

# A Series of Kinetic Sets Tell A Story

Shannon Kohlitz



A Series of Kinetic Sets for Video  
Culminating in a screening and an installation  
about immigration, love, and World War II

## Introduction

My project was to create a video telling the story of my grandpa's life in a series of kinetic dioramas. I then videotaped the dioramas, edited the footage, and set it to music in the final product, which is a fusion of animation and video. In addition to the final video, I have a behind-the-scenes/making of the video, as well as the installation of several of my dioramas in the Work Detroit Gallery. Also, I constructed several consistent themes in my work. I used reusable materials and attempted unusual techniques. And finally, an interesting side note is that I completed this project by a rather backwards method. Rather than planning everything beforehand, I went off a vague idea and immediately began building things with little direction but developed a plan that evolved along with my creations.

## Creative Work

### Building the Sets

The goal for my dioramas was always to have a charming, hand-crafted aesthetic, so to keep within the theme of reusability, I built the dioramas out of cardboard, paper, styrofoam, and other materials which are often thrown out. I used the methods of cutting, pasting, and other typical construction methods found in hand-crafting to assemble the pieces (Figure A).



*Figure A: Diorama scene 2 features the boat La Lorraine, on which several of my ancestors had arrived in when they immigrated to America.*

I attempted this hand-crafted process because I had wanted it to be apparent to the audience that, despite its digital means of presentation in the final work (video), I put intimate time in to the construction of these sets rather than the detachment that unfortunately seems to come with working on a computer. I hope that the importance of intimacy will become obvious when I discuss the content of my project.

Not only did I want to do the construction of the dioramas, I also wanted a hand in the creation of the kinetics. Similar to the method in which I found used items for creating the sets, I decided to reuse building parts and motors to create the mechanics. The children's building toy, K-nex, and battery-powered motors salvaged from used toys and games served as the power behind my kinetic dioramas. As a result, a car I built out of paper can move across a scene of 1930s Detroit (Figure B), and Atlantic waves slide back and forth in a scene I have set representing immigration to America.



*Figure B: This photo displays some of the mechanics I utilized to render my dioramas kinetic. In this particular scene, the motorized wheels pulled the car along.*

Mechanics is not my only method of adding movement to my dioramas. In many of the sets, there are blinking lights of various sorts, a fan to create wind effects, and even the use of compressed air to create an explosion of confetti (Figure C).



Figure C:  
i) A fan blows the laundry as if in wind



ii) X-mas lights are used for fireworks



iii) Compressed air blows off part of this building

## Filming 1

After the construction of the sets, the next major activity in my creative process was the video recording. The camera pans over each diorama scene sequentially, similar to your eye panning over the panels of a comic linearly, row by row (Figure D). For the majority of the time, the camera moves horizontally, but occasionally it moves vertically or turns at a 90-degree angle. The camera is in continuous motion at consistent speed throughout all this.

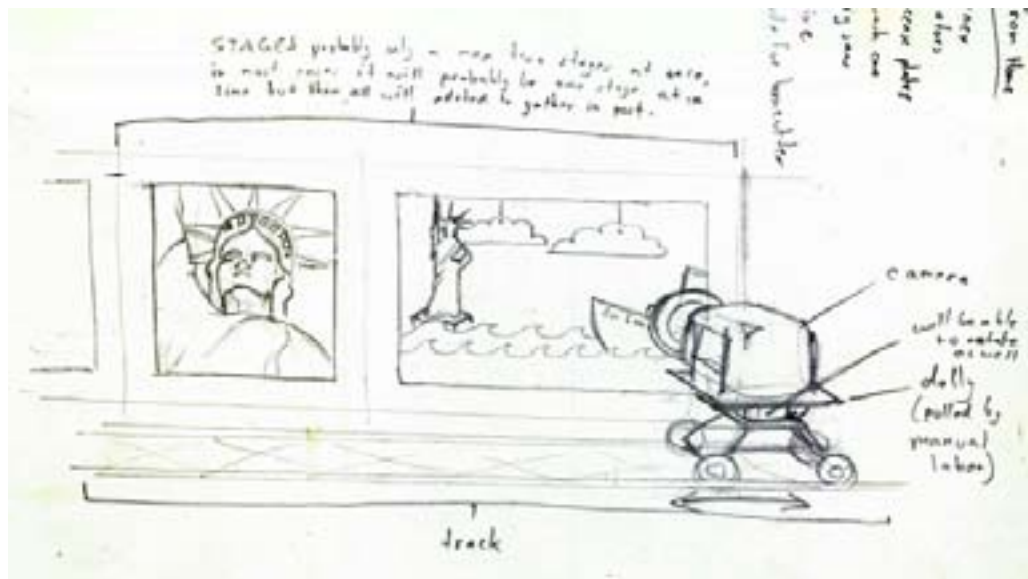


Figure D: Above is a sample drawing from my sketchbook displaying my original idea on how to move the video camera horizontally in front of each diorama.

