is a tricky gambit. Most web comics are available free. They attempt to make money through advertising revenues, selling merchandise, subscriptions, and even a digital tip jar. A few webcomics have found a home being published on digital subscription platforms such as comiXology. Bandette, which won the 2016 Eisner for digital comic, is one of those. It is available for subscription, but single issues can also be purchased through the service for $0.99 a piece. For a lot of web comics, the end game is still publishing physical books. Despite having read a comic online, many fans still want physical copies of a comic. This holds true for web comic strips as well as web comics and creators have figured out several different ways to get their digital product into physical form. Some webcomics, such as the case of Raina Telgemeier’s Smile and Noelle Stephenson’s Nimona are picked up in their entirety and published as graphic novels. When that happens, the comic is typically taken off the web, which is the case for Smile, or only a small part of it remains on the web to wet reader’s appetites, as in the case of Nimona where the first three chapters are available. Other creators choose to go the independent publisher, or self-publishing route, which means they need money to produce physical copies of the book. Often that funding is sought through crowdfunding methods.

comiXology is an online distribution company for comics. It was founded in 2007, and became a subsidiary of Amazon in 2014. The comiXology website currently sells comics from 183 publishers. (“Browse Publisher - Comics By Comixology”) These comics can be read via browser, and apps for iOS, Android and Kindle Fire.
Independent and self-publishing isn’t new in comics and neither is crowdfunding, but technology advances in the last twenty years have made it much simpler and more accessible. Early web comics often setup a tip jar via PayPal where readers could donate funds to help creators, and while this proved to be a viable source of raising funds, it wasn’t until Kickstarter that crowdsourcing of creative ventures of all kinds via the web really took off.

In 2009, Kickstarter launched, providing a platform to easily manage crowdfunding projects. According to their website, thirteen million people have backed 121,427 projects in the past eight years; of those projects successfully backed, 4,779 have been comic projects.

The comic projects on Kickstarter and other services like them range from printing collected volumes of both webcomics and comic strips, to printing new projects, to printing anthologies. Creators set a particular monetary goal, and pledge levels that usually correspond with a reward such as a copy of the book. While it’s possible to give the creator any amount of money, most donate at a specific pledge level to get a desired reward. I’ve personally participated in several campaigns, but to give a better understanding of how this works, I’m going to focus on a comic anthology that I donated to in March of 2015. Editors Sfé R. Monster and Taneka Stotts launched a Kickstarter on March 16, 2015 for a queer science fiction and fantasy comic anthology, *Beyond*. It had a goal of $22,000, which would pay the artists and writers, as well as print the books. If the project met its funding goal, which it did on a day after it was launched, the creators were guaranteed to receive the funding. Campaigns are given a full month to attempt to reach funding, if they are over funded, as was the case with *Beyond*, which eventually raised $79,670 with 2521 backers, the entire amount, minus Kickstarter’s cut is given to the creators. Often to increase excitement over campaigns stretch goals are created. If a project
sees increased funding, the creators promise to add additional rewards, or do something special. In the case of Beyond, several of the stretch goals included increasing the payment level per page for each creator. ("The Beyond Anthology")

   Kickstarter works best if the comic or the creator already has a fan base that is loyal and willing to buy a book; several independent publishers are using Kickstarter and other services like it as a de facto preordering system. Iron Circus publisher, C. Spike Trotman, has become particularly successful at publishing large comics projects via Kickstarter, sometimes for comics that most in the industry are surprised there’s a market for. In 2012 and again in 2014, Spike successfully published anthologies of, as she terms it “classy smut by classy dames.” The 2012 project raised $83,100 and was backed by 2291 people. ("The Smut Peddler Pre-Order Project!") The 2014 project exceeded that raising $160,000 over its initial goal and was backed by 5,709 people. ("Smut Peddler 2014: LADYPORN CONQUERS EARTH")

   Kickstarter is great for specific projects, but paying for daily expenses is still an issue for the independent creator. While they’ve gained control over their intellectual property, most of the options I’ve already detailed don’t pay a standard page rate. One of the options that creators are turning to is a web service called Patreon. Patreon is another crowdfunding website, but unlike Kickstarter, it invites people to back people, not projects. Patreon was the brain child of Jack Conte, an indie-rock musician. He’d just finished creating an elaborate music video, and realized that his YouTube ad revenue was not going to cover the cost of the music video. “I wanted a button on my personal website,” he told Wired Magazine, “[…] that said please give me money whenever I make a video if you want to help me keep making videos.” (Tate) Patreon
launched in 2013, and got a shot in the arm in 2015 in the form of the Green Brothers\textsuperscript{36} and the Nerdfighteria community, when it acquired Subbable, a similar company that John and Hank Green had created in an attempt to monetize online multimedia content in a way other than ad revenue. There are a couple basic funding models, people subscribe to an artist and then gives an automatic contribution to the artist when they create a new thing, or on a monthly basis. Patreon has the potential to be useful not just for comic creators, but for all creators figuring out how to monetize their work.

On 24-Hour Comic Day, in 2014, Spike Trotman drew “Everything I Know” a short strip where she shared everything she knew about the comic industry. She said that “Comics is a ten-year line. Like most lines, you get in at the end. For ten years, you work your ass off. [...] and after ten years, if you’re talented, productive and lucky...[you find] escape from obscurity.” (Trotman) There’s no point in giving explicit instructions on how to succeed in the business side of comics, because no two cartoonists make it the same way. The important take away, is that to succeed, the modern cartoonist needs to self-promote their work, produce work, and network. Networking especially provides possibilities and opportunities to work with other creators and publishers.

\textsuperscript{36} John and Hank Green are independent creators who’ve founded a successful online multimedia company and fan community (known as Nerdfighteria). They initially garnered attention of millennials with their Vlog, \textit{Brotherhood 2.0} in 2007.
3.3 Finding a spot in the medium

If there’s a history of comic book readership in my family, I am not aware of it. As both of my parents were born in the early 1950s—my dad with a school teacher mother, and my mother with a conservatively religious family—I suspect that comics were not something that either of them had access to. To compound that, we were very poor as I was growing up and books were something we didn’t own, but borrowed from the public library. The first comic book that I purchased was *DC versus Marvel*, a limited series published in April and May of 1996, which featured DC and Marvel characters battling in an alternate universe. By this point I was old enough that I had a job, and could purchase my own reading material—and I did—a lot of it. I’ve always been a speedy reader, and in my teens especially, I was capable of finishing off a novel in a single sitting. I could quickly devour all kinds of things, but my preference tended towards science fiction and fantasy, with a sprinkling of the two-fisted action and adventure types—from Tom Clancy’s Jack Ryan series, to Clive Cussler’s Dirk Pitt series, to Issac Asmov, to Douglas Adams, to Piers Anthony’s Xanth. I’d find an author and read their entire bibliography. However, my hard-earned cash was reserved for *Star Trek the Next Generation* novels. These novels were a companion to the TV show and continued to be produced after the

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37 While most public libraries have a graphic novel section now, this is a relatively new phenomenon. Up until the early 2000s most librarians rejected the notion of graphic novels in the library, for much the same reasons as the ACA was created. They felt they were too violent, and not suitable literature. It’s only been in the last 15 years that the damage done to comics in the 1950s in terms of public opinion has begun to change. (Goldsmith 2005)
show ended in 1994. On average, about six novels came out a year, and I devoured them all. The books were written by rotating writers, but my favorite was Peter David.

