1

# Animation and Montage

## *Or, Photographic Records of Documents*

*I would like to make a montage from the fragments discovered by others, but for a different purpose—mine! It is like the cinema: I don't need to play any part at all. My job is to link all the pieces up.*

—SERGEI EISENSTEIN[1]

*The first stage [ . . . ] will be to carry over the principle of montage into history. That is, to assemble large-scale constructions out of the smallest and most precisely cut components. Indeed, to discover in the analysis of the small individual moment the crystal of the total event.*

—WALTER BENJAMIN[2]

### ORDER AND DISORDER

Variations on the same gag appear in the live-action prologues of both *Little Nemo in Slumberland* (1911) and *Gertie the Dinosaur* (1914), two pioneering contributions to the art of animation by the cartoonist-cum-vaudevillian-cum-filmmaker Winsor McCay. In the first, an intertitle informs us that "Winsor McCay [has agreed] to make four thousand pen drawings that will move, one month from date." Assistants shuttle barrels of ink and reams of drawing paper into his studio while he toils away at a desk already teeming with finished sketches. A boy, intrigued by a particularly tall stack of papers, cannot contain his curiosity: Just what does all this amount to, anyway? In his eagerness to flip through McCay's drawings, he spills the pile—and himself—across the floor. In the later film, shortly after McCay declares that he has "made ten thousand cartoons,—each one a little bit different from the one preceding it," a hapless assistant, charged with bearing a towering testament to McCay's feat, tumbles down the stairs and brings hundreds of papers fluttering along with him. In each instance, the pratfall simultaneously bolsters the magnitude of McCay's claim (how did he ever keep all those papers in order in the

first place?) and playfully deflates his self-aggrandizing rhetoric (no prisoners will be denied parole or patients medical care because of the paperwork that is here so dramatically—that is, comically—misplaced). Tellingly, the live-action prologue to McCay's foray into wartime propaganda, *The Sinking of the Lusitania* (1918), forgoes this gag, but not the reference to the staggering amount of work: "Twenty-five thousand drawings had to be made and photographed one at a time," an intertitle notes, a total that speaks to the seriousness of both McCay's dedication to his craft and the film's subject matter.

Although it has been amply demonstrated that McCay inflated these numbers—and, moreover, that he was not the sole laborer in his production crew—the fact remains that each of his animated films effectively serves as a record of several thousand discrete images.[3] Most of the original drawings are lost. Their photographic reproductions, in the form of these films, are all that survive. Thus *The Sinking of the Lusitania* is doubly a documentary: the graphic reconstruction of a devastating act of war and the photographic record of that graphic reconstruction. With *Little Nemo in Slumberland*, McCay set out to make "four thousand drawings that will move," and it is this movement we take to be its initial attraction—but no less astonishing is the filmstrip's frame-by-frame preservation of four thousand (give or take) individual drawings.

Four thousand, coincidentally, is the number of photographs that Walter Benjamin, writing in 1931, attributed to Eugène Atget, while ten thousand is the number scholars now estimate him to have taken.[4] Atget, who for thirty years documented the buildings, streets, and people of Paris, never wrote about the visual database he amassed. His photographs, even his portraits, are stripped of vital contextual clues; they seem haunted by what is not visually present. The reception of Atget's photographs by Benjamin, the Surrealists, and others privileges an aesthetic discourse, but one can also submit them to another discursive order, as Rosalind Krauss has argued—that of the filing cabinet, which "holds out the possibility of storing and cross-referencing bits of information and of collating them through the particular grid of a system of knowledge."[5]