To help accomplish my plan of video recording each of these sets, I first made an animatic which is a very rough animation made for timing purposes. It helps one to determine how long a scene should stand and how long particular motions should take. After that, I was able to move on to the actual shoot with a better sense of timing. I started out using a skateboard as a dolly on which my camera rested. A slow motorized wheel pulled

the skateboard at a consistent speed in front of each diorama, which is incredibly important for making editing easier. For the more complicated movements of vertical height change and 90-degree turns, I used a tripod to move steadily up and down and flipped the sets 90-degrees in front of the camera's eye. (This is easier than turning the camera itself 90-degrees but still gives the same illusion.)

In recording these dioramas, another important aspect that couldn't be ignored was the lighting. I used lights bought from a reuse centers and lighted in the technique perfected by Hollywood, with a key light, rim lights as needed, etc.

## Filming 2

However, a camera on a cardboard box on a skateboard (Figure E) was a poor substitute for a dolly, so it soon became apparent that I needed to graduate beyond my small, home-made video studio. I went to the effort of reserving the video studio in the University of Michigan's Duderstadt center, which came with professional cameras, lights, and two great guys, named Jeff and Jacque, who knew how to run it all. In preparation, we had three



*Figure E: My comical, homemade dolly consisted of a cardboard box on a skateboard which was pulled by a very slow motorized wheel.*

pre-production meetings and discussed what I had learned over my own personal video shooting. Finally, in March over a four-day period, I brought each one of my sets over to the video studio. Jeff would light it expertly, and Jacque would shoot each one (Figure F) as specified in a shooting schedule I had



created. It was the closest experience to being a director in a professional setting as I've ever had.

*Figure F: Shooting in the Video Studio of the Duderstadt. To the left is Jacque, the cinematographer, in the rear is Jeff, the lighting expert, and to the right is me.*

The techniques we used to shoot the dioramas were roughly similar to what I was attempting on my own, although of course, with better equipment. For the horizontal pan shots, we used a dolly on a track, which was pulled by a motor for the same reason of consistent speed. However, rather than having the camera move in front of the diorama, we discovered that the footage would look even smoother if it were the dioramas themselves that moved. This would have been impossible for myself to accomplish but we made it possible in the Video Studio. As for the vertical height changes and the 90 degree turns that I desired, we needed something smoother than what a tripod or human hands could do. Our solution was to use a jib. A jib is a camera on a long mechanical arm that can be operated from the base of the arm. This was especially useful for a 180-degree arc I wanted completed over my hand-built model of Detroit (Figure G).



*Figure G: This photo shows the camera on the jib doing a flyover over my model of Detroit. To the right, you can see a monitor that displays what the camera is seeing.*

## Post Production

After the building and the recording, finally came the postproduction. I used the program Final Cut to edit the raw footage and Adobe's After Effects to give the sets the illusion of appearing all as one consistent series of connected dioramas. I wanted the viewer to leave under the impression that I must have built one massive cardboard box with numerous openings that reveal different scenes and then had a camera run through this complex of dioramas. This visual trick required intense time in the multimedia rooms of the

Duderstadt Center, which offer the fastest computers and most up-to-date software. For the post-production savvy readers, this is where consistent speed of the camera became important, as I was using revealing masking over each diorama which had to follow along with the scene by using key frames. I also used a lot of motion tracking to attach the fake cardboard seen in between the scenes. In the end, in cooperation with my animatic, I used time-remapping to break up the constant speed and arrange the video to the beat of the music as well as to the emotional content.

Speaking of music, this was another arena that called for special attention during the creation of my project. Since the conception of my plan, I had been in talks with a graduate of the music program here at University of Michigan, Will Stanton. Throughout the construction of the project and as I got a better feel for it, I was better able to communicate with Will what kind of music I wanted. Ultimately we agreed on a more acoustic, non-lyrical sound that emphasized the emotion felt by the audience in certain scenes of the video. To help him along, I provided him with my animatic, as well as music samples of what I was thinking. The result was as planned, an acoustical composition complete with a banjo although we did take some liberties with adding a little electronic music along with the acoustics.

