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Film Grows Unseen: Gregory Markopoulos, Robert Beavers, and the Tectonics of Film Editing

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Abstract

After the act of shooting and considerations for the machine that is the motion picture camera, film stock itself, the living artefact of cinema, is the site of the majority of aesthetic concerns that face the filmmaker. This article looks at the material aspects of film and film editing within the context of the American avant-garde, focusing on its use of 16 mm. In particular it examines the work of two filmmakers, Gregory Markopoulos and Robert Beavers, and shows how these artists' interactions with film itself, and the craft of editing that film, informed their artistic process in productive ways. The advent of 16 mm film as an amateur stock presented a handcraft situation to the independent filmmaker: one which, in the case of Markopoulos and Beavers, led to an equally specific interaction with the material of film and the film image.

Keywords: Gregory Markopoulos, Robert Beavers, Stan Brakhage, 16 mm film, film editing, avant-garde film, Temenos, *Eniaios*

In 1923, 16 mm was first introduced as a standard film gauge. George Eastman, founder of Eastman Kodak, had been testing different gauges in the hopes of encouraging amateur filmmaking. At the time, several other formats were vying for the market. One example was Pathé 9.5 stock, a 9.5 mm wide format whose picture size was actually comparable to 16 mm due to the fact that its sprocket holes ran down the center of the film rather than beside the image. The two drawbacks to this film were that in printing, the holes led to light streaking across the image, and that if the projector claw missed the sprocket hole it would likely scratch the center of the frame. Another stock, 17.5 mm, was rejected by Eastman since it could easily and economically be cut down from 35 mm professional stock. This was an important disincentive, because 35 mm

at the time was made with a nitrate base; Eastman knew that it would eventually be necessary to use a gauge that could eliminate the use of such highly flammable material (modified gun cotton, essentially) in domestic situations. His solution was 16 mm "safety" film, exclusively made with nonflammable acetate. With 3 mm for sprocket holes on either side and 10 mm of image area in the middle, this yielded a larger image than the Pathé 9.5 mm stock, but couldn't be economically split from 35 mm (Figure 1).¹

The flammability of the nitrate base was not the only factor necessitating a different amateur stock; it was also the fact that 35 mm professional motion picture film up to that point made use of negative processing. The camera original, after development, was a negative image. Subsequent to editing, this negative could be printed again on negative print stock, rendering a positive image. This process is suitable for professional production, as in this context films are typically edited before printing. In reversal film like Eastman's

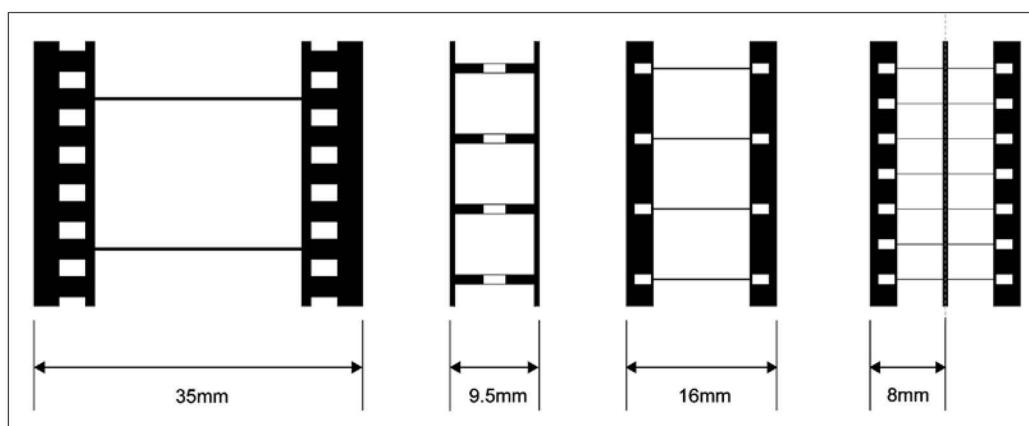


Fig 1 Film gauges. After Lennie Lipton, *Independent Film Making*.

16 mm, the camera original yields a positive image after processing, with no further cost.² If a filmmaker chose to edit and print the reversal film, the invention of reversal made this possible too, with only one more step of printing on reversal print stock, positive onto positive. In 1932 Eastman went further into the amateur market by splitting 16 mm down to 8 mm, a stock that increased the length of film fourfold: 100 feet (30.5 meters) of film which rendered two minutes and forty seconds on 16 mm would provide ten minutes and forty seconds in 8 mm. This was achieved by running the 8 mm exposure down one side of the 16 mm stock first, yielding two images per frame, then at the end of the roll flipping the roll to film on the other side of the frame, filling up the other two parts of the frame to yield four images per frame. In processing, the lab would split the roll, making it viewable on 8 mm equipment (Figure 1). The extremely low cost of this process inevitably led to its dominance in the so-called “home movie” market; 16 mm remained an interstitial stock, too expensive for the amateur and too low in quality for the studios.

The American Avant-Garde

It was against this backdrop of film media that the filmmakers of the American avant-garde emerged in the 1940s and 1950s. They gravitated toward 16 mm as their preferred medium of expression, both due to the accessibility of 16 mm cameras and the characteristics of the film itself. Its picture quality is four times as good as 8 mm “bootlace,” and also much less expensive than 35 mm (at the time, about one sixth of the cost).³ Beyond issues of picture quality and cost, the format also offered an easy

interface to the independent filmmaker. The 16 mm camera, although not nearly as light as an 8 mm one, is much more suitable for hand-held work than the 35 mm camera. And when editing, the 16 mm stock was not only relatively manageable in length (shorter than available rolls of 35 mm) but its images, due to the reversal process, could also be seen clearly and in positive, either with the naked eye or with the help of a regular magnifying glass. At that time, 35 mm motion picture film was still mostly negative-based, and 8 mm was so small as to be functionally opaque.

The transparency of 16 mm film, and its workability on the level of handcraft, encouraged its practitioners to expand their scope into the realm of editing. In the 1940s, filmmakers like Maya Deren approached editing in a manner that could be seen as a hold-over from professional cinema. She describes her process as follows: “The conception consists of a visualization of the finished film … Everything—action, expression of actor, camera angle, film field, and the finished, cut relationship of shot to shot—are included in the conception.”⁴ To the extent that the “conception” often took the form of a detailed storyboard, she was not yet exploiting the possibilities of postproduction, other than editing out the bad takes and pacing the shots.

However, in the 1950s and early 1960s, as more nonprofessionals started to make films subject to their own artistic sensibilities, the editing process became a crucial aspect of artistic expression. In his book *Film at Wit’s End*, for example, filmmaker Stan Brakhage recalls his colleague Marie Menken’s editing process as analogous to her practice of making paintings with colored string:

When she came to film, then, she looked at it first of all as a “thread” of many shades and colors to be woven or “spun out” into related patterns. She would hold the strips of film in her hand very much as she would strands of beads to be put into a collage painting. She would hang the film strips on clothespins and, after much meditation and often without running them through a viewer at all, would cut them together. Finally of course, she would view the film over the projector.⁵

This practice of reacting to the film at the scale of the hand-held, both when filming and editing, is a theme that runs through the American avant-garde almost from its inception until now.