Similarly, we might think of Winsor McCay's films—and, indeed, of any animated film—as belonging to the discursive order of the filing cabinet, that is, as a visual catalogue. While the documents catalogued therein happen to be ordered in such a way that, if viewed in succession at a precise speed, they produce the illusion of movement, they can also be re-sorted, cross-referenced, or simply viewed one frame at a time, just as they were photographed. Imagine, for instance, if the papers scattered by the errand boy had been recorded in whatever order they happened to be picked up. The viewer of this resultant film would not perceive Little Nemo or Gertie the Dinosaur as alive, but would rather have the sense of watching a series of rapidly alternating individual drawings. This chapter aims to likewise disrupt the viewing process: to free the constitutive frames of the animated film from the sequential logic of the filmstrip and approach animation as nothing more

and nothing less than a collation of reproduced documents. If, as the film theorist Imamura Taihei phrases it, "An unbreakable rule of animation is that one frame must follow the next to move Mickey and Donald," then this chapter breaks that rule.[6] The single frame is viewed in isolation, in conjunction with frames that do not precede or follow it, and is juxtaposed with other instances of photographic reproduction wholly distinct from animation.

I thus inaugurate a study of the single frame, the single document, in which the tiniest of details—a brushstroke, a shadow, an errant speck of dust—is freighted with historical and, ultimately, political weight. After all, this is the conclusion Benjamin draws from Atget's photographs of deserted Parisian streets: "A crime scene, too, is deserted; it is photographed for the purpose of establishing evidence. With Atget, photographic records begin to be evidence in the historical trial. This constitutes their hidden political significance."[7] By "document," meanwhile, I aim to link the graphic compositions out of which animated cartoons are composed to the sorts of mundane, everyday primary materials that form the basis for histories, biographies, and documentaries, not to mention criminal investigations: postcards, death certificates, invoices, ticket stubs, prescriptions, classified advertisements. Any given document can be read on its own, put under the microscope, held up to the light, smelled, torn, or read against similar documents—whether of the same genre, the same place of issue, the same paper stock, or the same typeface—in search of salient differences.

Confronted by the thousands of constitutive frames of a motion picture and seeking to recover the ephemeral documents to which each frame corresponds, I must play at being the police detective Alphonse Bertillon or the art historian Giovanni Morelli. I must analyze the elements of the reproduced image as if they were "footprints, stars, feces (animal or human), colds, corneas, pulses, snow-covered fields or dropped cigarette ash"—that is, the traces of a crime scene.[8] This is an impossible task, a foolhardy task. Bertillon confessed that not even he could be expected to scour the collection of criminal portraits his police force had amassed. To sift through hundreds of thousands of photographs was an undertaking "so fatiguing to the eye" that "errors and oversights" would be inevitable.[9]

Sometimes the clues I seek are buried or misplaced. Certain revelatory details may have been swallowed up by the chemical deterioration of film stock. Films transferred to DVD and Blu-ray, meanwhile, are typically scrubbed of many of the most revealing "imperfections"—but they also are accessible for review and examination in ways that archival prints are not. In addition, special-effects techniques like multiple exposures, optical printing, wash-off relief emulsions, or rotoscoping may turn the document into an illegible palimpsest. In fact, rare is the animated film composed solely of one *kind* of document. *Gertie the Dinosaur* is perhaps the simplest case, a collation of sheets of rice paper measuring seven by nine inches—but even these basic facts about the materials cannot be obtained simply by watching the film.

The document produces knowledge, but its legibility as a document is also determined by the knowledge one brings to it: a historian of science might be most interested in how the individual drawing conforms to the standards of contemporary paleontology, a graphologist in the particularities of each pen stroke, a film archivist in the discrepancies from one frame to another. I approach it in order to understand the individual photograph as the reproduction of both a historical document *and* an aesthetic object. Benjamin articulates this dialectic in "One-Way Street" (1928): "The artwork is only incidentally a document," he writes, whereas "no document is, as such, a work of art." Yet documents, in Benjamin's schema, are rich with buried surprises that, once unearthed, are overpowering: "The more one loses oneself in a document, the denser the subject matter grows."[10] How do we cut through that thicket? How do we penetrate the document's tangled overgrowth?

