



ELEMENTS AND PRINCIPLES OF 4D ART AND DESIGN

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Habituation

With any of these forms of repetition, an artist runs the risk of habituation, which is the tiring of the nerves that sense extended sameness or extended periods of rapid change. In some cases, an artist may actively seek out this result because once habituation is established, any changes to the repetition are amplified, which could help create focus within the work. In Joelle Dietrick and Owen Mundy's video *Anemophilous Formula for Computer Art*, the movement of the falling yellow-green dots creates the possibility of habituation for viewers who sit with the piece for its entire duration (see the book's website for a link to this work).

Exercise

As a class, stand up and scatter throughout an open space or room. Start moving around the space. Then select a person whose movements you are going to attempt to copy or repeat. Make sure the person you are repeating cannot tell you have chosen him or her. You do not have to repeat everything about this person; you could select just his or her tempo, direction, gestures, posture, and so on. Notice those around you, and see whether you can tell who they are repeating. Once you locate a pair, add yourself to their repetition. Continue until everyone is repeating the same person.



performance

Rhythm

Rhythm, a regularized repeating of movement or sound, is an element of musicality that has been borrowed by visual artists and designers. It can occur anytime repetition is present, and its opposite is *irregularity*. Humans embody rhythm in their heartbeats, breathing, and daily activities like walking. Human voices also tend to follow unique rhythms. Rhythm is utilized in animation and video as similar images, cuts, or types of shots repeat, and it can also be found in lighting and sound. It occurs in video games, which calculate and integrate how many times you can rapidly and rhythmically press a controller button. Rhythm can also help establish a sense of mood and timing in your work. For example, a very rhythmic soundscape could create a sense of calmness and reliability, or it could insinuate an oppressive environment. Meanwhile, irregularity in your work can keep participants on their toes, or it can leave them confused, scared, or amused.



Fig. 4-16

Heidi Kumao, *Swallowed Whole* (2014), digital video, single channel, color, stereo, 4:07 minutes. Courtesy of the artist.

An example of rhythm in action is Heidi Kumao's single-channel video *Swallowed Whole* (2014) (fig. 4-16). This piece explores a feeling of isolation. It involves a rhythmic rolling of imagery from the top to the bottom of the screen. This movement simulates the crunching and compressing action of the sledding accident in which the artist broke her back. This traumatic experience inspired the work that in turn tries to convey the personal trauma through the manipulation of imagery.

Interview: Heidi Kumao

Swallowed Whole is a somber, animated, experimental film about surviving extreme isolation and physical limitations as a result of traumatic injury. After breaking my back in a sledding accident, I was forced to lie supine on the couch for 3.5 months during which my mind often descended into a desolate, disorienting dreamscape. Feeling stifled, I imagined that I was trapped under a frozen lake; life continued on above me while I looked up from below. This sensation became the kernel from which I created this film.

Swallowed Whole draws a parallel between the exploration of this suspended state and Arctic exploration. The Arctic is a

(continued)

Interview: Heidi Kumao *(continued)*

completely foreign landscape to most people, a place in which time slows down, activity of daily life is transformed, and human capabilities are tested by its physical extremes. These characteristics could just as easily be used to describe the physical and psychological experience of recovering from a traumatic injury. Both journeys require the navigation of harsh new territories and possess unlimited blank space for thoughts, hallucinations, dreams, and nightmares. *Swallowed Whole* weaves together photos, animations, videos, and sound recordings and takes the viewer on an abbreviated journey through the physical and psychological landscapes of hospitalization and recovery. Some of the imagery and sounds were collected during The Arctic Circle 2013 Summer Solstice Expedition, an international research expedition for artists, writers, and scientists.

I edited the video to emphasize the physical impact of dropping, crashing, and slamming; repeated vertical frame-rolls from analog TV metaphorically replay the impact that literally broke my back. I wanted to create a video that viewers would feel; the bone-crushing sounds and jarring movement echo throughout the film mirroring the repetition of trauma, and the trauma of repetition, commonly associated with post-traumatic stress disorder. The recurring instability of the image reflects the fragility of my injured body while providing a palpable experience for the viewer. The piece is inspired in part by Joan Jonas' *Vertical Roll* (1972) which uses a common analog television set malfunction-to create a shifting stage of activity. *Swallowed Whole* uses fragmentation to both tell and disrupt the story and serves as a window of empathy into PTSD repetition compulsion.

—Heidi Kumao



Visit the book's website to read the full interview.

Pattern

Pattern is a repeated set of organized elements. Human brains are wired to detect pattern even if no patterns actually exist. For example, many people search for familiar shapes in cloud formations. Pattern is inherent