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Integrating Self: A Story About a Tomato

Thomas Scott Rapp

Clemson University, trapp823@gmail.com

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INTEGRATING SELF: A STORY ABOUT A TOMATO

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Fine Arts
Digital Production Arts

by
Thomas Scott Rapp
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Accepted by:
David Donar, Committee Chair
David Detrich
Tony Penna
Abstract

*Tomato* is a two-dimensional, animated, short film about the interaction between a farmer and a tomato plant. Through conceptually-driven technique, the film intends to relate the emphasis of tactility and self-reflection in animation to the care of a plant that could provide a valuable fruit. Using digital tools, like Adobe Animate, Photoshop, After Effects, and Premiere, as well as material identification techniques, I created the film as an exhibition of a method designed to integrate handcrafted elements into digital workflow.
Artist’s Statement

There is a connection that people should recognize between the value of their work and themselves. Upon considering my work in art and organic farming, the time spent growing and tending plants has given me a sense of community and an altruistic purpose. By witnessing multiple life cycles of plants, both cultivated and wild, I have come to appreciate a harmony between the act of labor and a greater realization of self. Observing the effects of extreme mechanization and biological manipulation has given me a valuable perspective, a perspective that emphasizes hands-on care and tactility. Industrialism has its merits such as efficiency in production; but mass production and function do not always coincide with individual passion. Loss of passion and synthesis with process, affects the integrity of the result. The human quality that attracts people to a product thus gets diluted.

By recognizing the effect that industrialization and mass production in farming has had on our environment, I began to notice similar patterns in the film-making industry. I fear the loss of connection with our environment, our careers, and our selves due to industry’s pressure to be lucrative and punctual. I believe that art can impact and portray the beauty of the environment and inspire action to spread and sustain better practices. I seek filmmakers whom use hands-on, creatively-driven techniques, in both independent and commercial films, to shape my work. It is important to consider why a certain material or technique is used and explore how it can be connected to the concept. My work and the work I gravitate towards creates diversity that pushes the boundaries of film and instills a sense of re-connection with the medium that could inspire a re-connection with the environment, our careers, and our selves.

My interest in involved labor, more specifically gardening and farming, has greatly influenced my artwork. As such, I find it critical to pursue tactile, hands-on, direct ways to create computer animation. I believe the physical motion of art making often injects a more sincere and honest
representation of an idea. In the past, I've experimented with the integration of Plasticine clay, milk, ink, oils, and drawings in computer animation to force myself to physically interact with the medium. Through research and experience, I have developed an effective method of visual and narrative communication that combines the technology of the computer with physical media that will connect the value of the self and one's labor.
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I’m thankful for everything that is and is not.

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Chapter 1

Introduction

The film, *Tomato*, created for this thesis project directly reflects upon personal experiences and observations that I have had during my time studying computer science, art, animation, and organic farming. I display skill in both suggestive and metaphorical storytelling as well as conceptually driven technique. In doing so, I communicate a personal appreciation of harmonious natural and artistic systems to a wider audience.

In the film, a farmer plants and tends a tomato plant in a garden, guiding it through pruning and harvesting. The fruit of the tomato eventually develops and the farmer chooses which fruit is desirable for his purposes, occasionally losing produce to natural forces or from his practices. The narrative is not only a display of the cycle of life and death, but how existential purpose and ideological connection can transcend this cycle. Humanity has cultivated plants that do not exist in the wild in order to create food, medicine, and recreation. The sustainability of these plants now relies on the human consumption and cultivation of the plant. If we have the opportunity to put care and passion into our work, the outcome is much more nutritious, figuratively speaking. The film also shows how complexity and simplicity can exist in harmony. The events are quite simple but can be interpreted into something more complex and universal.

The film encourages altruistic and hands-on practices in obtaining a final product. I have crafted every element of the film. Using the Adobe Creative Suite, digital image capture, graphic-display drawing tablets, and the inspiration of various physical media, I progressed through a production schedule. I use rotoscoping and material identification concepts to integrate animation, color, and texturing from digitally captured images into the film.
Chapter 2

Background

2.1 The Farm

My father is a horticulturalist, general enthusiast of nature, and the person who introduced me to growing plants. I have fond memories of tending the garden boxes on a small, sunny plot tucked away next to the house I grew up in. He taught me what it meant to take care of a plant, understanding its nutritional requirements, signs of disease, and harvest time. He also introduced me to the beauty of ornamental horticulture, the use of plants purely for aesthetic quality. To this day, he builds onto the crops he grows each year while maintaining a flower planting business on the side. From an early age, I have been instilled with the value of nature and how it affects my physical and mental state. This tactile connection with a medium–the feel of the plant and soil and the taste of the product and how they relate to each other–has influenced much of my outlook and approach to life.

