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Exploring Time and Space in Frame-by-Frame Filmmaking

Two super-short films of Brakhage and PES

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The fundamental goal of mainstream cinema is to create the illusion of seamless movement in real time and space, even though in actuality, the filmmaker must use thousands of discrete, separate frames. Many experimental filmmakers, most famously Stan Brakhage, call attention to the physical medium of film: celluloid at 24 frames-per-second. In Brakhage’s “Night Music” (1986), the many images assault the eye with a jarring, incessant disconnect; he denies the viewer any persistence of vision, fluid animation, or traditional continuity. The essential concept of frame-by-frame serves a different purpose for the stop motion animator known as PES. In his most recent animation, “Fresh Guacamole” (2012), he uses the inherent division between cinematic frames to craft clever substitutions of objects in time. “Night Music” and “Fresh Guacamole” both rely on the painstaking process of frame-by-frame filmmaking, but for completely opposite reasons. PES creates fluid transformations of space in apparent real time through rich and precise animation and sound, while Brakhage intentionally
Ketchum fragments his silent film into about 300 distinct individual frame canvases, played in rapid, disjointed succession.

“Night Music” appears to be a combination of hand paint, water color, and light-leak exposures directly on film. The immense detail and size, as compared to Brakhage’s other films, is due to the physical 70mm IMAX film stock which is 2.75 inches wide compared to the less than .5 inch width of Brakhage’s typical 16mm film.

![Figure 1]

16mm has a total area of about 76 square millimeters, while 70mm has forty-four times that total area at 3,360 square millimeters (fig. 1, approximate actual size).

The achingly gorgeous, vibrant colors blend, bleed, and dance across the giant frame in perfect contrast and clarity. The harsh tones of the super-hot oranges and yellows pop against the cool blues and greens in the vivid neon palette (fig 2).

Following the standard
“By Brakhage” hand-drawn opening, the viewer is treated to eighteen seconds of fleeting, ethereal imagery evocative of the Hubble nebula photos or the intense successive visuals of a closed-eye acid trip. Each fragmented frame could stand alone as a frame-able art piece, and ten large prints of any ten frames could serve as a more-than-adequate psychedelic, cosmic art exhibit.

It’s his second shortest film at eighteen seconds (one of only three Brakhage shorts clocking under one minute) but it’s as visually dense as any of his films. Re-watching and frame-by-frame watching of “Night Music” reveals the artistry of his film. The rate of editing is unique and notable. He uses three speeds: fast, faster, and fastest. It starts at faster, at twelve images per second (each image is doubled to take up two frames), then goes to ultra-fast twenty-four images per second (each frame is a different image), then it decelerates to about five images a second, before accelerating to the close. When played back at normal speed, the effect is spastic. The film seems to breathe, seize, and flutter while the eye and the brain feel over-stimulated, trying to process the many images. Much of the shape, color, and detail of each complex frame (fig. 3) registers, but contemplating each image separately proves impossible. Brakhage does this intentionally to remind the viewer of the physical film format: light projected through celluloid at twenty-four frames-per-second. He stimulates us with an array of light and color play that suggests a dream or perhaps more accurately, the way that our brains sift through thoughts and ideas. His craft feels intensely cerebral, but somehow, the experience is simultaneously oppressive and blissful.
The playful and ironic stop-motion animated “Fresh Guacamole” combines everyday objects with culinary sounds and actions to provoke hunger and salivation. Since a real person’s hands are shown cooking in frame-by-frame animation, pixilation is implemented as well. The clean, artifact-free image quality suggests that the piece was captured digitally. In the first shot, the key title “Fresh Guacamole” appears in contemporary, green text. Next, a cook’s bare hands are shown sharpening a knife on a block. The animation and lighting looks almost indistinguishable from real live-action motion, but slight imperfections and stuttering in the movement keep the movement noticeably animated. Each of the typical ingredients of guacamole are replaced by similar looking non-food objects. A grenade acts as the avocado (fig. 11), with play-doh as the green filling and a mini pool ball as the pit. A baseball serves as the onion, and a red pin cushion represents the tomato. A green golf ball plays the lime, and a green light-bulb represents a chili pepper. The objects are texturally transformed into their food counterparts through the corresponding food activities, and the clever animations. For example, an old, yellowed softball (fig 4., see below) is ‘peeled’ (fig 5., see below) to reveal a new, white baseball inside (fig. 6, see below). The obvious connection is an onion, a key ingredient of guacamole, which we’re told to expect as the recipe by the film’s title. The key aspect of the video that suggests the onion comparison is the excellent, convincing sound design. PES inserts the crisp sound of the driest onion peel being handled and crushed over the peeling action. The sound is loud, intimate, masterfully recorded, perfectly timed and placed.