On Splicing

The process of putting film together, called splicing, has its own physical considerations that are essential to the aesthetics of the film. Splicing can be done using either of two methods: tape splicing or cement splicing. In

a tape splice, two pieces of film that are to be joined together are cut precisely at the desired frame line, then butted together. At this point, a piece of cellophane tape two film frames in length is adhered so that its side edges are directly on top of the two frame lines (Figure 2). This hides the splice from the viewer, except for a slightly softer focus in the images of the two frames on either side of the splice, due to the gummy adhesive of the tape. Tape splicing is inexpensive and easy to perform.⁶ However, tape splices are not as archival as cement splices; if they are kept for a long time they will stretch, and eventually the adhesive will dry out or the tape itself will become brittle.

In a cement splice, two pieces of film are brought together; shot A and shot B. Shot B is cut slightly over the frame line, so there is about one-sixth of the previous frame still attached. This tab on shot B must first be scraped of any emulsion—the layers of material that sit on top of the acetate base and contain the image. Once the emulsion has been scraped away and only the acetate

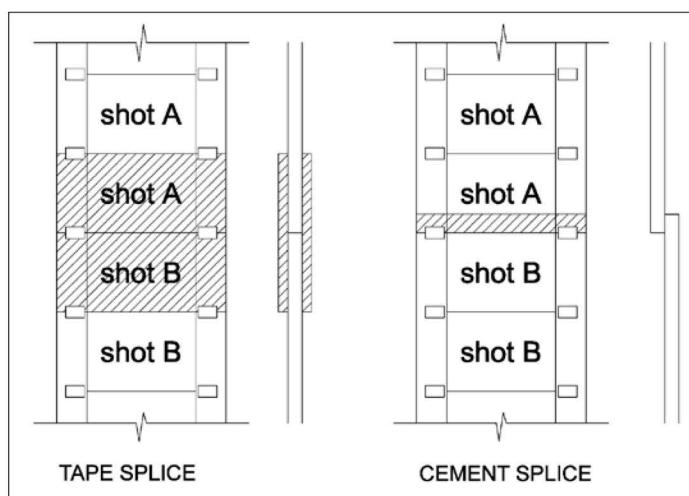


Fig 2 Tape splice and cement splice. After Lennie Lipton, *Independent Film Making*.

base is left, this extra part of shot B is joined to shot A so that their frame lines coincide. The cement used to bind the two pieces of film together is not technically glue, but a chemical welding agent. It dissolves the film base for the time it takes to make the splice, and as it dries the two pieces are welded together, essentially making them one continuous piece of film (Figure 2). This means that for one frame ($1/24$ th of a second) the image will contain a slightly darker bar along the bottom, as well as a dark line along the edge of the tab of shot B.

To the extent that splices become visible, emphasizing or hiding them becomes an

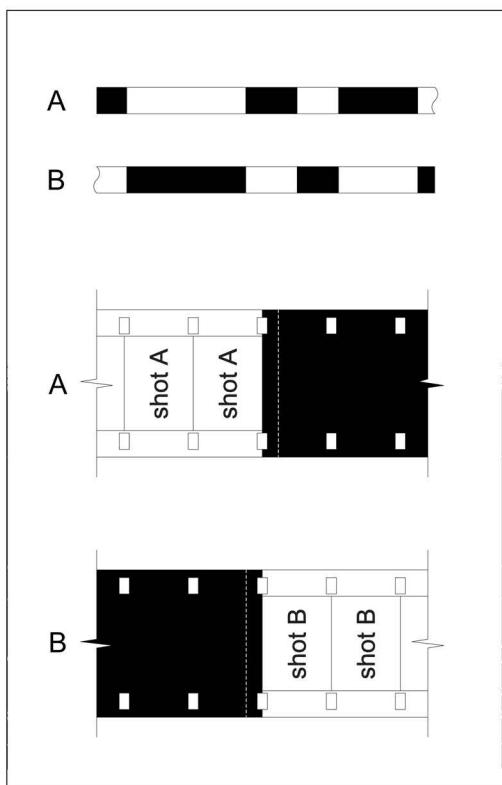


Fig 3 A & B roll printing. After Lennie Lipton, *Independent Film Making*.

aesthetic consideration. In Menken's films, the splice is there to see for the attentive viewer. After cutting her shots together, she sent the spliced film directly to the printer. All the splice marks were transferred to the reversal print stock along with the images of the film.

To hide the splice mark without using a tape splice, the filmmaker must resort to a method known as A and B roll printing. In this method, two rolls of film are transferred to the print stock. For a given shot, Roll A has the image and Roll B has the black leader. As the light is projected through both rolls onto the print stock, only the image on Roll A prints, since the black leader on Roll B is blocking the light. When there is a cut and the shot changes, then Roll B has the image and Roll A has the black leader (Figure 3). The A and B roll printing method is the best way to hide a splice, since the cemented tab can overlap onto the black leader at every change in shot.

In 1964, Brakhage and Gregory Markopoulos corresponded on a variety of issues regarding film splicing and printing. Brakhage, the protean master of film as a physically plastic medium, was then already engaged in a variety of handcrafted manipulations including scratching the emulsion, painting directly onto the film, and even taping organic material to the base for an entire four-minute film, *Mothlight*. Markopoulos's films by contrast were then known for their classical subjects, exquisite colors, and pristine technical aspect. Brakhage later published one of his letters to Markopoulos as the chapter "On Splicing" in his film instruction book called *A Moving Picture Giving and Taking Book*. The letter is far-ranging⁷ but does provide a fascinating insight into the different ways that Brakhage

and Markopoulos approached the film image and the editing of film. In one section, Brakhage draws out the subject of hiding a splice and its aesthetic considerations:

The commercially professional way to make the splice invisible is the one I'd guess you usually use, that is: "A&Bing" as it's called ... but I have found this method altogether too distracting while creatively editing original [sic] and, of late, I usually have multiple superimpositions going on AB, ABC and even (in Part 4 of *Dog Star Man*) ABCD rolls with no room left on the synchronizer for splice-hiding rolls even if I wanted it ... During Part I of *Dog Star Man* I became particularly concerned that the splice SHOULD show (as a kind of aesthetic counterpoint to the plastic splicing and the fade-out-fade-in, etc. ... The Splice, that black bar breaking two kinds of white, operating aesthetically as a kind of kickback or kick spectator out of escapist wrap-up, or reminder ([as are flares, scratches, etc. in my films] of the artifice, the art, et set-TO) and I became very involved in the splice bars as operative visual cramps ... Of course, aesthetic involvement WITH the splice does increase the need to be able to hide the splice when it isn't wanted ... Every time I go to make a splice regularly I decide which of the two joining frames will carry the splice bar. If I want to semi-hide it, I'll usually choose the darkest and/or most complex image; but very often a lighter but more rapidly moving image will hide the bar better and/or an image mainly composed of horizontals, etc., etc., etc. Sometimes, for instance, I choose to leave the double emulsion bar in a base-

to-base splice because it cuts off some of the preceding image and makes a plastic flow into the following image, etc., etc., etc. ... and in other words, all these etceteras stand for one whale of an aesthetic involvement in *The Splice*.⁸