My first boss at the organic farm, Shawn Jadrnicek, author of *The Bio-Integrated Farm*, integrates symbiotic systems to create a more efficient farm where labor is enjoyable. My current boss, David Robb, supports organic research and the development of new, more environmentally-conscious practices to inform farmers where labor is worthwhile. All of these people recognize the beneficial effect humans can have on the environment and production of plants, which has a more positive impact on humans. Bill Mollison, father of permaculture and author of *Permaculture: A Designer’s Manual*, declares the symbiosis of practices, ideology, and nature: "we can teach philosophy by teaching gardening, but we cannot teach gardening by teaching philosophy."
Permaculture (permanent agriculture) is the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing their food, energy, shelter, and other material and non-material needs in a sustainable way... The philosophy behind permaculture is one of working with, rather than against, nature; of protracted and thoughtful observation rather than protracted and thoughtless action; of looking at systems in all their functions, rather than asking only one yield of them; and of allowing systems to demonstrate their own evolutions.” [21]

The practices that are in my life center around an understanding that, regardless of the tools used, the best results come from a careful and thoughtful craft. The creator or caretaker needs to harmonize themselves and their surroundings with the work.

2.2 The Plant

Plants have evolved alongside humans. In many circumstances, the vegetables and fruits that we enjoy today exist only because of the demand from human consumption and cultivation. This symbiosis should encourage people to care for the plant they want to enjoy the product of. Some plants require extensive care that noticeably effects the quality of the produce.

Solanum lycopersicum, the tomato plant, is one of these plants. It needs warm soil conditions, extended periods of temperate nighttime conditions, fertilization, trellising, pruning, careful observation and treatment of pests and diseases, and well-timed harvesting in order to get the most desirable product. The industrialization of tomato production has brought with it forced expedition
of growth and harvesting using synthetic fertilizers and ethylene gas. From my experience, a tomato that is grown with care and allowed to ripen on the vine tastes much better than the tomato that is picked up at a supermarket. Is it that the physical care we put into the plant—giving it more chemical nutrition—or the idea and comfort that it was consoled through its life—giving it more spirit and soul—that make the fruit taste better? The symbiosis of these two qualities needs to be considered. The communication of this idea could help save our environment and bring about positive practices in our community.

2.3 The Vision

I chose to communicate this idea through animation for multiple reasons. I grew up with animation. Disney animated movies were still going strong in still hand drawn animation: *Lion King, Mulan, Hercules, Lilo and Stitch, Tarzan*. Hayao Miyazaki and Studio Ghibli had created some great films: *Nausicaa of the Valley of the Wind, Princess Mononoke, Spirited Away*. *Tom and Jerry* still came on in the morning on Saturdays. *Spongebob Squarepants, Rocket Power, and Rugrats* were a regular point of conversation between my peers. It seems like they grew with me as well. *Adventure Time* and *Regular Show*’s often times absurdist take on adventure followed me through early high school and into college and kept me goofy and laughing through some absurd coming-of-age times. In a neon lit garage, we watched muted animation, played music over it, and saw that sometimes the audio and visual would randomly match up, similar to the phenomena in *The Dark Side of the Rainbow*–setting Pink Floyd’s *Dark Side of the Moon* to *The Wizard of Oz*. Studio Ghibli continued to release increasingly more adult films, like *The Wind Rises* and *The Tale of Princess Kaguya*. Richard Linklater released *A Scanner Darkly*, which directed me toward *A Waking Life*, both containing a very undulating form of rotoscoped animation. Animation was as integral to my development as much as working in the garden with my dad was. These two facets of my life reside in a very fond and deep part of my personality and interests. I have had the opportunity to see both of these subjects from a very priviledged and positive point of view, which puts a very honest and blissful connotation on them for me. It frightens me that other people are not able to view animation and nature in the same capacity and I hope to spread the way that I am able to view them.
The process of creating hand drawn animation is an introspective action, just as gardening can be. Each motion must be considered in timing, weight, and emotional impact. Video art, especially in which each frame is crafted then played sequentially, mimics the way in which people come to a subjective interpretation. The brain makes sense out of images displayed in quick succession as motion. The brain also makes sense out of ideas and experiences, past and present, to form an interpretation of what is happening. In a way, animation is creating a reality, or interpretation of it.
Chapter 3