For Allan Sekula, these questions are imperative. Sekula, writing about *how* to write about photographs of miners in Nova Scotia, argues, "We need to understand how photography works within everyday life in advanced industrial societies: the problem is one of materialist cultural history rather than art history." He thus privileges the photograph as a historical document—but, importantly, not therefore as "a transparent means to knowledge."[11] Rather, the photograph becomes, for him, an object in which knowledge hides, an object out of which knowledge must be startled. I regard the photographs taken in US animation studios—the photographs of which animated cartoons are composed—to be just as socially and politically fraught as the objects of Sekula's study. They invite the same level of scrutiny and provoke the same contradictions. Inspired by Benjamin's "Theses on the Philosophy of History" (1940) Sekula declares: "The archive has to be read from below, from a position of solidarity with those displaced, deformed, silenced or made invisible by the machineries of profit and progress."[12] I must look at the visual archives that are animated cartoons, in other words, to see what is not there, to locate what has been obscured. Most often, it is the labor-intensive photographic process that is silenced by the movement of the film through the projector, a labor process that is only restored when one enacts it oneself. This chapter marks my attempt to read these archives from below, as Sekula implores us to do, in order to recuperate the dynamic interplay between art and labor.

To do so, of course, is to confront continual epistemological instability. *The Sinking of the Lusitania*, for instance, presents the viewer with a wider range of materials than its predecessors. About them we can only speculate. We know, based on extant publicity materials, that McCay painted layers of transparent cellulose nitrate to achieve some of the film's rich, sensuous pleasures, but just how many cels, and exactly what kind of paint did he use? Once the production of animated cartoons became fully industrialized, the documents that have been reproduced are all the more ephemeral. Each film frame presents us with an overhead view of a stack of multiple cels that cohered only in the brief period it took for the camera operator to assemble and photograph them—an object that, according to

some animation scholars, "should not be considered a painting with a uniform, flat surface, but a layered image, similar to a relief."[13] But the relief is flattened, its photographic reproduction resolutely two-dimensional. I cannot turn it over or peel apart its layers. I will inevitably encounter resistance, brought on in part by "the self-effacement of production," which Edward Small and Eugene Levinson identify as "characteristic of motion pictures." As they explain, "The film or video viewed by the spectator are not those physically created by the filmmaker; film/video images are separated from their creation by one or more stages of processing and duplication and are normally viewed in optical or electronic projection, a condition that further isolates the spectator from the physical piece of work."[14]

The object I desire is necessarily at a remove from me. My experience of watching cartoons resembles that of historians poring over archival materials on microform: the Melville biographer Hershel Parker, for one, remembers how the text of microfilmed issues of the New Orleans *Picayune* looked "like specks under a film of milk"; literature scholar Lawrence Cummings, while working through a microfilm of Renaissance manuscripts, thought he had discovered in "the phantasms of the old handwriting flitting by on the viewer" a poem by Sir Walter Raleigh, but the spectral signature turned out to be merely "a few random pen scratches and an interesting pattern of wrinkles."[15] It seems that, however close I may wish to come to the original document, I will always be "kissing [it] through a pane of glass," which is how one microform user described the research process.[16]

Nonetheless, there *is* information to be gleaned from frame-by-frame study of the animated cartoon—deictic information that points both to the reproduced document's composite elements and to who and what is absent from the frame—hence the need for a forensic gaze. To watch animated cartoons in this way—"at closer range and as if through a magnifying glass," adopting Marcel Proust's phrase—is to evoke something not unlike Proust's comparison of photography to kissing:

> Apart from the latest developments in photography—which lay down at the foot of a cathedral all the houses that so often, from close up, seemed to us to be as high as towers, which deploy like a regiment, in file, in organized dispersion, in serried masses, the same monuments, bring together on the *piazzetta* the two columns that were so far apart a while back, distance the nearby Salute, and, on a pale and lifeless background, manage to contain an immense horizon beneath the arch of a bridge, in a single window frame, between the leaves of a tree in the foreground that is more vigorous in tone, frame a single church successively in the arcades of all the others—I know of nothing that is able, to the same degree as a kiss, to conjure up from what we believed to be something with one definite aspect, the hundred other things it may equally well be, since each is related to a no less valid perspective.[17]

A single still from an animated cartoon, read as the photographic document it is, likewise enlarges, compresses, reframes, and aestheticizes its subjects. What

was visible to the naked eye, such as the transparent sheet of celluloid, disappears beneath the camera's gaze, while the photograph simultaneously reveals what even the most diligent technician had missed.