As Brakhage makes clear, his reasons for leaving the splice evident are both practically and aesthetically motivated. By contrast, "A&Bing" is a process that is best suited to an editing situation in which one is not viewing the film while editing. At the core of Brakhage's editing strategy is a sensitivity to the moving film image as it begins to exist in front of him on the editing table and in the viewer. This alertness during editing is perhaps responsible for one of his startling innovations. In the letter Brakhage declares his preference for double-perforated film, a silent-era 16 mm stock that has perforations along both edges (the second row of perforations was replaced with space for an optical soundtrack in most 16 mm stock after 1935). For Brakhage, the double perforation "always permits a fourfold use of any strip in relation to any other strip in editing for greater flexible handling of any (particularly abstract) image in movement,"⁹ That is to say that the image could be rotated and mirrored in order to be used in four different configurations: original, upside down, flipped over, and flipped over upside down.¹⁰ Thus, the process of "creatively editing original" is of such primacy that it demands the filmmaker be able to flip and rotate material depending on what is required by the surrounding shots and the film as a whole (Figure 4).

By contrast, when Markopoulos was editing he not only felt no need to see the



Fig 4 Splice from *Anticipation of Night*, by Stan Brakhage. Courtesy of the Estate of Stan Brakhage and www.fredcamper.com.

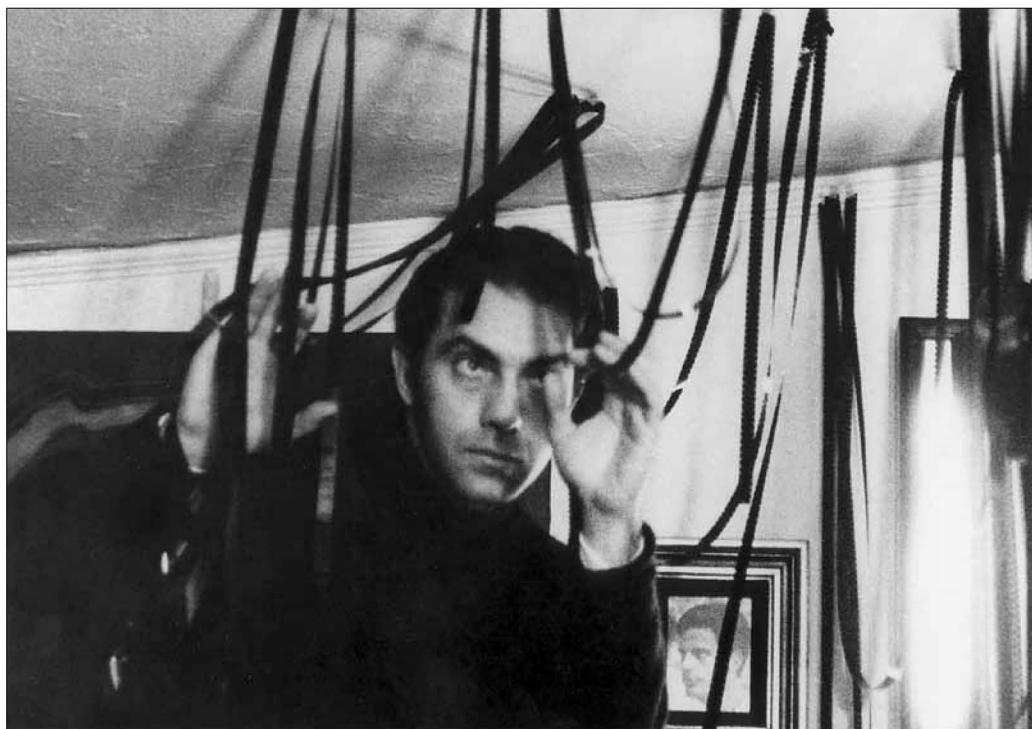


Fig 5 Gregory Markopoulos editing *The Illiac Passion*, 1964. Courtesy of The Temenos Inc.

film as it was being made, but was even somewhat dependent upon the film being unseen until the editing was complete. Markopoulos was "A&Bing" at the time of Brakhage's correspondence,¹¹ but this was more a reflection of his conception of the purity of the film image rather than a troublesome means of hiding splices. In an interview with Jonas Mekas in 1967 he described the process:

I screen my film footage once, to know what there is. Then I hang it in strips on the wall. Roll by roll, I work in 100-foot lengths. I don't work necessarily in sequences. I never start editing until the film is completed ... So I take a strip,

usually ten feet or so, and I just put it into the aperture gate and run it, just to see it, and then I snip it. After I snip it, I put the X-marks on each end of the shot, and those are the only frames they can cut, for A & B rolling (Figure 5).¹²

In his own writings on the subject, Markopoulos retains an awareness of the tactile craft of film but emphasizes the visionary aspect of the making process. In 1974, in a piece called "The Intuition Space," he writes:

The question must be asked: what does the filmmaker see? What does the film spectator see? What does the film projectionist see? The filmmaker, if he is

truly a filmmaker, looks at a film image on a table—a sparse table. He views by hand, using a small magnifying piece, a single frame, a film image. This constant instant of contact produces the undisturbed vision which becomes the meaning of the work. What is the meaning of the work? *The Work Is The Meaning ...* For the filmmaker to refrain from viewing his film rolls as images in movement is to imbue them with a far greater and extraordinary Movement.¹³

In contrast to Brakhage's approach, in which film is treated willfully as a moving plastic medium, Markopoulos chose to react to single frames, not as movement but as conceptually separate, ideal forms. Markopoulos did engage in the same flipping and rotating of the filmstrip,¹⁴ but not in a way that was necessarily contingent upon shot-to-shot relationships. In his filmmaking, each manipulation is not a reaction to the preceding or succeeding shot, but rather a recognition of the shot as a single frame, an irreducible element, existing in space almost like sculpture and equally viewable from all sides.

Robert Beavers

Soon after Markopoulos corresponded with Brakhage, a 16-year-old Robert Beavers left Deerfield Academy in Massachusetts and moved to New York City. Having met Markopoulos the summer before, they soon began a relationship and artistic partnership that would last until Markopoulos's death in 1992. Initially, Markopoulos's age and experience led him to adopt a mentoring relationship. But Beavers soon took in Markopoulos's aesthetics and technique

and reconfigured them in totally singular ways. To begin with, there is a much more self-conscious regard in Beavers's work for the artefacts of the work's creation. He kept extensive notebooks of his films before and during their production (Figure 6). These might include drawings and designs of custom filters and mattes alongside detailed notes and shooting summaries. In the films themselves, Beavers manipulates his Bolex camera by using color filters and mattes, and even the innovation of turning the lens turret during filming, rotating the different circular views of the lenses in and out of the blackness between them. The craft of filmmaking represented in the notebooks and camera work ultimately became the subject of *From the Notebook of*, a film which completely overhauled and re-evaluated the intellectual method of Leonardo da Vinci, resituating it within the practice of filmmaking.