In the late 90s, you could still purchase comics from spinner racks in the front of the bookstores at the mall, and I’d looked at them multiple times, but nothing really caught my interest until I discovered that Peter David was one of the writers for the *DC Versus Marvel* crossover. I picked up all four issues, and enjoyed them—I remember particularly enjoying the battle between Robin and the X-men, Jubilee—but it didn’t spring board me into loving superhero comics. Whenever I attempted to pick up another title, it seemed like I was walking into the story in the middle, and couldn’t figure out where to start.

It would be several years before I would purchase another comics book. As before, I followed an author; this time, it was Neil Gaiman. At the 2003 International Comic-Con: San Diego, Gaiman announced that he would be writing a limited series with Marvel known as *Marvel 1602*. It would be drawn by Andy Kubert and would run eight issues starting in November of 2003. I faithfully collected all 8 issues, but the story ended up being a bit of a bust for me. I only had a passing familiarity with the Marvel universe, and my knowledge came strictly from cartoons and movies. I had a hard time grasping the subtleness of the story, which placed several of Marvel’s major characters in an alternate universe that started in the year 1602.

The art interested me though, and I spent a lot of time trying to figure out how it had been created. Andy Kubert penciled all of the comics, but instead of handing them off to an inker, the colorist Richard Isanove worked directly over Kubert’s pencils. There was one panel in particular, a splash page of the X-men, Angel, suspended in chains with moonlight illuminating him from a window high in the wall that I was and still am drawn to. (fig.5) The texture reminded me a bit of watercolor, and looked more like the illustrations I was used to finding on
science Fiction and fantasy book covers, rather than comics. The light was atmospheric and moody. The guy had wings and was suspended in chains. I wanted to know more about him, but even more than that, I wanted to figure out how to color like that.

Having first picked Photoshop up in 1998, I was proficient with the software and I was sure that it had been colored digitally. I spent a lot of time trying to figure out how Isanove created it. I didn’t understand until later, and working at more of Kubert’s work that, yes, the coloring was Isanove’s but it was his color married with Kubert’s amazing pencils that worked and made it different than other comic art of the time. Aside from the technical aspects of how 1602 was created, superhero comics once again failed to peak my interest in the medium.

3.3.1 Finding Inspiration in Web Comics

Web comics really provided my first entrance into comics as a medium. At the same time as I was trying to figure out how Isanove had colored Kubert’s work, I was looking at the work of Ursula Vernon and Faith Erin Hicks, both of whom were making work and publishing it on websites like Deviant Art and Elfwood.\footnote{Both Deviant Art and Elfwood are early social media websites which allowed artists to display their work online without having to know how to code. They also provided community interaction in the form of user’s groups, chat, and commenting. The heyday of Elfwood was in the mid 2000s, but it is still online. Deviant Art is still going strong and still has a very active community.}

Ursula Vernon, the daughter of an artist, got a degree in anthropology before deciding to paint. She is probably best known for her recent kid’s graphic novels series Dragonbreath and Hamster Princess, but started she experimenting with comics in 2002 with Irrational Fears, a
thirty-two-page comic about a chupacabra and a dust bunny and a short-lived web comic, *The Conspiracy of Mammals*, which she posted to Deviant Art. This was the early days of social media, and Vernon was an early adopter of the blogging platform *Livejournal*39, just as I had been. I spent a lot of time studying her work, reading her blog for inspiration and advice, and drawing my own anthropomorphic creatures. In 2003, she hit on a comic, both in style and concept that really worked for her. She posted the first five pages of *Digger* on Deviant Art on March 18th, 2003 with the comment, “This is a style experiment getting my mega-scribble technique ported over to doing comics…Nevertheless, don't get too attached to Digger, as I don't promise resolution to this story line—this is a style experiment, damnit!” Her experiment lasted 759 pages, finally finished on March 17th, 2011, and won her the 2012 Hugo Award for best Graphic Story. Vernon’s “mega-scribble technique,” which is done completely digitally relies heavily on chiaroscuro, often featuring the characters in shadow—only her chapter title pages are in color. In *Digger*, I finally found a story that appealed to me. It tells the story of an anthropomorphic wombat who manages to tunnel her way into a land of dead gods, shrews who are professional trolls, actual trolls, the Indian god Ganesh, and a mix of myths and legends that make it clear that Vernon’s anthropology degree didn’t exactly go to waste. The story is offbeat and a little sarcastic. Digger is the straight man…woman…wombat in this world of magic. In general, she’d prefer nothing to do with it, but finds herself on an epic journey as she tries to figure out how to get home. This was the first time that comics reminded me of things that I was already reading, like Neil Gaiman’s novel *Neverwhere*.

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39 *Livejournal* was one of the first online blogging websites.
I also discovered Faith Erin Hick’s *Demonology 101* at about the same time. *Demonology 101*, which started in 1999, was the story of a girl, who happened to be part demon, and her friends as they maneuvered through high school and the supernatural. Hicks admitted that it was in no small part a *Buffy the Vampire Slayer* clone. Saying earlier this year, on Twitter, “Years later, I would start making my first webcomic [*Demonology 101*], which was a rip-off of BTVS. I wanted to read comics like Buffy [and] there weren’t any. I started down the comic-making path because of BTVS…” *Demonology 101* being very similar to BTVS was probably one of the reasons I was drawn to the story, but I also found inspiration in Hick’s drawing style. Hicks was professional trained as an animator, and spent several years in the animation industry before working full time on comics and I think that her training is particularly obvious in her character designs, which tend to straddle a bridge between simplistic and realistic. In particular, I find the way she handles noses, jaw lines and eyes to be appealing. Her character’s noses range from simplistic when shown at a distance, to detailed for close ups, but they’re always rather large. In examining a page of her more recent graphic novel *Friends with Boys*, (fig 6.) I think there’s a lot that can be learned from Hick’s economy of lines, her faces are simplistic in the panels that show longer shots, but they in no way lack communicating the emotions of the characters.

Following the examples of Vernon, Hicks, and others I attempted to create my own web comics. The first of these, *Step Through*, (fig 7.) was little more than fan fiction for the TV show *Stargate SG-1* in comic strip form. It ran sporadically on a now defunct Livejournal from 2006 to 2008. It featured the adventures of a couple of the main characters from *Stargate SG-1*, plus occasional interludes from other TV shows such as *Doctor Who*. It was a good learning experience, but I knew that it would never be something that I could continue long term, simply for the fact that it was a fan work—I didn’t have the rights to the intellectual property.
In 2010 I once again attempted to create a comic strip, Queen of the Dorks. (fig. 8) It revolved around a young woman, her dog, and her friends. It was semi-autobiographical. After a few strips I found myself increasingly frustrated with the pace of the story. I knew that reasonably I wouldn’t be able to make this a strip that updated daily, but updating it weekly caused the story to drag. It didn’t occur to me at the time, that I could or would want to bust out of the strip format. In my mind, full comics where strictly the superhero genre, and this was strip was simply about the daily grind of being a nerd in their mid-twenties. I eventually abandoned the project because of frustrations with the format, and because I’d decided to return to school and finish my bachelor’s degree.