Related Work

3.1 Tao, the Psychedelic, and Nature

Paradoxes inspire the way I tell stories. It is effective for a story to be simple, but hold a greater meaning. I entertain the possibility that the story could be nothing more than images meant to elicit a pure emotional response. Paradoxically, I give enough content, in technique and subtle narrative queues, for an audience to consider a larger truth or idea. My goal is not to communicate a straightforward idea, rather to guide the viewer through a progression of images toward a conclusion. People want to form a conclusion and purpose for inspirational events in their lives to bring order to chaos. It is paradoxical, but also symbiotic. It is important for the stories that I tell to be both meaningless and meaningful.

Lao Tzu portrays paradoxes in a very elegant way in the *Tao te Ching* by referencing how they balance each other.

*The way that can be told is not the eternal Way. The word that can be spoken is not the eternal Word...*

*These two, differing in name, are the same in origin. They are the mystery of mysteries.*

*This is the door of spiritual life.*

*When all men have learned the beauty of righteousness, the ugliness of sin is understood.*

*When all men recognize goodness, then evil is understood.*

*In the same way, the manifest and the unmanifest define each other.*
Difficult and easy define each other...

Musical notes and the tones of the voice determine each other...

Therefore the Master works without working.

He teaches in silence. [14]

Perhaps we can extend this paradox to knowledge and perception; knowing everything only comes from knowing nothing. An extraordinary experience often makes us perceive from pure senses. For example, travelling to a new country and experiencing a new culture causes culture shock, which starts with a "honeymoon" phase in which the new culture is very exciting and romantic. The dissociation has caused a craving for association. Some consider the psychedelic experience to be of a similar nature. It’s not necessarily a drug that causes psychedelia, but a new and otherworldly experience that brings the person into a heightened state in which they perceive from a seemingly unbiased perspective, eventually coming to realize that the self is as much involved in perception as the objective sensual stimuli. Aldous Huxley, a philosopher and writer, discusses this phenomena in *The Doors of Perception*, a memoir of his experience with mescaline, a psychedelic derived from the peyote cactus. One of his colleagues notices him fixating on a badly arranged flower vase and asks him, "Is it agreeable?" to which he responds, "Neither agreeable nor disagreeable... It just is."

"what rose and iris and carnation so intensely signified was nothing more, and nothing less, than what they were—a transience that was yet eternal life, a perpetual perishing that was at the same time pure Being, a bundle of minute, unique particulars in which, by some unspeakable and yet self-evident paradox, was to be seen the divine source of all existence." [12]

Huxley is not transported from reality. His dissociation with his reality has caused a greater recognition of reality, or maybe what lies beyond reality. Is the flower vase so significant because it was the first thing he noticed in his new perception? Is it so much more noticeable because of its bad composition thus making it beautiful? Is it beautiful because of the cycle of life and death that the flowers it holds signify? How could something so simple mean so much? I am inspired to incorporate surreal elements into the film to communicate a new, slightly otherworldly experience in which perception is pure.

The usage of plants, fungus and chemicals derived from them, like the peyote cactus, to reach different states of mind reinforces the fact that plants, nature, and humans can and should exist in symbiosis. Lauren Bon and the Metabolic Studio of Los Angeles use the idea of environmental
symbiosis in much of their artwork and activism. In an interview with *Boom*, Jon Christensen describes Lauren Bon as "a transformative figure—her canvas is huge: Los Angeles, the American West, the way we think about landscapes, our water and where it comes from, and what we owe the land and communities, our moral, economic, and political relationships." [10]