In editing, Beavers insists on the same engagement with film material as Markopoulos, only in a slightly more drawn-out fashion. He described the act of editing a film to Tony Pipolo in a 1998 interview, comparing his approach to Markopoulos's:

I usually start a film with just a few notes; the notes develop further as I am filming and continue while I edit. Once the filming is completed, or sometimes before it is completed, I project the footage and then separate the shots, noting each shot and its details. And I usually snip one or two frames from the shot and place this on a sheet of paper. While editing, I have all of the footage before me wound onto cores and I have these sheets with the film frames, and I have a set of rewinds

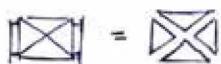
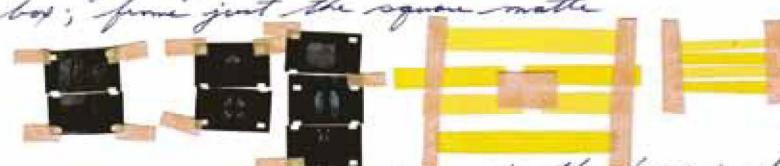
- 25/4/70 Filmed two rolls with blue horizontal filter strip in matte
- With the proper image were only the more dense filter not the cc.
- Frames cut diagonally  = 
- 
- 26/4/70 Film April segment: each shot 24 or 48 frames
In b/w footage the progression from WA with square matte to the part inside square matte being the entire frame
- \rightarrow 
- 
- 28/4/70 In filming of frames use the H.A. to show action of hand and on extremely different scale
- Perhaps purge only frames containing person and movement - (pedestrians, cyclists, cars)
- 30/4/70 Pulling away the black paper from entire matte box; frame just the square matte
- 
- Repeat filming through frame to the hand in from picking up feather.
- 1/5/70 Yesterday and today, filmed 2 rolls of frames with matte and filter, and plan another 4 rolls

Fig 6 Page from Robert Beavers's notebook. Courtesy of Robert Beavers.

with the reel onto which I wind the pieces of film as I choose them. When it is finished, or nearly finished, I then look at it on a Steenbeck table or project it. It is important to have that space between editing—and the special quality of memory, which is involved—and seeing the actual film in front of one. It is to a certain extent how Gregory edited some of his films, although he was thinking in smaller units.¹⁵

The role of memory is vital in Beavers' editing, but so too is craftsmanship: the physical object of the film and the hand's movements in relation to it. Across the three stages of filming, editing, and viewing, there is often a commingling or a common thread. Beavers writes: "A continuity develops for the filmmaker between the physical structure of the medium and each action involved in the filming ... The same hand that operated the camera now places each image within the phrases of edited film. Even the simple unwinding and rewinding of film rolls is part of this process and can help to release an insight leading to the film's distinct form."¹⁶ It is essential that when Beavers comes to the actual splicing of footage, the film has been fully internalized through the matrix of both visual and haptic memory; it need not be seen as he works. In "Editing and the Unseen," he writes:

I memorize the image and movement while holding the film original in hand; the memorizing gains weight and becomes a source for the editing. To view the film on an editing table would only distract me from this process and create the illusion that editing is done in the viewing ... The editing responds to holding the image in

hand and to the weighting of memory and is protected from an over-determined intention. There should be almost no need to view the film projected until the editing is completed.¹⁷

Thus one aspect of Beavers's process involves a radicalization of Markopoulos's early editing aesthetics. Beavers gives primacy to the related acts of getting footage and getting to know the footage. Once the footage is known, editing can occur without recourse to "actively editing original."

Work Done

One of Beavers's films, *Work Done*, serves as an example of how this method of editing can work in practice. Filmed in Florence and Switzerland over the course of 1972, then reedited and finished in 1999, the film depicts a series of trades and crafts, all of which are related to their materials. It starts in a room with a vaulted ceiling. The walls are painted gray up to a certain height and above that they are white, as is the ceiling. In the gray part of the wall, almost at chest height, there is a small square door that opens onto a long square block of glistening ice. As P. Adams Sitney has noted, the title of the film might refer to a sign on the wall that reads, "E rigoramente vietato l'ingresso alle persone non addette a lavoro" (Entrance is strictly forbidden to anyone not employed on the work).¹⁸

This opening is followed by shots taken at a river, introducing the idea that the "work done" is the act of giving form to something that is essentially formless, natural, or at least fluid. And indeed the rest of the film develops this relationship explicitly in pairs of images with similar relationships. The pair

of ice and river is followed by shots of trees being cut and the binding of a book. Later, shots of a mountain are paired with those of masons digging up a street and repairing it with cobblestones. In the final images of the film, a cook fries pig's blood crêpes, or roventini, in a skillet at a sidewalk restaurant (Figures 7–10).

Over the course of the film, a cross-pollination of formal relationships between the images comes into play. The excavation of the street somehow positions the datum of the gray paint in the room in which we first saw the ice. The gray under the cobblestones of the street and gray paint

in the lower half of the room suggest an underground locus for the ice, below the celestial forms of the arched white ceiling. The pig's blood of the roventini flows into the pan, a liquid like the water of the river, and solidifies like ice, though it has been subjected to the opposite process of heating. The glistening surface of the roventini points back to the surface qualities of the ice. Round roventini, square block of ice. All of these relationships, beyond the basic explicit pairs, are pure speculation on my part, and viewers will see their own correspondences. But the film does nonetheless invite each viewer to compare