### Display of Work

The final video/animation in its entirety of four minutes and twenty seconds was screened in front of a large audience at the Michigan Theater in Ann Arbor, Michigan. It was also shown in the Stamps Auditorium on North Campus of the University of Michigan on two separate days. Currently, I have plans to enter it into several film festivals around the country.

As mentioned, I also have a video recording of the sets that expose the mechanics and functions of the moving dioramas. This video was pieced together from sketches, photos and live footage taken during my numerous building and shooting events. I made this additional video because I learned that people were very interested in how I had

completed these tasks and that they appreciated seeing how the sets functioned (Figure G).



*Figure G: This is a screenshot from my making of video. In this diptych, one can see on the right me working with the camera as it moves along with the skateboard. On the left, is the image of what the camera is seeing. Notice my hand in the shot.*

Lastly, I installed a projection of my videos and nearly all of the dioramas in the Work Detroit Gallery (Figure I) so that they could be enjoyed in person, although I admittedly spent no additional time rebuilding the sets so that they could be in motion and lighted during the rigors of gallery hours. So unfortunately they were only static models and in most cases, unlighted. Nonetheless, I was able to happily receive many guests at the opening reception.



*Figure I: Photo by Emma Bumstead at the reception of my show in the Work Detroit Gallery. 4/17/11*

### Contextual Discussion

Now that the functional and physical aspects of the project have been discussed, we must address the context, or more importantly, the story. The story was inspired by my grandfather's life as well as the many others whose lives seemed to take a similar trajectory as a result of what was happening in the early 20th Century.



In my story, my grandfather immigrates to America as an infant in his parents' arms from a country recently ravaged by WWI, Germany (Figure J). From Ellis Island of New York City, the family travel to Detroit, where my

*Figure J: My Grandfather as a boy with his father in front on their car in Detroit.*



grandfather grows up and eventually meets my grandmother. Unfortunately, WWII sends my grandpa into the War effort and back to the country from which he came, but this time, as an American (Figure K).



Figure K:  
a.) My grandpa standing  
on a destroyed Nazi plane.



b.) The wreckage of  
Germany after WWII.



c.) My grandpa in front of  
one of the Allied Planes.

My choice of handcrafted structures also plays into the story being told. As mentioned earlier, I wanted it to be evident to the audience that I had spent intimate time with the creation of the sets. I enacted this physical work because it was my hope that my intense time spent with the dioramas would represent an important time in America's history where likewise, people were enduring tough, intimate events with one another. I was convinced that creating some animation or video via only computer technology, a science barely scratched at in the 1930s, would be a poor impression of said time.

### Inspiration/Sources

I chose this story mostly for personal reasons. I'm very interested in history, especially the era of WWII and America's contributions, probably more so because of my grandfather's involvement. Because of his association, my project is meant to be a dedication to my grandpa's life as well as to all WWII veterans. I read Tom Brokaw, *The Greatest Generation*, a collection of stories about WWI-era American contributors. My grandma also kindly wrote me a long letter detailing the life she and my grandpa lived at that time.

I also researched many other sources for my style and technique. Gabe Askew's animation, "Two Weeks by The Grizzly Bears" (Figure L) and David Nicolas's animation, "It's Not the End of the World", greatly inspired my chosen style of hand built sets within video. A video/animation collaboration that influenced my use of videoing live mechanics can be seen in the making-of-video of "L'edition Speciale Opening," directed by Greg Barth. The artist Arthur Ganson's well-known "machines" (Figure M) fueled my desire to create mechanics that completed simple tasks. Additional sources of inspiration are the artist, Red Grooms, the book, *Detroit: American Urban Renaissance* (Figure N), the art piece, "The Way Things Go," and the video, "Bits in Pieces."