One of her major projects, called *Bending the River Back Into the City*, intends to restore the natural watershed that was destroyed by the construction of the concrete river system that runs through the city of LA. She instills the importance of environmentalism in city planning. She states, "The motivation of the work that I do with the Metabolic Studio is to utilize devices of wonder to catalyze a paradigm shift." [10] In another project, called *Not a Cornfield*, she leads action to turn a decrepit train yard into a productive corn field that will be used as a public park after the corn is harvested. In an article posted on the *Metabolic Studio* website discussing their projects, Bon writes, "*Not a Cornfield*’s transformation of the land back into a public space—a commons—created the possibility for a deeper public consciousness and a sense of shared ownership of this historic floodplain." [7] She is leading and acting for a greater appreciation of our natural resources by making the intrinsic beauty and benefits of a healthy environment paramount, something I aspire to and respect greatly.
Figure 3.1: Site of Not a Cornfield after construction of the public park [6]

Figure 3.2: Cymatic Experiment: audiovisual water remediation [5]
While the Metabolic Studio mostly works in activism, they also dabble in audiovisual art. As a metaphor for the cleansing of the water that will be directed back into the watershed in LA, the Sonic Division of the studio used various sound frequencies to manipulate water to form aesthetically pleasing compositions. This project is called the *Cymatic Experiment*.

From work like the *Cymatic Experiment*, I learned that visual and auditory stimuli are related. There must be a reason one of the scales in music theory is called the chromatic scale. I believe that the usage of this relation can make the communication of an idea much more effective.

### 3.2 Primitive and Pure

I found it useful to investigate sound and music to translate its timing and feeling into the visual, thus making my work more immersive. One of the first times that I studied this relation was in Norman McLaren’s work. In *Dots*, his use of sound to conjure and represent simple shape, motion, and color borders upon pure synesthesia, creating an inseparable balance between the two senses. He was painting on film strips, showing his tremendous understanding of timing and how the visual would represent a sound. He believed in the integration of the self and the senses in animation. In describing McLaren the National Film Board of Canada (NFB) states ”how it moved was more important than what moved. He encouraged his tyros to experiment, and many began working directly under the camera. And so was born an NFB tradition conviction—that animation should be personal, experimental and diverse in technique.” [20]

![Figure 3.3: still from Dots](image-url)

Figure 3.3: still from *Dots* [19]
Along with harmonious audio and visual queues, this integration and exploration of the self with the work inspires me. Our modern society encourages objectification in order to make function, efficiency, and perfection paramount, but I think that the self and subjectivity allows us to be more passionate and motivated. Imperfections are important parts of subjectivity. As humans, we want to explain and understand chaos. The chaos compels us to think more about something. Ambiguity, imperfection, and primitive sensual queues allow the viewer subjective interpretation. A skilled artist can guide the viewer these imperfections to elicit a desired response. I communicate my ideas of environmentalism, passion, and purpose using Primitivism as an inspiration because of its relation to imperfection, artistic representation, and honesty.

I see a similar celebration of imperfection in a fledgling music scene in South Carolina, especially at a house show venue called Pablo. Seated in the musty basement of a trio’s house in Clemson, the venue sees emerging acts and has fostered the birth of fantastic musicians, most part of the *Pablo Generation*. What’s more interesting is the culture and community that has emerged around the house. The bands play then everyone goes out to the backyard or upstairs to the house and everyone interacts politely. Sometimes a comic or visual artist is selling merchandise. It’s incredibly uplifting to see a group of people come together at someone’s house just for the sake of spreading culture and enjoying an experience. If music can bring this type of community together, I believe that it is an important aspect to use to communicate my ideas.
A film that captures the beauty of a colorful community and uses the representational aspects of Primitivism is *Boy and the World* directed by Ale Abreu. The film portrays the effect that capitalism and industrialism have on families and, subsequently, the happiness of the community it affects. Having close to no dialogue, the film uses texture and color as one of its major methods of communication. The industrial force is shown in monochromatic, black-and-white tones or magazine cutout collages accompanied by metallic and clanking sounds. The original culture that is being effected is shown in vibrant colors and rich textures accompanied by songs layered with spirit and joy. The film is meant to capture the pure perspective of a young boy searching for his father, so the artists use representational shapes and forms. This approach makes the film feel very effortless, light, and full of spirit. In an interview the director describes his limitations, "The style of the film wasnt defined by any limitations, except for the universe of the child. We let that open up in front of us and decided to be guided by the boy character. We also tried to create graphics, conditions, and techniques that would encourage the power of freedom-to express ourselves like children do." [13]
Henri Matisse uses primitive shapes and the unification of line and color to create artwork that "looks as if it might have been executed with effortless ease...In reality, he labored exactingly to achieve the art of balance, of purity and serenity..." In Dance and Le Bonheur de Vivre, Matisse simplifies objects to their essential forms to highlight composition, purity, and playfulness. He shows passion and comfort in soft, but vibrant color and contrast. His cutout compositions indicate motion through repetitious pattern and careful placement of objects. Although it appears to be simple, it is anything but. This paradoxical concept inspired my interest in purity and simplicity in storytelling and design. [11]
Figure 3.6: *Dance* Henri Matisse [15]