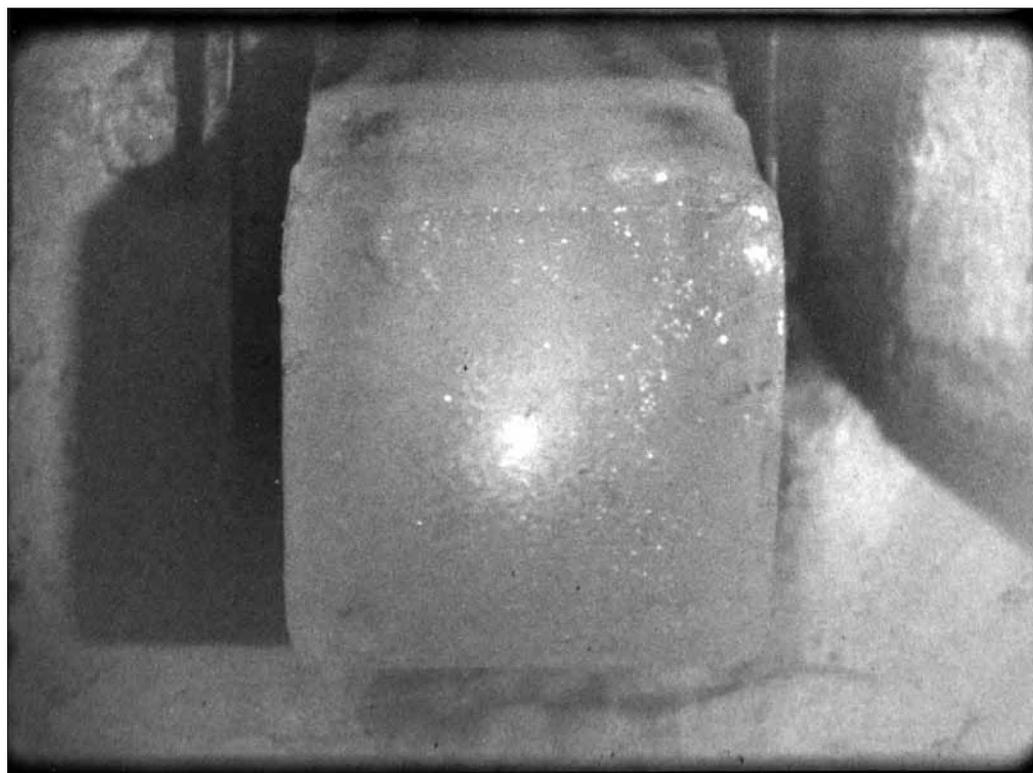


Fig 7 Still from *Work Done* by Robert Beavers (1972/1990). Courtesy of Robert Beavers.

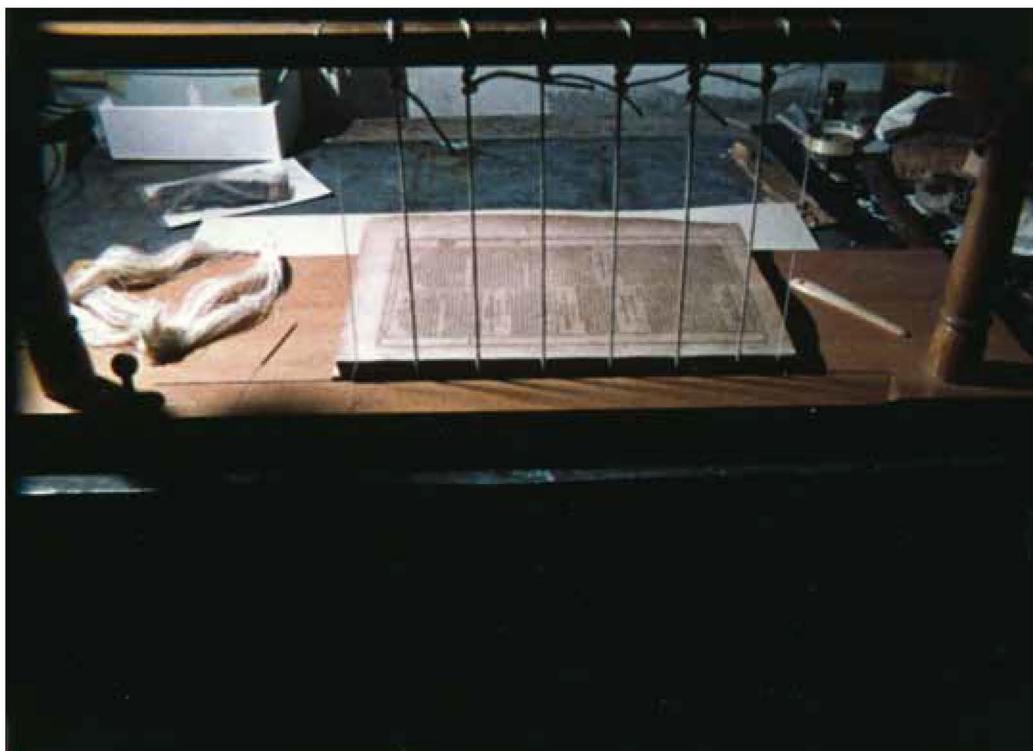


Fig 8 Still from *Work Done* by Robert Beavers (1972/1990). Courtesy of Robert Beavers.



Fig 9 Still from *Work Done* by Robert Beavers (1972/1990). Courtesy of Robert Beavers.

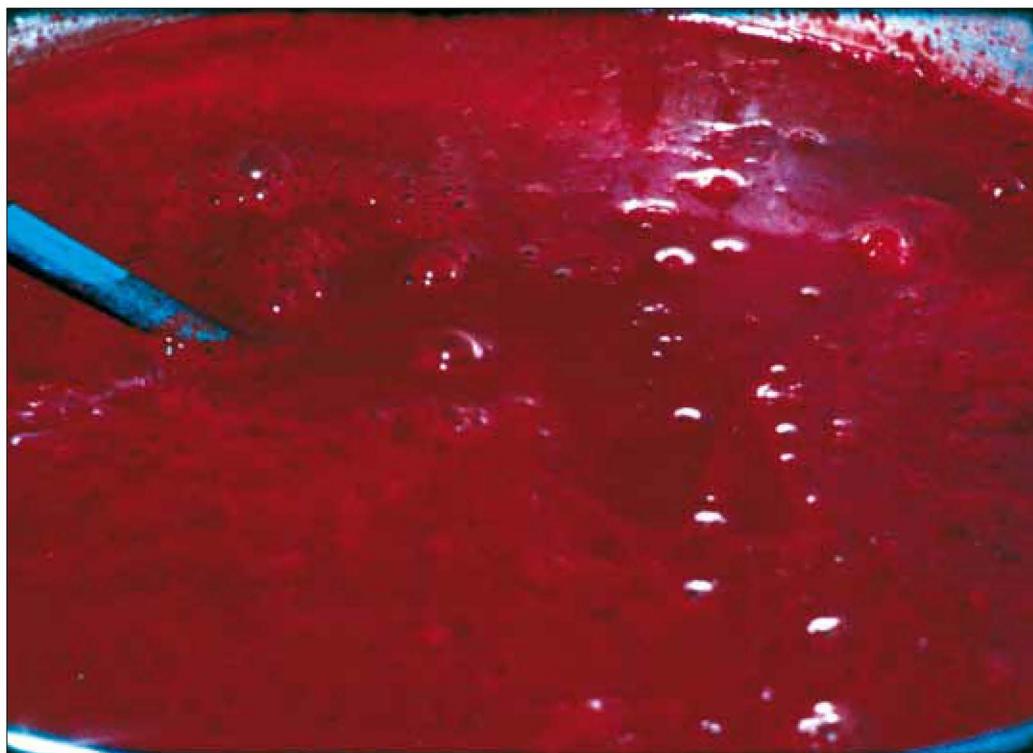


Fig 10 Still from *Work Done* by Robert Beavers (1972/1990). Courtesy of Robert Beavers.

and juxtapose the images as they follow one another.