PES adds a second layer of metamorphosis, a layer more playful and clever than the last. After cutting the baseball/onion in half, the chef lays the half-sphere flat side down then cuts it into four strips, the same way you might cut an onion. The chef turns...
the strips, while still in a half sphere, 90 degrees, but this time, as he slices, the strips turn into stacks of white dice (figs 7-10, see below). This transformation is genius on several levels. First, the shift from round to cubic is sudden, jarring, and unique. Second, our expectations are thwarted because we just saw this action happen with more logical results. And finally, the linguistic pun of “dice” and “diced,” becomes delightfully tongue-in-cheek as subtext. When slowed down frame-by-frame, the realistic animation transformation techniques are revealed. In all the cutting shots on the board, the first frame starts with the knife above the ball (fig. 7), the next is on the ball (fig. 8), then the next frame jumps to the board with the object cut (fig. 9), or in this case, with the dice replacing the ball section. The further an animator moves an object from one frame to the next, the faster it appears to move. PES uses this to his advantage, by replacing the diced baseball with dice, so that the illusion is practical and almost seamless. It’s conceptually quite simple, yet it’s painstaking to produce and exceptionally creative as an idea. The finely chopped mini-dice that appear in assorted sizes in more random locations effectively and gleefully multiply his motif. PES continues with these clever swaps and conversions as he gathers the rest of the ingredients (e.g. the tomato/pin-cushion dice match in red).

Further through the guacamole preparation, fantastic stretch-and-squash animation shows a golf ball to be as flexible as a lime. Consistently, all of the audio keenly matches the actual food sounds that would be produced. The short has no music, which causes a matter-of-fact tone and leaves the focus on the top-notch sound design. At the climax of the video, all of the ingredients (a mixture of clay, dice, monopoly houses, and salt and pepper sequins) are combined in a stone pestle-and-mortar dish. The hands stir it and the dish looks surprisingly appetizing. The inert plastic becomes mouth-watering because of the myriad sounds and the many associated food preparation actions: they imply the food that does not even exist on screen. Enough of the experience is present to signal the whole event. In his last bit of irony, PES places casino “chips” around the guac bowl, and when dipping, the chip breaks in a jagged line (see cover page), a classic disappointment of the chip-and-dip experience.
Both PES and Brakhage worked tirelessly with frame-by-frame filmmaking. Brakhage consciously destroys the persistence of vision illusion by placing similar, but non-contiguous canvases next to each other in each frame. The result is pure color and form spastic stimulation, exciting the eye and mind for its brief, fleeting eighteen seconds. PES, on the other hand, uses frame-by-frame animation to imply real movement in real time and space. Their goals run opposite to one another: Brakhage exposes the constructed-ness of the persistence of vision effect, while PES works tirelessly to mask it. PES’ use of sound is crucial, while Brakhage omits sound completely. Brakhage employs celluloid for an analog look, but PES attempts a more sterile, hyper-real, digital look…yet each feels lovingly hand-made. “Night Music’s” pace is blazing and near incomprehensible, while “Fresh Guacamole” is leisurely. They both use saturated colors and strict attention to detail for aesthetic gain. A comparison of the two seemingly unrelated films reveals much about the frame-by-frame aspect of filmmaking. The same fundamental principle allows for slick digital trickery, or disjointed, fragmented contemplations of the film format itself. Brakhage and PES both successfully wield the cinematic frames in these wildly different, yet equally rich and provocative experimental films.
Works Cited

“Fresh Guacamole.” Dir. PES. Showtime, 2012. Film.