3.3.2 I finally find a place in comics

In 2008, Marvel Studios released Iron Man. It started Robert Downey Jr, Terrence Howard, Jeff Bridges and Gwyneth Paltrow. It was the first film, in a producer, Kevin Feige’s carefully constructed plan that would eventually make Marvel’s superheroes household names. The Incredible Hulk, starring Edward Norton and Liv Tyler hit theaters about a month later. Iron Man 2 followed in 2010. Thor, and Captain America: The First Avenger a year later in 2011. They finally culminated in The Avengers directed by Joss Whedon in 2012. I’m only mildly embarrassed to admit that I saw The Avengers six times. The six movies finally provided me with enough understanding of the Marvel universe that I desperately wanted to know what happened next and I became a devoted reader—of a limited number of titles. Despite loving the movies, the majority of superhero books still left me a little flat story wise. In general I wanted more engagement in plot, less punching the bad guys. The Marvel movies did get me into the door of my local comic book shop however, and Legends I found a wealth of comics that were not superhero comics (and a couple that were) to add to my pull list.
CHAPTER 4
DRAWING A STORY

As I’ve mentioned previously, I chose to work in comics because it provides me with a marriage of words and pictures that I find satisfying with a length and depth that I find necessary to build the worlds I wish to build. In this chapter, I’ll discuss the process I used in creating the art for the first issue of Food Pirates. I will also cover the inspiration that I’ve found in other cartoonists, writers, and even films, and then detailing the process of creating the work.

4.1 Inspiration from Writers, Artists, and Films

The inspiration for the art in food pirates, is like the story, varied, and most definitely inspired by social media, particularly Tumblr. I can pinpoint specific comics as inspiration for the panels and some of the visual language, but character design is a little more difficult. There’s some comic influence in there, with a dash of stop motion animation, and some cartoons. It’s an interesting mix that I’ve started to make my own.

4.1.1 Panels, Storytelling and Setting

I can point to three specific works, that have directly influenced how I’ve approached panels, storytelling, and setting in Food Pirates: Hawkeye (2012) by Matt Fraction and David Aja, Brian Michael Bendis and Michael Oeming’s Powers Vol: 1 Who killed Retrogirl? and the work of French cartoonist Moebius.

Matt Fraction and David Aja’s Hawkeye (2012) it was the perfect combination of art and story that still has me studying the comics. It was in this book that I found the most inspiration for my page layout and panel construction. In Words for Pictures: The Art and Business of Writing for Comics and Graphic Novels, Matt Fraction writes, “About a year before I started on
Hawkeye, I started to experiment with writing in a method called Marvel Style or Plot Style. It’s called Marvel Style because Stan Lee came up with it when he was the only writer at Marvel and had to produce eight books a month. Stan started to write in a way that leaned heavily on his artists…” (Bendis 2014, 51) Fraction, who’d worked with Aja before, goes on to say that some of their best collaborations had happened when Aja “politely and respectfully diverged from what was scripted for him.” (Bendis 2014, 53) Fraction’s scripts for Aja frequently contained paragraphs to indicate the panel count he was thinking about, but otherwise he let Aja go. A lot of Aja’s panel transitions are moment to moment (fig. 9) and his panel counts are dense, often using a 3x4 panel grid or higher. In issue six, Six Nights in the Life of Hawkeye, which was set in December, Aja treated each page like an advent calendar with tiny windows. (fig. 10) There often 15 or more panels on each page in this issue. It should be dense and a cluttered, but he provides negative space that give the eye a place to land and rest before moving on. Aja’s use of panels is suited both to the moment to moment panel transitions, and Matt Fraction’s exposition, which can be lengthy. As I continue to tell Food Pirates, I intend to experiment both with the moment to moment transitions and more complex panel layouts.

There is a two-page spread in the first issue of Food Pirates (spread 16-17), that is a raid on the refugee camp. My intention when I was writing the spread was to show two stories. The larger story of what was happening around the camp, and the inner story of what was happening to directly to Rylo’s family, huddling in the darkness. The panels with Rylo would be in active, while around them a story was unfolding. There were a couple of different ways I could approach this, but I really liked the idea of both narratives being on the same page. I’d recently read Powers Vol. 1 Who Killed Retro Girl by Brian Michael Bendis and Michael Oeming. It’s the story of a superhero who is murdered, and the cops who must figure out what happened.
Retro Girl is discovered dead in a big splash page and the next page Bendis and Oeming start telling a double, but connected story. On the main part of the page is the cops investigating the murder, but a series of square panels run below, the main story, clearly meant to represent a TV screen. (fig. 11) The story runs this way for approximately seventeen pages, until the cops take a suspect into custody. It’s clearly meant to simulate the 24-hour news cycle that CNN and other networks have made us familiar with. I thought that this was a particularly effective way of telling a specific story, while also telling the larger narrative—providing a couple of different points of view in the larger world. I knew that of all the spreads I was attempting, that the storytelling on this page would probably be the most difficult to pull off. I thumbnailed it about a dozen times, drew it several more, and rearranged it again in Photoshop several times after that. The resulting page is not entirely as I first conceived of it, In my own attempt, it was a little unclear how to read the page. I added the timeline in an attempt to resolve some of the ambiguity and I think it helps. I don’t think it’s entirely successful, but I do think that the method of storytelling is one that is worth experimenting with, and likely something that I’ll attempt again.

Inventing the environment for Food Pirates, has been the most difficult for me. I knew what I wanted in words. I wrote a very explicit description of the refugee camp:

*Extremely wide shot. So this is going to be our first real look at the community RYLO lives in and man is it a dump. We’ll have more of the two-story cheap old fourplexes RYLO and her family live in, and that will end abruptly at trailers. These should look futuristic, some solar panels etc, but they should also look cheap, like there's no way they could withstand a good Nebraska winter (because they can't). It should unfold into a densely packed settlement of refugees. Trash and random other stuff litters the ground. It's July and the earth's thermostat is set on bake, just like Al Gore said it would be, so it's hot as hell. The community is largely unemployed, so people...*
are sitting outside talking. The refugees should be a mix of races. The actions and captions should move from right to left, top to bottom, with multiple RYLOs as she moves her way through the community. We'll get snatches of conversations and some narration by RYLO. Future me who has to draw this will hate current me, but there should be a lot of people and a lot of white noise. The whole of the community will be drawn almost top down with inset panels as Rylo walks "through" the community. Panels should start in the upper left corner of the first page and flow diagonally across the spread to the lower right corner of the second page. In between the panels we'll have captions of RYLO narrating the story.

While I didn’t grow up with comics, my grandparents took the daily paper, and I often read the Sunday funnies while waiting for Sunday dinner to be ready after church. Bill Watterson’s Calvin and Hobbs has definitely had an influence on my storytelling, but there’s one Sunday comic in particular that has stuck with me, originally published on August 28th, 1988, it featured Calvin and Hobbes riding a wagon through the woods. (fig. 12) There are no panel borders, just multiple images of Calvin and Hobbs as they move through the landscape. I’ve always thought this was a clever and effective in giving a static image both a sense of time and movement. Unfortunately, as I tried to thumbnail the page, I learned that the most explicit written descriptions, while helpful, don’t always work with one sits down to draw them. The idea of Rylo winding through the camp from a top down perspective simply wasn’t going to work. When the images were reduced for printing, it would be difficult to tell if this was Rylo. In addition to this I really struggled with inventing the perspective I needed to draw the camp at the angle that I wanted.