Beavers himself, after his editing was complete, saw in the progression of the film a possible relationship to an image from Dante. Answering questions after a screening of *Work Done* at the Museum of Modern Art in 1974, Beavers suggested that the film might have had something to do with Dante's image in Canto XXXII of the traitors encased in ice—treachery being the sin of "cold blood." If *Work Done* does allude to this literary scene then it does so not as a reference but as a drawn-out genealogy of the poetic image; in Beavers's words, "In the first version, I did not intercut

any of the scenes until the last element, the blood, is introduced and then I intercut with all the earlier elements except the ice. It is as if I were saying that it needed all of these images to represent the ice in the film. This is one way of seeing it."¹⁹ Memory once again becomes central to the assembly of the film, but in projection it is the viewer whose memory is tasked with the work of questioning the images:

Projection is the means. Memory creates the actual seeing. One of the realities of Film is the delay with which certain images reveal their worth. It will not happen during a first viewing, and it may

not happen until a much later one, that an image discloses its *emblematic meaning* equal to the entire film ... The spectator must discover why an image was chosen to be represented; the silence of such a discovery becomes a moment of release. It is not the filmmaker's work to tell you: his work is to make the film and to protect what he does, in the serenity of a thought without words, without the quality in words which would destroy what he intends to represent.²⁰

The time that Beavers spends notating his shots and living with the images in mind and in hand prior to cutting them together—the deliberation of this cut, without having seen the result until the film is finished—this dedication to the unseen development of the film finds its opposite in the viewer's

understanding of the film, a wordless understanding that Beavers calls a “moment of release.”

Temenos and Eniaios

At around the same time that Beavers was finishing *Work Done*, Markopoulos was conceiving of a place, a structure for the projection of their films. The Temenos, from a Greek word meaning “a piece of land set apart”²¹ was initially inspired by Markopoulos's trip to Greece in the 1950s, particularly to the sanctuary of Asclepius and the amphitheater at Epidaurus. However it is equally a descendant of Richard Wagner's Bayreuth Festival House.²² They eventually settled on a site near Markopoulos's father's native village of Lyssarea in the Peloponnese (Figure 11). The first Temenos event was held in 1980 and consisted of ten people



Fig 11 The Temenos site, 1980. Courtesy of The Temenos Inc.

from abroad, another ten from Athens, and some sixty curious onlookers from the village. For both of the artists, Temenos proved to be vital as both a conceptual and literal site for the projection of their work. Beavers recalls that, although skeptical at first, after the initial screening he was greatly relieved to know that his films would have a place and an audience (Figure 12).²³

For Markopoulos, the advent of the Temenos was indivisible from the creation of his immense final film, *Eniaios*, which would recast his entire oeuvre in a radical new context. An utterly singular work in the history of film, *Eniaios* is comprised of twenty-two film cycles, each made up

of several films, totaling over 100 films approximately eighty hours in length. The project includes reedited footage from Markopoulos's most prominent films as well as newly created footage. In his account of the 2004 screening for *Artforum*, P. Adams Sitney describes the complex aggregation as a mixture of his early celebrated films (from *Psyche* in 1947 to *Sorrows* in 1969) and some sixty-five later unseen films made in Europe. These later films consist primarily of portraits and studies of places such as Delphi, the Aesculapium of Kos, Chartres Cathedral, and the Theater of Dionysus.²⁴ The most common elements of the film place the material in a matrix of

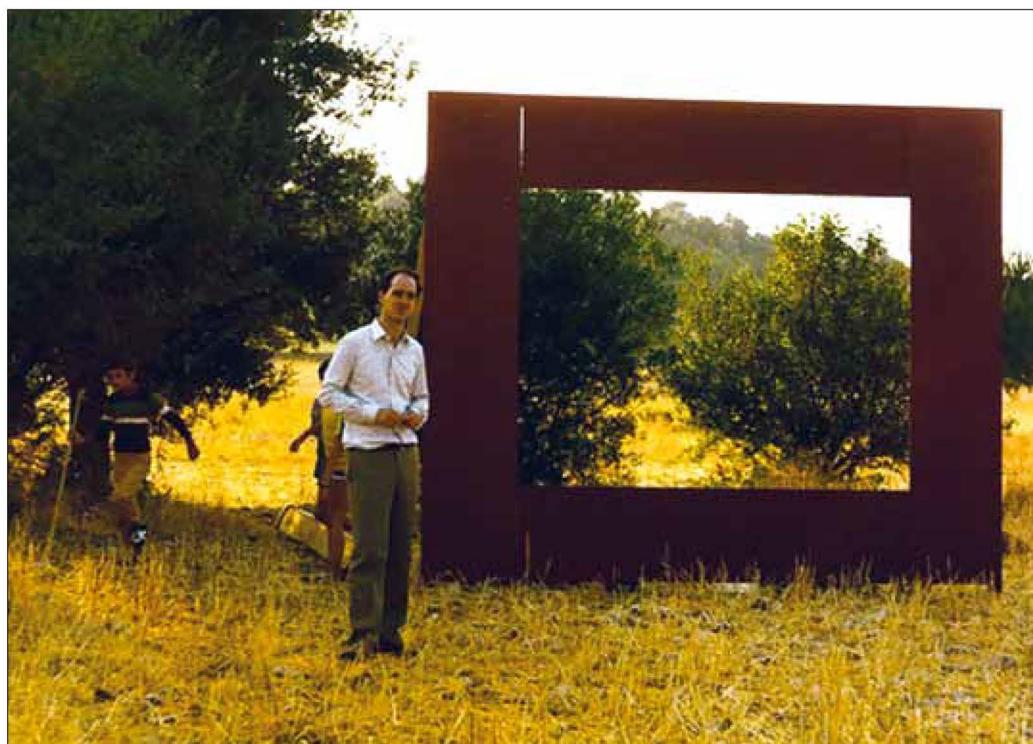


Fig 12 Robert Beavers at the Temenos site, 1980. Courtesy of The Temenos Inc.

long stretches of leader. In a given sequence there might be seven seconds of black leader then a single frame of image, followed by eight seconds of black leader; seven seconds of white leader; another seven seconds of black leader, followed by a single frame of image, then back to another eight seconds of

black, and so on. The pacing never repeats, creating a varied and unpredictable rhythm in projection. According to Beavers, this pacing was done mathematically on the editing table by measured lengths (Figure 13). Markopoulos would choose an image and then structure the pacing with the numbers



Fig 13 Gregory Markopoulos splicing *Eniaios*, 1989. Courtesy of The Temenos Inc.

of black or white film frames between. There is no notion of numerological orthodoxy; they follow his own sensibility of rhythm.²⁵ Long stretches of these single frames surrounded by expanses of black are at parts followed by other single frames that are still separated by black, but much closer together, sometimes only one black frame apart. In still other sections, there are longer stretches of image, and even movement. Importantly however, the images are always separated from each other by black. Indeed, as Beavers pointed out to me, there is no need for A and B printing of this material since the structure of *Eniaios* has in a sense surpassed the AB process,²⁶ all splices are invisible, all are lost in the black.²⁷