Figure 3.7: *Le Bonheur de Vivre* Henri Matisse [17]
Figure 3.8: *La Gerbe* Henri Matisse [18]

Figure 3.9: *La Perruche et la Sirene* Henri Matisse [16]
3.3 Tactile and Independent

The textbook *Fluid Frames: Experimental Animation with Sand, Clay, Paint, and Pixels* by Corrie Francis Parks guided me through some animation techniques and exposed me to a wealth of artists experimenting with animation and the way motion can be portrayed. The persistence of vision is a phenomena that allows animators to create motion from a progression of still images of any media. Along with a few contemporary animators, this concept inspires me to not focus on the realism of the objects in motion, but on the way in which they move. The design of the object can be manipulated to fit a style to communicate an idea or to distort for more dramatic motion.

Johan Rijpma’s work further informed me about the diversity in technique that animation and film offer. In an interview with *Print Magazine*, Rijpma describes unifying process and concept: “With my projects I try to explore different creative approaches and positions in a very fundamental way that are not necessarily limited to a specific medium. But Im often attracted to video and animation because it can include almost any other medium, and it makes it possible for me to unify the creative process and the results into the final outcome.” [4] By using everyday objects and unique techniques that revolve around randomness, he reflects on the relationship between the control and unpredictability of life.

Figure 3.10: process from *Extrapolate* [26]
In *Extrapolate*, a short, hand-drawn film made during Animation Artist in Residency Tokyo 2016, Rijpma portrays breaking boundaries by using straight-ahead animation informed by the path of motion extrapolated from rotoscoped animation. The straight-ahead animation allows motion to flow in a stream-of-consciousness manner, thus reflecting upon unpredictability. The rotoscoped animation follows a predicted and recorded motion, thus reflecting on control. With this project, he’s also reflecting on his experience in a new place surrounded by great animators, like Bruce Bickford and David O’Reilly, by transitioning between the techniques each time a border is broken in the film. [25]

It intrigues me to see what people can create outside of the large film making industry. Content made without the restraints of a hierarchical industry structure can be much more artist and self-driven and may discuss subjects that may be taboo, allowing room for more subjective interpretation. Multiple interpretations have come from Becky and Joe studio’s flagship series, *Don’t Hug Me I’m Scared*.

![Figure 3.11: set of Episode 1 Don’t Hug Me I’m Scared](22)

The first episode seems to be a reaction to definitions of creativity instilled by art education. The series continues on to highlight a character’s aspirations and inhibitions about the creation a goofy TV show outside of his boring cubicle office job. A wealthy father buying his child to
fame acquires the intellectual property of the aspirational character’s show ideas, but changes the message of the show to be more tyrannical and oppressive. Using felt puppets, clay, and absurdity among other materials and techniques, the producers tell the story in the format of a children’s educational show gone awry. These diverse methods form an environment that is conducive to honesty, experimentation, and creative freedom. Rejecting offers from mainstream commissioners to monetize their show, the duo says, ”We wanted to keep it fairly odd and have the freedom to do exactly what we wanted.” [9] It’s the not the creators’ intention to say that industry is bad, only that creativity and subjective interpretation are good. In an interview about fan theories, Becky responds, ”We have read a lot of theories online about what it all means and they are all correct.” [8]

Figure 3.12: interaction with the set on Don’t Hug Me I’m Scared [23]

Becky and Joe’s studio has also made multiple music videos that inspire me to recognize
the relationship between audio and visual stimuli. They have produced videos for Tame Impala’s *Feels Like We Only Go Backwards* using numerous two dimensional, plasticine clay frames. Using techniques reminiscent of Norman McLaren’s painting on film strips, they produced a video for Delicate Steve’s *Tallest Heights*.