In what follows, I examine a range of historical fragments, all of which test both the limits of technological reproduction and the linear organization of the filmstrip. Bits of information are cross-referenced and stored along new grids of knowledge, models of which are provided by the mosaic and the card index, in which disparate elements are brought into contact—and into conflict. This is the montage principle of Benjamin's *Arcades Project*, of Sergei Eisenstein's film theory, and of Eisenstein's protégé Jay Leyda, whose biographies of Herman Melville and Emily Dickinson I examine in relationship to questions of reproduction and materiality. This is, too, the organizational structure of many of the experimental films of Robert Breer, whose *Blazes* (1961) sorts and re-sorts one hundred index cards. But it is also, surprisingly, a model suggested by popular animated cartoons themselves. While they may prioritize the movement of their characters, through which they are imbued with life, they occasionally break from that frame-by-frame logic. For instance, they deploy single-frame "flicker" sequences in order to rupture the illusion of motion. Alternatively, they halt the animation altogether in order to allow the viewer to linger over expository text, and notably, this text often assumes the form of collaged newspapers and magazines. All of these examples preserve ephemera—scraps, fragments—through technological means, and all resist the linearity of normal viewing: in "the procedure of montage," according to Benjamin, "the superimposed element disrupts the context in which it is inserted."[18] Once viewed in this way, against the forward propulsion of the filmstrip, the aesthetic objects I consider emerge as historical documents, bearing traces of labor that would otherwise be silent and invisible.

## PHOTOGRAPHIC RECORDS OF DOCUMENTS

Ludwig Wittgenstein took notes on index cards, as did Claude Lévi-Strauss and Aby Warburg and Michel Leiris and Stéphane Mallarmé. Preserved in Roland Barthes's archive at the Institut Mémoires de l'édition contemporaine are around 12,250 of the critic's index cards and slips of paper.[19] Walter Benjamin's *Arcades Project* comprises thousands of what he called "scraps" or "shreds"; his near-microscopic handwriting fills everything from "the reverse sides of letters sent to him, postcards or an invitation to review, library forms, travel tickets" to "proofs, an advertisement for 'S. Pellegrino,' [and] prescription pads discarded by his friend Fritz Fränkel, doctor and drug connoisseur." Emily Dickinson wrote her two thousand or so poems on such scraps of paper as "a guarantee from 'The German Student Lamp Co.,' an advertisement for *The Children's Crusade*, instructions for laying down carpet from 'J.C. Arms & Co.' in Northampton, an invitation from twenty-six years earlier, the 1871 schedule for an agricultural college's proceedings,

part of a 'John Hancock Number One Note,' and a 'Western Union Telegraph Co.' envelope." Sergei Eisenstein, too, wrote prolifically, and on whatever he had at hand—whether calendar pages or napkins or screenplays or concert programs.[20] The verb Benjamin used for his note-taking process, *verzetteln*, can mean "to fritter away," but its less pejorative meaning within library science has resonance for the creative practices of Barthes, Dickinson, Eisenstein, et al.: "to disperse things that belong together into individual slips or into the form of a card index."[21]