I started looking for reference photos online, in hopes that would help. My observational drawing skills were, at this point, much better than attempting to invent things from the
imagination. Unfortunately, I didn’t find a lot of photo references that were exactly what I wanted, but I did find inspiration. My google image searches kept coming up with tiny images by the French cartoonist Moebius. (fig. 13) I would print these out, and draw all over them, trying to figure out how he’d drawn them, where the horizon line was, where the vanishing points were. A lot of his work featured a top down view of the world. It is usually two-point perspective, and the horizon and vanishing points where most often off the page. Moebius’s work had a sense of depth and expansive space that I wanted for my own work. It also, reminds me a bit of the typical camera view I prefer in any number of RPG video games. I think it’s a view of visual storytelling that I’m familiar with and so naturally gravitate to. It took almost a year, between working with these images, and coaching from Professors Brent Holland, Chuck Richards, and Brenda Jones before the view of the refugee camp on page four finally took shape in the way I wanted it to.

4.1.2 Character Design

In my teens, I had a copy of How To Draw Comics The Marvel Way by Stan Lee and John Buscema. While I learned a few basic things from it on constructing the human form, I wasn’t terribly fond of the style. All of the guys had ridiculous bulging muscles and the women where idealized hourglass figures with large breasts and tiny waists. I’ve always gravitated towards more cartoonish styles, so it’s not surprising that my inspiration for character design comes more from animation more than from traditional comic books. In chapter three I spoke briefly of finding some inspiration in Faith Erin Hick’s work. In addition to this, I’ve found inspiration in the stop-action animation, ParaNorman, the animated film, The Secret of Kells, and Disney’s Phineas and Ferb.
Growing up I was a huge fan of anything animated, and have remained one. The work of Laika studios first came to my attention in 2009 with the stop-action animated film *Coraline*, based on Neil Gaiman’s book with the same title. The story is about a little girl who discovered another world within her house with another mother, who wants to give Coraline anything she wishes, if only she can sow buttons over Coraline’s eyes. It’s a rather creepy children’s tale, and the movie is as well, but it’s an appealing creepy. All the puppets have abstracted forms, long narrow limbs, large heads, large eyes, tiny noses and mouths. These deliberate abstractions appealed to me. The studio’s 2012 film *ParaNorman*, about a middle school kid who can talk to ghosts saw a refinement in Laika’s craft, and even more abstraction in the human form. The main character Norman has a large head, large eyes, a very flat brow ridge and a tiny nose and mouth in proportion to his face. His friend Neil in comparison is roughly the shape of a meatball with legs and arms. He has a very round face, but the same large eyes, a tiny nose and mouth, and no neck. Each of the characters is a caricature of a body type. Their features are not proportional, and their head and bone structure is only vaguely human. The human form has been abstracted enough to make it interesting, but not enough that the characters don’t read as human. This was in part because of the work of Ross Stewart and Tomm Moore, the Irish animators behind the 2009, Oscar nominated animated film *The Secret of Kells*. Laika tapped Steward and Moore for concept development, and in comparing the character design in *The Secret of Kells* and *ParaNorman*, there are definitely commonalities, particularly in the simplified forms of body shapes, and large eyes. (fig. 14) There’s a deliberate flattening of space in the character designs for *ParaNorman* and *The Secret of Kells* that I find appealing and I’ve tried to incorporate into my own work.
With Disney’s *Phineas and Ferb*, it’s much harder to point to a specific thing, and say “Yes, this is where I got that thing.” *Phineas And Ferb* is an animated series created by Dan Povenmire and Jeff “Swampy” Marsh. It ran on the Disney Channel from 2007 to 2015 and featured the adventures of two brothers, their group of friends, and their pet platypus who just happened to be a secret agent. *Phineas and Ferb* is definitely meant for a younger audience and in truth I fell into watching it with my nieces an nephews. It however has the distinction of being the only show on Netflix I’ve watched in it’s entirety. The humor is amusing, and not terribly childish, but what I found the most appealing is the animation. Both Povenmire and Marsh are veterans in the animation industry, having worked previously worked on *The Simpsons, King of the Hill, Rocko’s Modern Life*, and *SpongeBob* among other titles. *Phineas and Ferb* frequently featured a musical interlude with the kids dancing. The character design in *Phineas and Ferb* is very simplistic, but they manage to effectively animate a complex sense of movement such as hips twitching in time to music and it not feel forced or static. I think the take away from *Phineas and Ferb* is more a philosophy that just because the design of a character is simplistic, doesn’t mean that there isn’t still a possibility for motion. I think it’s a bit harder to translate that to the static image of comics than it was for me to animate, but it’s something I intend to keep working on.

4.2 Process

I’m a big fan of constructing systems by which I then do things. I love thinking about the process of doing something—anything—and what can be learned from it. I’m going to look at the both the analog and digital processes by which I created the comic, including a few things that I found to be problems, and everybody’s favorite question in critique, “Why are you using blue pencils?”
4.2.1 Creating Pages - Non-Photo Blue Pencils and Inking

In starting a page, the first thing I do is sit down and read the script for the page. I find it helps to have it printed out, instead of in digital form. I like the physical paper that I can write all over while I draw thumbnails. The thumbnails are small shots of what the finished work will look like. They’re usually pretty messy, and the characters only vaguely resemble human shapes. Over the process of creating this issue, I’ve tried various methods of making thumbnails. I attempted to sit down and draw the thumbnails for all the pages at once. That became frustrating and felt redundant. I tried making very tiny thumbnails, and large thumbnails, and I found that the best option for me is to work on a spread at a time each thumbnail being about the size of the actual page when it’s printed. I’ve been careful to think about how the pages look as a spread, because it’s my intention that Food Pirates be read as a book. Working on two pages at once means that the story will be cohesive from one page to the next. One of the things that I ran into trouble with, and will need to continue to keep working on is my awareness of just how much space my text takes up. Making sure there is room for speech balloons in panels is common advice from pros, and I made sure to include that in my thumbnails, but it rarely seemed to work out as I planned, and drawings frequently had to be edited to allow room for speech balloons.

Once the thumbnails for a spread are complete I start sketching them on to comic board, comic board is simply 11”x17” bristol board that has had lines for bleeds and trim preprinted on to it. It typically also has preprinted lines for standard gutter sizes which makes it more efficient than having to measure out unlined bristol board. I use non-photo blue pencils to pencil the comic page, though, depending on how small a panel is, I may leave various features blank and draw them in digitally.
Probably the most commonly asked question, even above what my name is that I’m asked in studio is, “Why are you using blue pencils?” and there are a several different reasons for this. There have been multiple critiques where someone mentioned that I should pick a single line and stick with it. I think this is a fair critique and one that I’ve been attempting to resolve, however, the fact remains that my work is still very scribbly and messy. Years ago, I found that scribbly messy under sketches in graphite where particularly difficult to erase, because I also tend to press too hard. Switching to harder lead pencils, resolved some of that, but didn’t completely fix the issue. Sketches still got darker than I intended for them to be. With the non-photo blue pencil, no matter how hard I press, the sketch is still blue. I have a much easier time finding my form amongst the blue scribbles than I do graphite scribbles. The second reason is that non-photo blue erases remarkably well with vinyl erasers, leaving for very clean drawings after inking should I need them. I don't generally need to take that step however, because the final reason that I use non-photo blue pencils, is that when the comic boards are scanned in Black and White Mode\textsuperscript{40}, most the non-photo blue marks disappear.