Adult Swim is an example of an industry mogul that exposes independent artists in an interesting manner. Dave Hughes, the producer of *Off the Air* published by Adult Swim, scours the internet to find film and video art from a diverse range of artists and media then splices them together using transition techniques like data moshing. The result becomes it’s own art. He draws comparison between ideas communicated in the artists’ videos that may not have been apparent before. In doing so, the anthology praises creative freedom while creating an art form from the interpretation and pairing of each piece. [3]
Chapter 4

Production

4.1 Story and Design

The motivation of environmentalism in the story is mostly inspired by my childhood garden, my work at the organic farm in Clemson, and the Metabolic Studio. It is also inspired by the relationship a craftsman has with their work. I felt that the work I’ve done in the past focused on ambiguous sensual responses that were openly otherworldly and psychedelic. With this story, I wanted to create an approachable environment and delivery that leaves room for the surreal to bubble up at key moments. This visual aesthetic parallels the intention: a representation of the growth cycle of a tomato that leaves room for conceptual interpretation. I looked to the concepts communicated by Taoism and Aldous Huxley in *The Doors of Perception* to understand the harmony between meaning and meaninglessness. Using Adobe Photoshop and a graphic-display tablet to draw, I started with storyboards to organize the chronology, staging, and major events in the film.
Figure 4.1: Storyboards Page 1

Figure 4.2: Storyboards Page 2
I continuously asked myself how I could hide complex innuendos about environmentalism, self-realization through labor, and the paradoxical nature of our existence in a simple, naive, and honest story and aesthetic. I looked toward my inspirations in permaculture and the Metabolic Studio to guide me toward using philosophy and activism to inspire change. I wanted the message to be pure and altruistic, allowing the film to be visually pleasing enough that it could stand on its own without an ulterior motive. I looked toward my inspirations in Primitivism to guide the design of the characters and scenes. I experimented with different brush settings in Photoshop to attain a desired look. I knew that I wanted aesthetics to be inspired by charcoal pencil for line work and wax crayon or dry brushed acrylics as the color. These materials paired with the Primitive style evoke the look of the materials often used in childlike arts and crafts. I used a charcoal pencil brush with default settings for lines and a brush in which I edited the scattering and count parameters to increase the amount of points that are represented by the digital brush and how far apart that scatter when pressed to the screen.

Figure 4.5: Farmer Concept
Figure 4.6: Plant 1 Concept

Figure 4.7: Plant 2 Concept
Figure 4.8: Plant 3 Concept

Figure 4.9: Plant 4 Concept
Figure 4.10: Tomato Leaves Concept

Figure 4.11: Early Scene Concept
The design of the opening scene is meant to be graphic and loosely follow guidelines of
perspective drawing. Depth is shown through change in saturation and lightness of the color and line thickness of the object. In doing so, I am able to focus on the essentials and purity of scene composition and design while still directing the viewer to the action. Additionally, the drawing is entirely digital, while still heavily influenced by physical media. This decision made it much easier to add varying texture to more plants in the scroll.

From a cinematography standpoint, I made the decision to position the camera as if it was a first-person view from the farmer. By shifting the perspective to focus on the tomato plant, I put emphasis on the observation and treatment of it. It also allows me to make the farmer and the tomato to exist in separate spaces and time signatures that interact at key narrative moments. The viewer already relates with the farmer because of the presence of another human character, but I want the viewer to also empathize with the tomato. A duality of existence needs to be presented. The farmer needs to seem like the influence while the tomato needs to seem like the influenced. But as a consumer, we also know that the scenario can be flipped; the tomato influences the farmer to behave a certain way, thus insinuating symbiosis. The symbiosis of the plant and the farmer is a metaphor for the symbiosis of the laborer and labor of any discipline.

By showing the full life cycle of the plant, I portray a part of food production that most people do not experience. Death is a macabre subject and I want to show that it can be understood as both an end and beginning by adding the decomposition of the tomato plant by a fungus. The nutrition returns to the soil and a viable seed could germinate to sustain the next cycle. The cycle is the reason for which I end the film with the reverse of the opening scene. The film should be a loop to reflect the cycle of the tomato.