When an index card or a slip of paper marked by one of these artists or writers is photographically reproduced, perhaps in a book (for instance Barthes's *Roland Barthes* or *Mourning Diary*) or an online database (for example the Emily Dickinson Archive or the Emily Dickinson Collection), we generally accept the photographic reproduction as a suitable proxy for an original document that would otherwise be inaccessible, perhaps because it is too fragile or precious to be handled or has been since lost or destroyed. In the words of the poet Susan Howe, "The original remains perfect by being perfectly what it is because you can't touch it."[22] Hence a scholar who is eager to learn more about the genesis of Charles Sanders Peirce's theory of photography ("photographs [are] produced under such circumstances that they were physically forced to correspond point by point to nature") but who is unable to make the trip to Harvard's Houghton Library to peruse his manuscripts will find the contents of the microfilm reels photographed between 1963 and 1970 a satisfactory substitute.[23] Perhaps she will express disappointment, as one reviewer did, in the somewhat pallid color of the first thirty reels, but it is doubtful that image quality will undermine her basic faith in the *that-has-been* of the sheet of paper bearing Peirce's idle doodles.[24] Skepticism about the why and the how of photography's evidentiary function has a time and a place, to be sure, but here the scholar is more than willing to take the image before her at face value—much as the United States Patent Office felt no need to question the premises undergirding George Lewis McCarthy's Checkograph, a microfilm camera invented in 1925 for banks to keep track of monetary transactions, which he neatly described as an "apparatus for making photographic records of documents."[25]

In this sense, then, *Blazes*, an animated film by the experimental filmmaker Robert Breer, is a photographic record of documents—one hundred index cards, each of which appear about forty times in the course of the film's three minutes and fifteen seconds. Like Wittgenstein and Leiris, Breer frequently worked from the index card, a medium he settled on for several reasons. For one, its relatively small dimensions (around four by six inches) could be filled faster than the eight-by-twelve-inch sheets of paper he had used for the film *A Man and His Dog Out for Air* (1957). As he told Robert Gardner in a 1976 episode of *Screening Room*, "Cutting down in size meant that I wouldn't have to draw as much"—reasoning he then likened to the decision by animators to give cartoon characters such as Mickey Mouse only four fingers.[26] For another, the stiffness of the cards

enabled him to save additional time, in that he could simply "jam them right up against a stop," thereby foregoing the standard "peg-and-hole registration, which takes time."[27] He could also fashion the cards into a makeshift flip-book in order to preview his work before he photographed it. But, while Breer was guided by concrete economic and material concerns, it seems possible that the use of index cards in *Blazes* was not wholly incidental. One could say that it also offered a model for organizing a collection of documents, such as the contents of one of Barthes's *fichiers*. Breer explained his creative process in an interview in 1966:

> There are a hundred separate pictures for this film. Some 4,000 pictures make the film. But only 100 images to start with. By changing the order around, it changes completely, since they are very closely related to each other, one overlapping the other. You have a feeling of seeing the same image twice. I shuffle the cards the way you shuffle a deck of cards, to get new arrangements. And to go from one hundred to four thousand, I had to do it quite often.[28]

The structure of *Blazes* is dictated by a chance operation, not unlike Mallarmé's die rolls or Merce Cunningham and John Cage's coin flips (although Breer admits that he would sometimes revise the order slightly if the shuffled outcome was not to his liking). He thus offers a novel solution to the oft-intractable problem of how to organize vast quantities of paperwork: the order of randomness. In addition, with each new performance of this operation, Breer, in essence, re-sorts and cross-references his index cards, thereby allowing new connections to be forged between previously disparate documents.

What if Benjamin's scraps were submitted to the same protocol? This is not merely a whimsical exercise. After all, according to Ursula Marx, Benjamin had portions of the *Arcades Project* photographically reproduced and the photographs sent to the Institute for Social Research in New York.[29] It would not be a stretch to imagine its entire contents being photographed scrap by scrap on microfilm—but in what order? As Benjamin's editors make clear, the meaning of each of his individual documents is very often contingent on the documents preceding and following it. Struggling with how best to reproduce the organizational system devised by Theodor Adorno after Benjamin's death, Benjamin's editors ultimately opted to translate *Konvolut*, which in German means "a larger or smaller assemblage—literally, a bundle—of manuscripts or printed materials that belong together," as "convolute," on the grounds that it was "the most precise and most evocative term for designating the elaborately intertwined collections of 'notes and materials' that make up the central division of this most various and colorful of Benjaminian texts."[30] An animated *Arcades Project* that followed the organizational system proposed by *Blazes* would make visible such intertwining, such convolution, such color. The order of Breer's cards—and by extension the order of his film's frames—fundamentally alters what the viewer sees, and so too