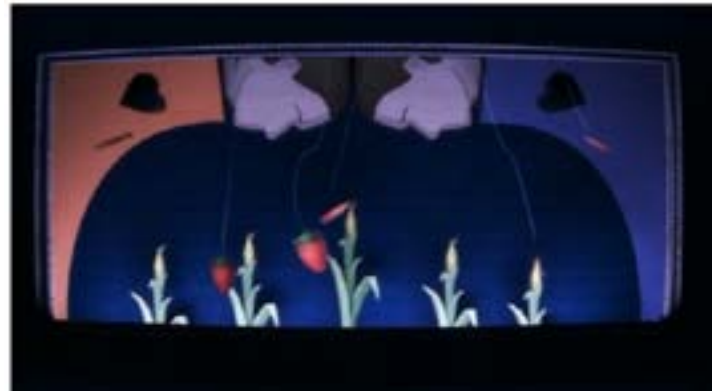


Figure L: scenes from "Two Weeks by The Grizzly Bears" by Gabe Askew 2009

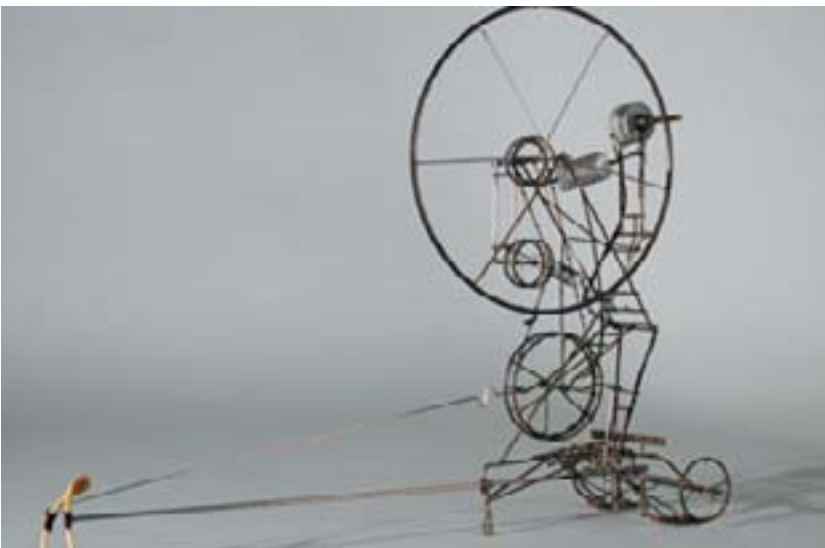


Figure M: "Machine with Wishbone" is one of Arthur Ganson's collection of "Machines."



Figure N: The book, *Detroit: American Urban Renaissance*, helped me tremendously in envisioning my sets featuring 1930s Detroit. Arthur M. Woodford 1979

## Conclusion

A common question people frequently asked me was, “why video?” If I wanted to animate objects in motion, as well as move the camera, why not do stop motion? My answer stems from the fact that I wanted to use an unusual technique. Although there is nothing degrading about stop motion, I feel that it has been overused by fine artists and anyone ambitious enough who has a still camera.



*Figure O: Scene from the final video/animation 00:00:25*

The videoing of kinetics may have caused me more difficulties, but I enjoyed the challenge and the knowledge that it's a rather unheard of technique. (The making-of-video of L'Edition Speciale was the first time I've seen this technique in use, and I witnessed this after I came up with the idea on my own.) The fact that I had come up with this technique independently had given me all the more passion for exploring this method.



*Figure O: Scene from the final video/animation 00:00:52*

We Americans live in an environment where we already possess incredible amounts of stuff but unfortunately not efficient ways of getting rid of it. So I chose to grab my cardboard off the streets where stores were throwing it out, and I chose to go to reuse centers to obtain my less-than-perfect motors and lights.

Besides, it was far cheaper. I'm proud to say my project, minus the expense for the labor of the music composer, cost under \$100.

*Figure O: Scene from the final video/animation 00:01:35*



Lastly, I mentioned I chose a path rather different from most others in that I eschewed planning and forged ahead on building things I only had a vague idea for. However, this risky choice proved to be beneficial to me in the end. During the building, I was able to formulate a plan as I went along, and by the time I completed my last set, I was also able to say with confidence that I finally had a structured idea in my head. The biggest reward to this risky procedure was that I was able to create far more than I would have if I had just sat there, tediously planning out every move first. Oftentimes, my justification for throwing out planning was repeating the quote to myself, "You don't know until you try."

This proved to be a valuable lesson in that I realized not all situations are best handled by intense pre-planning, as commonly seems to purported. Sometimes going forth with no aim can bring out beautiful, unforeseen results. Going through this project taught me to organize and direct myself, to use University resources I hadn't before, and to give in for a moment to have blind confidence in myself. As indicated in my introduction, my project was to create a video telling the story of my grandpa's life in a series of kinetic dioramas with several additional themes at work (Figure O). I believe I have completed this to my satisfaction.

Works Cited

Brokaw, Tom. The Greatest Generation. New York: Random House, 1998.

Woodford, Arthur M., and Larry P Silvey. Detroit, American Urban Renaissance; a Pictorial And Entertaining Commentary On the Growth And Development of Detroit, Michigan. Tulsa, Okla.: Continental Heritage, 1979.