4.2 Animation

After establishing the narrative, I moved on to laying out rough animation in Adobe Animate. Rough animation allows timing to be established for the film. Using the storyboards as a template for chronology and scene layout, keyframes are drawn that show significant actions in the film.

I decided that I wanted to animate at fifteen frames per second so I could later compile the animation in a thirty frames per second composition in Adobe After Effects with interpolation between the images using a staggered mix. A staggered mix is the creation of additional frames
between the two frames given that is a merge of the two frames with half the opacity of the original frames. Using this produces a dreamy effect that blends frames together, especially appropriate for plant growth sequences.

Figure 4.13: Early Opening Scene with Farmer Animation, ghosting shown in blue and green

The scene in the opening of the film scrolls into view. The revelation of the garden space feels like it is being built from nothing, plants and scenery eventually filling up the blank white space. I also felt like this was an appropriate way to achieve a look as though it was a child’s drawing, scribbled on paper. By using a simple scrolling action to establish the scene, I maintain a simple and primitive interpretation of noticing something new or waking up from a dream, progressively building awareness of the surroundings. After we see a figure walk into the garden in the distance, the camera cuts closer to the plant being buried by the farmer’s hands.

Cutting closer again to the apical meristem of the tomato plant, we observe a section of timelapsed growth. A timelapse is when still images are displayed in a higher frequency than they were captured. The animation here is meant to be surreal, in order to separate the tomato plant’s time from the farmer’s. I first set out key stages of growth I wanted to achieve throughout the allotted time for the growth. My limiting factor was the viewport I wanted to fill with leaves. After setting up key growth stages, I started interpolating the motion by drawing another frame of growth halfway between the two major growth stage frames. I continuously did this until all frames were animated during the growth sequence.
When the growing stops, the farmer’s hands enter the scene to prune the axillary stems from the plant. Tomato pruning is a method that is intended to encourage the plant into fruiting instead of vegetation. I used rotoscoping to animate the motion of the hands from a live action video reference, ensuring everything was in fifteen frames per second for consistency. Using this technique, as opposed to the way I animated the tomato, further separates the design of the plant and the farmer.

A short growth and flowering section follows the pruning, all in timelapse animation using
the same interpolation method described before. The hands then enter again to harvest desirable tomatoes, time once again returning to the human perspective. The hands here are animated with rotoscoping again. The tomato fruits turn to rotoscope animation when the farmer interacts with them. The various interactions of the farmer and the fruit here are meant to be metaphorical and humorous.

![Figure 4.16: Animation of Harvest with Rotoscoped Hands](image)

After the harvest and the farmer has left, time and animation style return to the same signature as when the plant is growing. The plant’s leaves turn yellow, using color interpolation in Adobe After Effects, whither and die. The scene cuts out to a larger view of the dying tomato plant and the plant falls and is decomposed by mushrooms. This scene is intended to reflect the scene of the farmer planting. After the decomposition is over, the camera shifts to the same scene as the beginning, only now the rows of plants in the garden are empty.

One principle I followed is closing the lines in animation, ensuring that each section of an object intended to have color be enclosed in line. After the animation was completed, I went back over each frame and made sure each asset had closed lines. Another principle that I followed is allowing for the fluid and organic change of line weight in animation, especially during the timelapse growth and death sequences. This technique makes the progression of images move in a familiar but surreal way. To add more surrealism, I allowed myself the freedom to morph objects slightly during animation. The essential, primitive shapes made it easier to keep the animation continuous and understandable.
4.3 Color, Texture, and Material

The first step to coloring and texturing the images is to flood fill all of the line work with varying solid colors in Adobe Animate. Flood filling fills a closed shape with a solid color, which is why I needed to ensure that the object of each animated frame have closed lines. In other instances where it would be difficult to close lines, like in the rotoscoped animation, I used a thick, solid color brush in Adobe Animate to fill in the shape with its respective color.

When I was done with animation, I exported each grouping of animation as its own layer. For example all the hand animation is on one layer, while the tomato is on another. This process makes it so I can edit each layer individually in After Effects.