During panel discussion for the screening of the fifth cycle of *Eniaios*, subtitled "The Great Chasm," at the Museum of the Moving Image, Beavers likened the black of the leader to the ground of a mosaic. However the temporal nature of the grounds—the black and white leaders—also bring into play the experiential basis of our seeing. The moment of black after the single frame of image is perhaps where that image truly exists. The white that follows clears the eyes, and the black again prepares the ground of the eye for the single frame of image. Johan Wolfgang von Goethe, one of the touchstones of Markopoulos's German Romantic canon, illustrates a possible source for the extended structure of editing. His *Theory of Colors* describes the perception of retention images and their duration in the retina:

Let a room be made as dark as possible; let there be a circular opening in the window shutter about three inches in diameter ... Let the spectator from some

little distance fix his eyes on the bright circle thus admitted. The hole being then closed, let him look towards the darkest part of the room; a circular image will now be seen to float before him. The middle of this circle will appear bright, colourless, or somewhat yellow, but the border will at the same moment appear red. After a time this red, increasing towards the centre, covers the whole circle, and at last the bright central point. No sooner, however, is the whole circle red than the edge begins to be blue, and the blue gradually encroaches inwards on the red. When the whole is blue the edge becomes dark and colourless. This darker edge again slowly encroaches on the blue till the whole circle appears colourless. The image then becomes gradually fainter, and at the same time diminishes in size. Here again we see how the retina recovers itself by a succession of vibrations after the powerful external impression it received.²⁸

Goethe's description of the retina's recovery was contemporary to the Belgian scientist Joseph Plateau's experiments with afterimages and persistence of vision, the basis for perceived motion in film; his work would lead to his invention of the phenakistoscope in 1832, a proto-cinematic device that preceded the Lumière brothers' invention by 60 years. In *Eniaios*, the denial of persistence of vision takes place by an extension of the moments of black between images. Markopoulos draws out the space between frames to include something else: perhaps it is the ideal form of the afterimage and perhaps the presence of the Temenos site itself.



Fig 14 Temenos screening, 2008. Courtesy of Michael Wang.

P. Adams Sitney, who attended the 2004 and 2008 screenings of *Eniaios* at Temenos, recalls the ways in which the alternation between black leader and image brought the site into and out of relief and intimated the implicit equivalence of Markopoulos's cinematic apparatus and the sacred structures of the antique world:

The minimalization and persistent interruption of the images permitted us to see the screen as an object, trembling with projected light, under the night sky as the moon rose and set, and as the septet of Ursa Major, under which the screen stood, imperceptibly swung a giant arc. The tension between the rapidity of the

montage and the slowness of its thematic or imagistic evolution encouraged the double consciousness of a unique film meticulously articulating its own frame of reference and of all films, or rather the cinema itself, hieratically declaring its fundamental elements, making the screen an altar at the edge of the night sky.²⁹ (Figure 14)

Restoration

The state of craft in film has changed considerably since Markopoulos started to edit the *Eniaios* cycles. With the ascendance of the digital in postproduction methods, the shooting and printing of film stocks has been on the wane. In contemporary commercial

filmmaking, if film stock is used at all then it is immediately scanned in extremely high resolution to what is called a digital intermediate. To facilitate a fast working edit of the material on an Avid or other digital editing platform, it must be brought down in resolution at a ratio of 14:1; this would be the equivalent of a poor-quality work copy print for film purposes that can be spliced and re-spliced in many iterations without damaging the original. Once the editors have edited this lower-resolution copy to the final cut of the film, then the higher-resolution digital intermediate is brought back and for a period of weeks the cuts are put in place along with any digital manipulations including effects, color correction, reformatting, and text. Once this digital version has been completed it is then printed on 35 mm print stock, which for the time being is still the standard for distribution and projection. Thus in contemporary commercial practice, film as material has been almost completely removed from the editing process. Most commercial films today, even those without computer-generated images, would be unthinkable without a digital intermediate as a gestational artefact in the film's production.

When Markopoulos was beginning to put together the *Eniaios* cycles in the 1980s, this digital process was nonexistent; however some film stocks were already starting to be discontinued. Markopoulos and Beavers considered several print labs for the monumental task of making *Eniaios*. At one point they were even in discussions with the head of the micro-technique department at the Swiss Institute of Technology, the ETH, about designing a customized robot to accomplish the splicing, but the proposal was too expensive.

The lab that they ultimately chose was Cinema Arts in Pennsylvania. Established in the 1950s, its focus was initially centered on a vast collection of early nitrate footage, including the pioneering films of Thomas Edison. If a filmmaker needed to use this archival footage, Cinema Arts would make a fully edited print from their archival material. By now the entire archive has been digitally scanned, so the bulk of their work is as a preservation film lab. Cinema Arts is one of the few labs in the country that does not print from digital intermediate. Janice Allen, the owner of Cinema Arts, recalls that in their first conversations Markopoulos had tried to get her to convince Kodak to reinstate Kodachrome 7387, a reversal print stock which had been discontinued in 1981.³⁰ Initially, Markopoulos and Allen had disagreed on the manner in which the *Eniaios* cycles should be cut. Allen advocated single-strand printing, a process in which the film is cut with one or two extra frames either side of the cut. During printing, the printer is programmed so as to skip printing those frames; there is no need for AB roll printing in this case since the printer simply omits the two frames on either side of the splice. Ultimately, however, Markopoulos insisted on cutting the film identical to the final print. Due to the fact that his camera originals were often already highly edited, it was possible that they did not contain the extra frames needed for the single-strand method.³¹

Markopoulos finished editing *Eniaios* in 1991, shortly before his death the following year. The combination of existing and new footage meant that in some cases he sacrificed the older film footage, cutting his original material for the new work. In

a tragedy not uncommon in avant-garde film, many of the thousands of splices that Markopoulos made have not held. Beavers, who is now restoring the film, must go through and test each splice before printing. In earlier cycles, as many as half of the splices need to be redone (that is, scraped and cemented together). In one particularly grueling case, Beavers recalls a section of 2 ft (61 cm) in which there were 100 splices, half of which had failed. Fortunately, in the more recent reels the splices are more secure. Assisting him in this work are the filmmakers Lucy Parker and Ian Wooldridge. Since Kodachrome reversal print stock has been discontinued, the printing process requires printing an inter-negative of the 16 mm reversal before printing again on negative print stock.