Non-photo blue pencils have a history in animation, newspapers, and layout work. As the name implies the color does not photograph well, and so animators, cartoonist and people doing pasteups getting material ready to be photographed for creating printing plates used them for sketches, notes, and various other tasks. When most of these jobs became strictly digital non-photo blue pencils fell largely by the wayside, except in animation and cartooning, where individuals are still inking things by hand and scanning. Both the modern scanner and digital

\textsuperscript{40} It’s Black and White mode on Epson Scanner Software. In some scanner software it’s also known as Text Mode.
camera, will show non-photo blue when in full color mode, but the results are always extremely light, and difficult to see. I use two types of non-photo blue pencils. In my mechanical pencil, I use Pilot Color Eno 0.7mm in light blue. It’s not strictly labeled non-photo blue, but it similar to the cyan color of other non-photo blue pencils. I tend to use mechanical pencils for more detailed work. I also use non-photo blue pencils from the Swiss company Caran D’Ache. Their pencils are soft and great for sketching quickly, but erase extremely well with a vinyl eraser. Occasionally I will use a red pencil when I’m trying to define something and losing it in the blue lines. I typically use either a col-erase pencil or Pilot Color Eno’s 0.7mm in red, but I’ve found that this causes problems when I’m scanning inked work. The red is picked up along with the ink, so I try to use this sparingly.

I like to work at one task at a time, so I will pencil all the pages, and then scan them into the computer. As I mentioned before, non-photo blue does not scan incredibly well, but a scanner will pick it up in full color mode. From there, I pull the pages into Photoshop and I can make edits. As I’m looking through the pages, I may decide that I need to swap panels around or that a figure needs to be resized to provide more space in the panel. I do this in Photoshop and then I use my Epson wide format printer to print the edited files back on to comic board for inking. In the future, I intend to cut down on the need for this step. I originally devised this step as a way of resolving the anxiety I felt inking directly on to drawings. However, I found when inking that there was only one page where I had an issue with the inks that couldn’t be resolved with correction fluid. In addition to that, the editing that I did prior to printing can just as easily be done after I’ve inked it.

I like the work of cartoonist Skottie Young. He has a scribbly, messy sort of brush work that appeals to me. (fig.15) When I started the project, this sort of style was how I intended to ink
the project. However, as I attempted to use it for my own work, I found that I didn’t entirely like working in the style. What I found was that I liked working with pen and nib instead, in a style that the French call ligne claire. The clean simple lines, that I saw in Moebius’ work, as well as the work of Hergé, Geoff Darrow, and others appealed to my sense of order and work well with my style of illustration and the flat coloring style. I used a couple of different nibs, that have just a little bit of give to them, which allowed me to vary the line weight a little bit, but not as much as I would have with a brush. Unlike a lot of traditional comics, I don’t use chiaroscuro in the form of flat floods of black ink—any chiaroscuro created is added in the coloring process.

4.2.2 Scanning, Coloring, Lettering and Other Digital Work.

My inked comic boards are then scanned in Black and White mode as previously mentioned at 1200 DPI. While the high DPI isn’t necessary for the printer I work with, I feel that having an archived copy at such a high resolution provides insurance that I have a copy should I need it for some reason and I’ve sold the original work.

The rest of my process is a careful dance between Photoshop and Illustrator, with InDesign coming in at the very end. I create the balloons and set the text in illustrator, over the top of the inked boards. While there are still professionals that hand letter work, there was never any question that I’d be digitally lettering Food Pirates. There are many advantages of digital lettering over hand lettering type in comic books. The main advantage is it’s forgiving nature. Digital lettering is much easier to resize, reposition, and correct if errors are made, and there are a number of well-crafted typefaces available to use in comics now. I’m using the typeface Digital Strip 2 BB, created by Nate Piekos. Nate is a professional letter, who’s worked for
Marvel, DC, Image and other comics. He also creates typefaces and distributes them from his website, Blambot.com.

Once I have the text and balloons set in *Illustrator*, I copy and paste them into two separate layers on to the boards in *Photoshop* as vector objects. Keeping both the text and the word balloons as vector objects in a *Photoshop* document allows me to go back and edit them easily, should my proof readers find spelling mistakes. The advantage of doing the lettering before I color the comic is that I don’t have to do any extra steps to manipulate the line work if I find that the images need to be adjusted to allow more space for text. Once the word balloons and text is in, I make any necessary adjustments to the line work, resize them so that they are the appropriate size—comics are typically worked on 11”x17” sheets and then printed at 67% of that size for a finished trim size of 6.75x10.25. At this point I’ll go ahead and add the panel borders in *Photoshop*, and merge them with the line art, which I’ve moved to a layer separate from the background.

Once the clean up is complete, I can begin coloring the art in *Photoshop*. For the past several years, when working in both *Photoshop* and *Illustrator*, I’ve tended to stick with a very limited color palette, of about five colors. The color scheme is usually in the complementary color range, and usually includes some kind of lime green and a purple. *Food Pirates* was no different. I chose a simple color palette, and associated tints and tones, only deviating because the color palette didn’t lend itself to Jed’s blonde hair or the navy blue that is used in the Air Force MP uniforms in the last few pages. (fig. 16) I deliberately chose to go with flat fills of color, with no shading because I didn’t want the color to overwhelm the line work.
Once the pages were completely colored, and the text proofread, I flattened the images, saved them as JPGs and imported them into an *InDesign* document for the creation of the PDF that was sent to the printers.

4.3 Analysis

The work in this exhibit is the first of several chapters. In the coming year, I will be writing and drawing more of Rylo’s story. Because of this, I think it’s necessary to make a analysis of the structure of my work using both Scott McCloud’s *Understanding Comics* and to a lesser extent Theirry Groensteen’s *The System of Comics*. I intend to take a broad look at the panel transitions in throughout comic, and then take a more concentrated look at the panel layout of the left page in the spread where Rylo is speaking to the advisor (while not numbered, I’ll be referring to it as page twelve). (fig. 18)

4.3.1 Panel Transitions

Scott McCloud identifies six types of panel transitions\(^{41}\), but points out that most American comics use three types repeatedly: action to action, subject to subject, and scene to scene. (McCloud 1994, 70-72) Action to action panel transitions are ones where the panels provide an easily followed sequence of actions. There is very little closure\(^ {42} \) needed to

\(^{41}\) The panel transitions that McCloud defines are motion to motion, action to action, subject to subject, scene to scene, aspect to aspect, and non-sequitur.

\(^{42}\) Closure, as defined by McCloud, is the phenomenon of “observing the parts but perceiving the whole.” (McCloud 1994, 63) Closure is what allows a viewer to see a cookie in a character’s hand in the first panel, and the character with a full mouth in the next panel, and understand that the character took a bite of the cookie.
understand what is going on in these panels. Subject to subject transitions are easily identified in panels where it switches from character to character, but subject to subject transitions can also be broader, switching to a character to an inanimate object or a place. Scene to scene transitions move the reader from one scene to the next. The key difference between subject to subject transitions and scene to scene transitions is how far in both time and space the transition moves the reader. Subject to subject transitions stay within an idea or scene, while scene to scene transitions move the reader over “significant distances of time and space.” (McCloud 1994, 71)

There are approximately 135 panels spread out over twenty-two pages in *Food Pirates*, and in analyzing the transitions, I find McCloud’s assertions to be accurate. Most my panel transitions are action to action, followed by scene to scene, and then subject to subject. There are a couple of panels in the spreads were Rylo is teaching Jed about printing food (fig. 17) that are almost, but not quite moment to moment. I don’t consider it moment to moment because the art is lacking the specificity that would give the viewer a better sense of time. I didn’t create very much detail in the images seen on screen, so while the viewer understands that Rylo is manipulating things on screen, they’re unsure if she’s manipulating the same thing from panel to panel or she’s moved on to a different part of the screen.