The solid color corresponds the object to a material, which is composited in Adobe After Effects. Upon importing the animation into Adobe After Effects, the solid color can be turned into an alpha channel, effectively making it transparent. This process is called chromakeying. The transparency can then be filled in with another digital capture on a layer below the transparency, effectively attaching a texture of my choosing to the object. This process also allows me to make slight changes to the hue of the texture, which is valuable during sequences, like the withering of the tomato leaves, when I want to shift the color from one to another while preserving the texture. For the line work, I used a paint stroke generator in Adobe After Effects to give it some additional texture and random noise. The result looks closer to a hand-drawn image in which each frame is drawn by a pencil.

4.4 Sound

From my experience, I recognize honesty and passion in the creation and delivery of music from the fledgling music scene in Clemson. The emerging, independent musicians are not under contract and freely make what they feel they need to make and what their peers want to hear. Because the musicians often do not have access to high value recording software and equipment, the sound is often low fidelity. Some artists use this concept to their advantage and stand by the principle that good music does not need an exorbitant amount of money and resources to communicate and be effective. This "lo-fi" principle is one that fits nicely with my perspective on the Primitive style and aesthetic that I intend to achieve with this film. Not knowing much about music, I created a simple song that reflected the simplicity of the film and recorded it in my bedroom on my phone.
The pace of the song is also meant to reflect the events of the film, growing in intensity leading up to the harvest then falling back down as the film ends. The song needs to feel as bittersweet as the image to reinforce the narrative arc of the film.

The foley of the film is also an important aspect. I wanted to evoke sensations of being outdoors and incorporate more elements of the organic farm and my life in the film. I used a recording of birds and ambient sounds from the deck of my apartment in Clemson, recorded by my roommate on his phone.
Chapter 5

Results

Figure 5.1: Scroll
Figure 5.4: First Stage of Growth

Figure 5.5: Growth
Figure 5.6: Pruning

Figure 5.7: Small Fruit
Figure 5.8: Toss

Figure 5.9: Squish
Figure 5.10: Keep

Figure 5.11: Death and Crossfade
Figure 5.12: Mushroom

Figure 5.13: Final
Chapter 6

Conclusions and Discussion

By reflecting on personal experiences and observations, I created this film, *Tomato*, as an exploration of metaphorical storytelling and conceptually-driven technique. It communicates the importance of integrating identity and passion into labor for a better result. I relate the principle of self-reflection and interaction with the process to the interaction between the farmer and the tomato plant. In doing so, the film encourages harmonious natural and artistic systems for the benefit of the environment and the people that interact with it.

My own interaction with the piece has offered me time for introspection about my intentions as an artist. There are many philosophies that I confidently stand behind now that I did not know how to define before this project. It additionally allowed me to consider how much I simply enjoy interacting with plants in both my art, at home, and at the farm. If nothing else, this film will be a personal testament to that.

That said, I still had time constraints to follow as this project was intended as a thesis which has a due date. I additionally do have financial obligations to manage, so I held a part time job at the farm while working on the film, but it would not be what it is without my experience at there. I had about four months to produce a film that I am proud of, a feat in itself in my opinion; however, there are some aspects of the project that I would like to spend more time on.

It terms of visual aspects, I would like to continue exploring the application of texture to different objects in the film. The richness in texture and color of each individual object could be emphasized to better communicate the use of physical media in the animation. I would additionally like to continue studying the production of sound for animation. I do not know much about music
nor sound so I think it was an accomplishment to achieve what I added into the film. It could be good to collaborate with someone on this aspect. I will definitely continue observing the way that concepts communicated in art and animation can interact with the process in which they are created. In order to test the effectiveness of the film in its communication of environmentalism, the paradoxical nature of life, purpose, simplicity, and creative freedom, I intend to submit the film to multiple film festival with the hopes of exhibition.

An additional facet that compounded the effectiveness of the film and its motivation was the presentation of the film at a contextual relevant location. I presented the film and my inspirations at the Clemson Student Organic Farm, under a market building. Fortunately, the day was of favorable weather and the environment in which I presented elevated the significance of the film. It was important for the place to reflect the intention of the film and this contextual quality to my work is definitely something I will further investigate.
Bibliography


[3] Amid Amidi. ‘off the air,’ the best animation anthology since ’liquid tv,’ is celebrating its 5th anniversary, Dec 2015.