For the present, screenings of *Eniaios* continue. The sixth cycle has just been printed and will be screened at the 2012 Temenos event. In his interview with Tony Pipolo, Beavers described the future of the work as follows:

In real terms, Markopoulos has left a magnificent body of films in the Temenos archive, over 100 films in the *Eniaios* cycles alone, and we have basically three interrelated tasks: (1) to print the preservation negatives of these films, which cannot be seen until the negatives and the projection copies are made. The running time is approximately 80 hours; (2) to create the permanent projection space; and (3) to establish the means of its continuation.³²

As this article is written, Kodak threatens to discontinue this inter-negative stock as well. Beavers plans to purchase 111 rolls of

the inter-negative and freeze it while the work of restoration progresses.³³ When I asked Beavers if the long hours he has spent restoring *Eniaios* constituted a further influence on his work from his mentor and companion, he was hesitant to agree. The labor of reconstituting Markopoulos's work has not had a direct influence on the films that he is currently making but has been a meditation on the monumental willfulness of Markopoulos's vision. Seeing the film as film, on the table, winding hundreds and thousands of feet onto the finished reel, Beavers is by turns in awe at Markopoulos's powerful determination and in disagreement with its disciplined austerity. Yet, in projection, any frustrations slide away and the film takes on new life:

Every time I look at Gregory's work, it is radical in a different way. There is in the work a utopian wish to make a universal film. *Eniaios* reaches a dimension of time that is totally individual, cultic, Aesculapian, but also related to Parmenides, pre-Socratic thought. The nonmoving image, stillness. There is a tranquility. It really is a Platonic vision, away from the world and into another world of forms. A vision of the psyche.³⁴

This vision has only really come into existence since Markopoulos's death. Markopoulos himself never saw the entire work printed, much less projected at the Temenos. His awesome confidence in the unseen film would perhaps never have been possible without the close relationship he had to the image-carrying medium of 16 mm. Holding the film in the hand, looking at the film frames up against the light, counting off their number, splicing, and finally winding the

film onto the finished reel: these actions of the craftsman sustained the monumental work of *Eniaios*, and will continue to do so until its completion.

Notes

- 1 Glenn E. Matthews and Raife G. Tarkington, "Early History of Amateur Motion-Picture Film," in Raymond Fielding (ed.), *A Technological History of Motion Pictures and Television* (Berkeley: University of California, 1967), p. 131.
- 2 "In discussing the advantages of the new reversal process, it was indicated that images developed with it were 'astonishingly free from graininess' partly as a result of the special film but largely as a result of the reversal process itself, the largest grains and clumps of grains formed during first development being removed by the bleach, leaving the smallest grains to be developed as the final positive image." J. Crabtree, "Directional Effects in Continuous Film Processing," *Journal of the Society of Motion Picture Engineers*, 18 (February, 1932), p. 207.
- 3 Matthews and Tarkington, p. 133.
- 4 In Deren's case this professionalism might have been due to the fact that her husband and mentor Sasha Hammid had worked on studio films in Czechoslovakia and Hollywood. Program notes for *Meshes of the Afternoon*, *Witch's Cradle*, and *At Land* enclosed in a letter to Sawyer Falk, reprinted in *Film Culture*, No. 39: *The Writings of Maya Deren and Ron Rice* (winter 1965), pp. 1–2.
- 5 Stan Brakhage, *Film at Wit's End: Eight Avant-Garde Filmmakers* (Kingston, NY: McPherson & Co., 1989), p. 41.
- 6 Tape splicing is also the cheapest method. When Markopoulos was making one of his earliest films, *Psyche*, he did not have a splicer so "He edited the film with a magnifying glass, cellophane tape and a razor blade." John G. Hanhardt and Matthew Yokobosky, *Gregory J. Markopoulos: Mythic Themes, Portraiture and Films of Place* (New York: Whitney Museum of Art, 1996), p. 23.
- 7 Among other things the letter goes into Markopoulos's plan to use all three standard-gauge film stocks in one film. He also described this in a letter to P. Adams Sitney: "His idea for editing the Prometheus project was to show the film in superimposed 35 mm, 16 mm, and 8 mm, with the 35 mm filling the entire screen, the 16 mm smaller; and the 8 mm smallest; the latter would refer to the innermost level of consciousness." Hanhardt and Yokobosky, p. 37.
- 8 Stan Brakhage, "On Splicing," in *A Moving Picture Giving and Taking Book*. Reprinted in *Essential Brakhage: Selected Writings on Filmmaking by Stan Brakhage*, ed. Bruce R. McPherson (Kingston, NY: Documentext, 2001), pp. 99–101.
- 9 Brakhage, "On Splicing," p. 97.
- 10 The film *Cat's Cradle* has several sequences in which clusters of frames have one image used in all four possible configurations for a few frames at a time.
- 11 Although all of Markopoulos's early films were done without A&B printing, up until *Twice a Man* in 1963, I would argue that this was largely due to economic constraints. After printing *Twice a Man* with A&B, he never goes back to tape or single-strand cement splices.
- 12 Jonas Mekas, "Movie Journal," *The Village Voice*, February 2, 1967.
- 13 Gregory Markopoulos, "The Intuition Space," *Millennium Film Journal* 32/33 (Fall 1998): 71–72.
- 14 First in 1966 with *Himself as Herself*, then in *Eros o Basilius*.
- 15 Tony Pipolo, "Interview with Robert Beavers," *Millennium Film Journal*, 32/33 (Fall 1998): 21.
- 16 Robert Beavers, "La Terra Nuova," *Millennium Film Journal*, 32/33 (Fall 1998): 41.
- 17 Robert Beavers, "Editing and the Unseen," *Millennium Film Journal*, 32/33 (Fall 1998): 39.
- 18 P. Adams Sitney, *Visionary Film: The American Avant-Garde 1943–2000*, third edition (New York: Oxford University Press, 2002), pp. 405–6.

- 19** Pipolo, p.11.
- 20** Robert Beavers, "Em:blem," *The Searching Measure: Writings by Robert Beavers* (Berkeley: University of California, 2004).
- 21** Pipolo, p. 27.
- 22** In conversation with the author; May 19, 2011.
- 23** In conversation with the author; May 19, 2011.
- 24** P. Adams Sitney, "Idyll Worship," *Artforum*, November (2004): 188.
- 25** In conversation with the author; May 19, 2011.
- 26** In conversation with the author; May 19, 2011.
- 27** At a screening of the *Eniaios* version of *Twice a Man* at the New York Film Festival in 1997, some of the viewers thought that the new version was one half of a pair of AB rolls. See Kirk Winslow, "Intergalactic Trance-Migration: G. J. Markopoulos's *Twice a Man* (1963) Visited in a Projected *Eniaios* Cycle (1948-(1976-1990)-200_)," *Millennium Film Journal*, 32/33 (Fall 1998): 94.
- 28** Johann Wolfgang von Goethe, *Theory of Colors*, trans. Charles Eastlake (London: John Murray, 1840), pp. 16–17.
- 29** "Idyll Worship," p. 188.
- 30** Phone conversation with Janice Allen, May 28, 2011.
- 31** E-mail correspondence with Robert Beavers, June 12, 2011.
- 32** Pipolo, p. 33.
- 33** E-mail correspondence with Robert Beavers, July 31, 2011.
- 34** In conversation with the author; May 19, 2011.