4.3.2 Panel Layout

Comic scholar, Theirry Groensteen, remarked in his book *The System of Comics*, “that comics are composed of interdependent images; and that these images, before knowing any other kind of relation, have the sharing of a space as their first characteristic.” This sharing of space, on the page, or as Groensteen terms it, “hyperframe” is what signifies to the reader that the collection of panels is narratively related. He further breaks the system down to the base element of the panel, saying that the site of the panel determines its place in the reading protocol.
This seems straightforward, but in practice it can be confusing directing the reader’s eye. Groensteen also remarks that certain panels have priority on the page, by virtue of their placement. The reader expects the first panel on the left page to start the sequence, just as they expect the bottom right panel on the left page to transition to the top left panel on the right page and last panel on the right page to wrap up the sequence. Again, this seems straightforward, but the smart cartoonist uses it to their advantage.

As I mentioned earlier in this chapter, I’ve been inspired by David Aja’s panel layouts in *Hawkeye (2012)*. I appreciate the sense of time that he creates, and the way he organizes the work on the page. I find his pages to be dense but easy to read, organized but not sterile.

Keeping in mind my inspiration from Aja, and the basics of the comic system from Groensteen, I created a dense layout for a scene that I wanted to read as awkward and a little frustrating for Rylo. I used a four by four grid on the page which I extended into a panorama on the first and third row. I decided to use a panorama for the first panel, because I wanted to set the scene. I used it for the third row because I wanted to reinforce that the advisor was not paying attention to Rylo. The transitions on this page are action to action, which conveys a longer sequence of time than moment to moment would have, but there are a lot of them—nine total. I deliberately chose to use action to action versus moment to moment, because I wanted to convey a fairly-lengthy sense of time. The smaller grid also helped convey a longer sense of time, as it allowed more panels on the page. The gutters on this page are about an eighth of an inch wide. This additional white space, also activates the sense of time, helping to build the understanding of Rylo’s frustration. Overall, I find this page to be successful, and intend to explore the sense of time that smaller page grids can bring in the future.
4.4 Exhibition

While comics are often exhibited, the goals of these exhibits are more of a historical nature, documenting work from the golden age of comics, or some specific aspect of comics that is significant; they are not generally an emerging artist’s MFA show. Moreover, it was my desire to have viewers experience the *Food Pirates* as it was intended, by sitting down and reading it. To a lesser extent, I wanted to educate viewers about the process of making comics, something that is largely unknown to the standard viewer. With both goals in mind, I attempted to create a space that would both educate, and encourage people to read.

The gallery at Design on Main in Ames, Iowa is a long and narrow space. My first challenge was to configure the space to reduce some of the length, this was done with a movable partition that butted up against the west wall of the gallery. Along the west wall and the moveable partition, I hung eight of the original pencils and inks, with explanations of what they were and some information on my process. (fig. 19-21) Also on the west wall I included a decal of the main character, Rylo, the decal was near life size and viewers were encouraged to take a “Selfie with Rylo” and upload it to social media with appropriate hashtags for the comic. (fig. 22) This decal served as a focal point along the wall, and encouraged the viewer to engage with the comic on social media, something that will be important going forward. I included the remaining pencils and inks as well as a working copy of my script, including an example of my thumbnails, in Itoya presentation books, a standard way of presenting original comic work, on pedestals with an invitation for viewers to page through these books. Copies of the comics were also presented on pedestals with an invitation to read the book. The eastern wall of the gallery is brick and can be a challenge, as the wall can’t be painted. It was ultimately decided that I would display an unbound version of the comic mounted on foam core and suspended at eye level along
the brick wall, so that the space was engaged. (fig. 23) While it detracted a small amount from my goal of getting people to sit down and read, it proved to be useful for situations when there were events in the gallery and having everyone sit wasn’t practical. Further back along the west wall and in the middle of the gallery, I placed arm chairs, end tables, and ottomans in conversational groupings which invited viewers to have a seat and read. These furniture groupings, combined with the moveable wall reducing some of the space, gave the gallery the intentionally cozy feeling I wanted. (fig. 24)
CHAPTER 5
CONCLUSION

5.1 Summary

Storytelling is about the need to create complex worlds—worlds that often spawn from simple ideas such as 3D printing food. Storytelling is about possibilities. It drives my creative process and provides a direct focus for my work.

Despite some modern misperceptions, comics as a medium has always been about more than supermen in capes. It is a medium like any other, one suitable for all kinds of stories. Comics is by and large a commercial medium, more so than painting, or sculpture. It made it more difficult in the early days to gain entry into the world, but the internet has largely changed that. It’s leveled the field and opened so many possibilities and routes into the world.

The comic book I’ve created is only the first chapter of the story I’m going to tell. Over the course of creating this book, I’ve often sat and wondered what I was offering that was new and different—something that would set me a part. I think narratively, speaking I’ve found my own voice. I’m writing and drawing the kinds of stories that I want to read. Realistically, Food Pirates may not—probably won’t—take the comic industry by storm, but the possibility is there. More importantly, working in comics is not a sprint, it’s a marathon. As Spike Trotman said, “Comics is a ten-year line. Like most lines, you get in at the end.” With this body of work I’ve joined the line and it’s now up to me to hustle, to finish this story and start the next, and to make sure that I find my place.
5.2 Five things I can take away…

One of my goals in writing this was to help educate the reader on the process of creating this work. I’d be remiss in not taking a step back and examining things I’ve learned during the process of creating both the work and exhibition.

1. **Have the sign company install the vinyl lettering for you.** Unless you already have experience installing vinyl lettering, and I didn’t, it’s better to just let the professionals do it.

2. **My framing of panels in the comic are not as varied as I thought they were.** I have plenty of long and medium shots, but no real close-ups. Including actual close-ups, and not simply medium length headshots will improve some of the more dramatic elements of the comic moving forward.

3. **Drawing characters smaller is better than drawing them bigger.** When designing characters, I drew them rather large, because it’s easier create character model sheets, and head turn arounds when they fill most of a 9”x12” sheet of paper. Unfortunately, in drawing comics most of the time characters are no more than 5” tall, and often, characters are no more than 1” or 2” tall. Understanding how to economize lines, so that a character is readable and recognizable at 1” tall is important for creating comics.

4. **The refugee camp needs to be messier and more densely populated.** This is a critique that I heard from both my committee and readers, and it’s a deserved one. The panels that set the scene of the refugee camp need to be more—more urban, more crowded, messy. It’s important for the conflict in the story that there’s a marked
difference between the rest of the refugee camp, and the suburban sprawl that surrounds the air force base.

5. **I need to develop a better understanding of exactly how much room speech balloons take up on a finished page, before I get to the point of adding them.** One of the top pieces of advice given by pros is to plan for speech bubbles within the art—always be aware of where they’re going and draw the panel accordingly. While I did that, I haven’t quite hit a point where it works. There are some panels of this issue of Food Pirates where it is difficult to tell who’s speaking first, or what the flow of conversation is. Effective lettering is currently the biggest challenge to my process. The current size of the type face is also a little difficult to read, and should be one to two points bigger to improve legibility.

5.3 What happens next?

I follow a lot of comic creators on social media, and they’re generally more than happy to dispense advice. One of the most often given pieces of advice is to get your name out there. It’s much easier to find commercial success in comics if people know who you are. You have to hustle.

For the most part my strategy is simple: network with other creators and the wider community, keep making work. I saw Eisner winner Gene Luen Yang, speak a few years ago, and someone asked him advice for breaking into comics. He offered several pieces of advice, but the one that is stuck with me is to stay active in the comics community at large, go to conventions, get your name out there. I think this is solid advice. I am already active and plan to stay active in social media. There are always opportunities to promote my name and work.
Several of the better known creators, tend to help promote up and coming artists, with hash tags, and links to work. I need to capitalize on those.

In mid-May of 2017 I intend to start publishing *Food Pirates* on the web, a couple pages a week, however I still intend to print issues of the comic. The modern industry has shown me that digital and print are not mutually exclusive. People will read a comic online and still want to buy it in print. I have an excellent relationship with my local comic book shop and I intend to ask them if they’d be willing to carry runs of *Food Pirates*.

In-person networking is something that I’m a little more reluctant to do, not because I don’t think it’s worth it, but because there’s a natural shyness I’ve worked, and in some ways still working to overcome. The prospect of meeting new people and talking about my work makes my palms sweat a little bit, but I know it’s something that’s important to do if I want to succeed. I intend to start making the rounds at conventions. There are many Midwest conventions and that’s a good place to start.

I also intend to keep up on the more scholarly side of comics, probably one of the results of my enjoying systems, is that I don’t only like creating the work, I like thinking about the theory behind comics—why people are creating them, the stories people are telling with comics, what that says about society. I want to remain involved in the scholarly discourse on comics, and to a lesser extent visual culture as I’m creating work.

5.4 Conclusion

When I started writing this story in 2015, the world, at least, felt a bit more optimistic. It was a dystopia I was creating, but it was a dystopia that I was sure that we’d rescue ourselves from. Since the general election in 2016, I’ve had misgivings about putting this story into the world.
When the current political administration took office climate change references that I had bookmarked literally disappeared from the internet. I knew what I was writing was an absolutely worst case scenario, but it seemed like maybe it was just a bit more possible. Possibilities are powerful things. For purely practical reasons I’ve persevered. There simply wasn’t time to tell a different story. A TED talk by G. Willow Wilson, writer for Ms. Marvel, has helped me to put a few things in to perspective. In the TED talk she speaks of wanting to write a comic for younger millennials. She believes that millennial have rejected the cult of the power of positive thinking, in favor of a more pessimistic need to understand just how bad things are. However, the majority of the stories that are popular amongst this generation, are stories of hope—about the survival of ad hoc families. She goes on to say that “Sometimes a mess stays a mess. There isn’t always a way out. Plant the seedling.” (Wilson 2014)

From the beginning, I’ve said that Food Pirates would not be a grand narrative about Rylo saving the world. The world is a mess. There’s no fixing it. Rylo’s entire motivation—even above finding justice for her aunt—is to keep her family safe, both the one she has left and the one that she’ll build through friendships, and that’s a story worth telling.
REFERENCES


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Figure 2. Meme
Figure 3. 3D printed object with internal support filament still in place.

Figure 4. *Hawkeye Initiative* - original cover on the right, remade cover on the left illustrates how often female poses look utterly ridiculous.
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Figure 6. Page from Friends with Boys by Faith Erin Hicks.
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Figure 8. *Queen of The Dorks*, another attempt at comic strips by the author.
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APPENDIX B RESPONSE TO A TUMBLR POST ON 3D

“OMG Can you imagine lazy Sunday mornings? You’re sitting in your jammies watching reruns of Criminal Minds, NCIS or Leverage (cause that’s what we do at my house). You’ve got 110lb of soft sleepy golden retriever on your feet, and 60lbs basset hound snoozing away draped over your lap. Your roommate has a chubby mini doxy in hers.

Or maybe in your lazy Sunday you have a 20lb cat curled up on your chest…ya know it takes all kinds.

And you’re like. Damn I could go for some Dunkin Donuts right now. But you know that actually getting Dunkins requires getting in the car, driving at least 10 minutes and dealing with this huge line of people who also want warm doughnuts on a lazy Sunday. So, instead you pull out your app, find the doughnuts and coffee you want, maybe you throw in some plain donut holes for the dogs (cause you’re a bad pet owner), run your thumb over the thumb print scanner of your iPhone which proves that you’re you. It automatically charges your credit card and downloads the exact specs of the junk food you’ve just ordered to your food printer.

The dogs hear the ding which means food’s here and instantly race to the kitchen. You get up, grab the food and everyone piles back on to easy chairs and couches to continue lazing away the day with donuts and furry cuddles.”
APPENDIX C EXEPT FROM PLAY

NICO:

(Distracted)

Oh. Probably if I find a pattern for it. It can pretty much make any edible substance as long as there’s a pattern for it. Don’t ask me to make bacon though. I tried it. I don’t know what it was, but trust me, it did not taste or look like bacon. Only thing that sorta worked was the smell. Meat in general has a long way to go before people will be printing it.

LU:

So? Can you print them or not?

NICO:

Oh, yeah, I’m just looking to see if I can find them from somewhere else first.

LU:

Somewhere else? Like Krispy Creme? I’d be okay with that too.

NICO:
Mmm? Oh no, I’m looking open source, might try a couple of the download sites too. Someone may have cracked the DRM on the pattern.

LU:
(distracted by something on the TV)
What’s the DRM thingy again?

NICO:
(distracted by something on the computer screen)
Oh. Uh. It’s the part of the code that makes sure that you have to pay for it before you use it. I’m looking for one where that bit was removed. No sense paying for something if you can find it on the net for free.

LU:
Wait? What? Oh Geez. I am not hearing this. You can’t pirate donuts. Do you want to get arrested? Have you not been paying attention to the news lately? The new IP laws took effect. It’s a felony to even look at someone else’s IP wrong.

NICO:
They may have taken effect, but nearly every police force in the country has said that they’re so far down on their priority of enforcing
that you’re 12 times more likely to get traffic violation than be arrested for pirating a food pattern. They’re a bunch stupid corporate mandates pushed through Congress that no one has the time or inclination to care about. Well unless you’re a CEO I guess.

LU:

It doesn’t matter. I have government clearance for my job Nico. My job. If I get caught breaking the law I will lose my job.

(Pause)

If you get caught breaking the law, I could lose my job by association.

We can’t afford for either of us to lose our jobs.

(Pause. Nico rolls her eyes at Lu.)

Worse we could both go to jail. How will that work?

(Imitating a gravelly voice)

What are you in for?

(Own voice)

Pirating donuts?

(Gravelly voice)

Yeah? You’re some hard-core bitch aren’t you pirating donuts from the internet.

(Own voice)
And then I end up having to wash everyone’s socks in the prison laundry because I am like the wimpiest person in jail.

NICO:

Really? Really.

(Pause to once again roll her eyes at Lu)

Washing socks is the best that you have for what would happen in prison. You watch every procedural police drama on television, and a lot of the classic ones from the turn of the century and the teens and that’s what you’ve got. Socks?

(Pause)

Can the melodrama and relax for a second. Think about what you just said.

LU:

I’m going to get arrested and lose my job and have to wash everyone’s socks while in prison because you’re pirating donuts?

NICO:

No. You’re telling me I can’t download the basic design for food for free. Natural living things that exist in nature, and corporations are claiming they own the rights to them.
LU:

Point of order. Donuts are not natural living things. They’re made of natural living things, but you can’t just find donuts in the wild.

NICO:

Shut up. You know what I mean. It’s food. We already pay for the nutrient cartridges for the printer. You’re telling me I should pay for the design every time I want to have donuts?

LU:

No, I’m not telling you that, the government is telling you that. In fact that’s pretty much exactly what the government is telling you. You can’t do that, because the designs are the property of the company that owns them. They made it.

(Pause)

What I’m telling you is that I do not want to be arrested because you are too cheap to buy a pattern. I may not be a super techno nerd like you, but I understand intellectual property and this is definitely breaking every one of those new IP laws.

NICO:

It’s not that I’m being cheap.
LU:

Yes—

NICO:

No. I’m not. I would go and buy donuts if you’d put on pants and drive.

(Pause)

Think about it this way. You have all of the cookbooks from that chef that you like.

LU:

Right?

NICO:

She does all the R&D all the development on these fabulous new recipes, then she puts them in the book and you buy the book. You are now free to do what you will with it.

LU:

Well not like free-free. If I went and republished the book on a website I’d get threatened with a lawsuit.

NICO:
Right, but you can make any of her recipes that you want, forever until the end of time. If all you wanted to eat for the rest of your days were her double fudge salted caramel brownies you could make them every day for the rest of your exceedingly short life and you wouldn’t have to pay her a dime.

LU:
Right. That’s the way cookbooks work.

NICO:
Now say she finds a food programmer, that food programmer figures out how to convert the chef’s recipes to the code needed for the printer. Except now, instead of buying the recipe and then having it to make forever, each time you want to eat your brownies, you have to pay ten-bucks. What’s the difference between the recipe book and the code? Nothing. Both of them give you the means to make the brownies. One of them just forces you to have to pay for it over and over again.

LU:
Yeah, but it’s her intellectual property. If she opened a bakery and I wanted to do the same thing I’d have to pay on a daily basis—
NICO:

Yeah yeah, but listen. With a food printer, like a cookbook, you’re still the one expending the labor to make it. It’s not like a restaurant.

LU:

Effort? It’s a fucking button Nico. You press a button. Maybe two buttons. Food printing is the ultimate in convince food.

NICO:

It’s more than two buttons. You’re still making an effort. And that’s not my point. My point is corporations aren’t just patenting recipes for commercially available food. So, I’ve been checking out communities for food programmers. There aren’t many yet, and the code looks pretty easy, so I’ve been trying to teach myself. One of my co-workers is pretty into it. He runs this site for open-source food development. People contribute ideas. They work on designs as a group. I mean, they’re trying to do some really good things. This electronics engineer thinks he can make a design that’s even cheaper than the printers currently on the market. This could make a real difference for people who are having problems affording real food.

LU:
Huh. I hadn’t thought of that. But it kinda makes sense. The nutrient cartridges aren’t that expensive and seem to last a pretty long time.

NICO:
Right? Anyway, so he runs this site, and people contribute ideas, and people check the designs, to make sure no one’s snuck any thing into the food designs that could hurt someone. Friday, he received a cease and desist letter from from a corporation. One of the designs on the site, a baby food recipe that we worked on, was in violation of a patent the corporation had.

(Pauses)
It was a recipe for mashed carrots. They patented mashed carrots.

LU:
How can you patented carrots? They’re fucking carrots.

NICO:
Exactly. We went looking. The company didn’t only patent the baby food consistency, or like the spices in it, or the code. They patented the molecular structure of the carrot. You’re not suppose to be able to print anything with carrots now without paying this company a license. The government let them patent the basic molecular structure of a living organism so that this company could charge anyone who wanted to use
it. Some are saying under the new IP law that it could actually extend to even growing carrots. The point is this isn’t right. And I’m not going to support this kind of behavior.
APPENDIX D VISUAL DOCUMENTATION
SHHSHHSHH

SHHSHHSHH

SHHSHHSHH

SHHSHHSHH

SHHSHHSHH

SHHSHHSHH
I'm going out to the store. You need any cash for that?

I'm going out too. You need anything else?

I'm going out to the store. You need any cash for that?

I'm going out too. You need anything else?

I'm not planning to go to California today. I'm going to clean up the place after everything that happened.

But I guess I'll keep the peace.
CHAPTER ONE: BASICALLY? EVERYTHING IS TERRIBLE.

THIS IS WHERE I LIVE. A 10-YEAR-OLD RUNDOWN TRAILER ON THE EDGE OF TRAILER CITY.

TRAILER CITY ISN'T THE OFFICIAL NAME. IT'S JUST WHAT WE CALL IT. WHERE WE'RE NOT CALLING IT ANYTHING ELSE. MORE COLORFUL NAMES.
A wave of engineers appeared, saying that there's empty space here for jumping off the train and that they can help set it up and reclaim the city.

Dawn Refugees.

THUMP!

JERK

Can you believe that they arrested a ring of drug dealers in Wonderland?

Why didn't we hear about that in the papers?

Because they arrested seven hundred and fifty drug dealers in Wonderland. Why I was.

I have every intention of leaving this town, but I can't do it on horseback.
As you can see, each of the students is equipped with a basic tool kit. We also provide a variety of materials with our designs, to work with different designs for a low cost.
Eyes wide, he said, "Hey, don't panic! I'm here to help you with that!"

Spider-Man, in his familiar red and blue suit, was standing right next to him, hands on his hips, looking determined.

"What's going on?" asked the man. "I've never seen you before!"

"I'm Spider-Man," said the superhero. "And I'm here to help you break into this computer!"

"Really?" the man asked with a smile. "That would be amazing!"

Spider-Man nodded, "Of course! Just relax and I'll take care of the rest."
111
I'M JUST TRYING TO BALANCE IT ALL.

YOU THINKING ABOUT TALKING TO A COUNSELOR?

NO POINT.

YOU'RE NOT THE ONLY ONE WAITING MONTHS LONG.

I'M GOING TO TRY TO HELP HER.

I CAN'T STAND IT ANYMORE.

I'M NOT READY FOR THIS.

I'M NOT READY FOR A NEW JOB ON SUNDAY.

COASTWATER, YOU DON'T NEED TO DO THIS.

I CAN'T LIE, I DON'T WANT TO.

THE FINE.

LOOK, I DON'T WANT TO HURT HER.

I'M NOT READY.

I'M NOT READY.

I'LL BE BETTER. MY FIRST APPOINTMENT IS FUTURE WEEK.

THANK YOU.

I'M SORRY I'M NOT BETTER. I'M NOT READY.

I'M SORRY.
THE FIRST TIME IT HAPPENED, WE NEVER WANTED TO BE AMERICAN CITIZENS.

THIS CAN’T BE HAPPENING TO US.

WE HAVE RIGHTS.

BUT IT HAPPENED AGAIN AND AGAIN.

NOW WE HIDE AND NOW WE HABITUALLY SILENCE ANYTHING TO GAIN THEIR ATTENTION.
IT'S CAIR.
SOMEBODY'S TRYING TO TELL US TO SLEEP.

OMG!
YOU SHOULDN'T WAKE ME UP.

WE'RE HEADED TO THE RAINBOW BRIDGE.
I HATE AMERICA.

OH, YOU WANT TO DIP ME IN WOOD.
I Hate WOMEN.

IF I HAD A WAND, I'D MAKE A SONG.
Mama said, "Take your sister back to our room and close the door."
They said she died from bad food. That means a number died was not the number凶手
and also the wrong building block.

Said it's happened before.

Ah, yes. A few years ago.
Caused by a completely different people.
Died before.

Replaced our ship and medical.

Took our printer for checking.
Gave us a new one.

Like that's supposed to make this better?

What exactly is your complaint? We demonstrated that it works.

They accepted it happens. Just as we said they would.