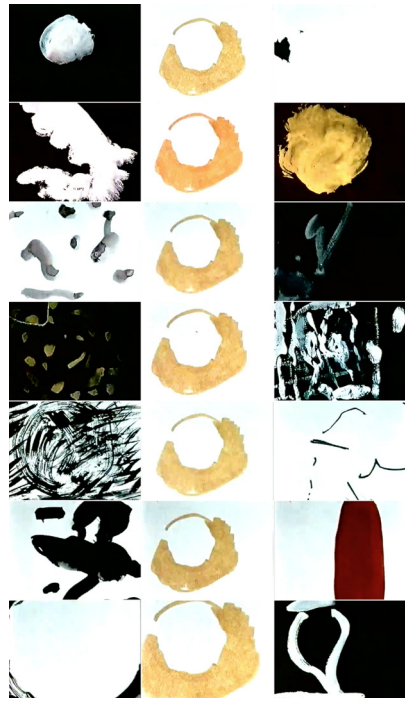

FIGURE 1.1. Selected three-frame sequences from Robert Breer, *Blazes* (1961).

would this reimagined *Arcades Project* yield unexpected and revealing juxtapositions between its source scraps.

Consider the many iterations of just one of Breer's index cards (fig. 1.1). Against the card's white background Breer has painted an ocher-colored incomplete outline of a circle. The top third of the shape is rendered in a single, thin stroke. The remaining circumference is wide and jagged, its paint unevenly applied. Not all of these elements are apparent when the film is watched at regular speed; the image on the card registers merely as a golden halo that glows for an instant and then is gone. But when one compares and contrasts it to the many different cards that immediately precede and follow it throughout the film, new aspects of the card's contents are brought to the fore. In one sequence, it is sandwiched between a black card with a large white painted circle that almost—but not quite—corresponds to the circle suggested by the interior of the ocher-colored circumference and a white card with two small black splotches in its left third. It is hard not to notice here the placement and the shape of the ocher ring: it seems, on the one hand, decidedly less circular than the shape on the first card, and yet more deliberately applied than those splotches that mark the third card. In another sequence, the white card

with ocher ring comes between two black cards; on one is painted a thick zigzag that somewhat resembles a dove in flight, and on the other a yellow circle about the size of the ocher ring. The gestalt of the first card, how it conjures up a bird flapping its wings, makes the ring seem all the more abstract in comparison, while the yellow circle, by way of its similar color and shape, serves to concretize it. A third sequence highlights how thickly or thinly paint can be applied; a fourth inaugurates a subtle interweaving of colors, from black and gold to white and gold to white and black; still another demonstrates the variety of brushstrokes Breer has in his arsenal.

One becomes aware, too, of the mediating presence of the camera—how its exposure settings and proximity to the object before the lens can affect the color of the paint, the whiteness of the index card, and the scale of the image. Each new arrangement in which the index card appears illuminates, in turn, a new aspect of its material characteristics. What is emphasized, ultimately, is the card as a *historical document*, one that has emerged from what D. N. Rodowick calls a "past process that took place in the physical world"—and at this juncture I confront the limits of both my own knowledge and the vocabulary I have to express that knowledge.[31] That I am compelled to liken the painted shape to a circle and pin its ever-shifting color within the yellow-ocher-gold range—indeed, that I do not hesitate to call the chemical compound on the card "paint"—is suggestive of the force of its appeal as an aesthetic object. Indeed, it would be ludicrous to speak of such an image as if it did not cohere into a recognizable shape, a discernible color. But even as I fall back on the familiar language of painting to describe what I see, I am repeatedly reminded of the manipulability and materiality of the original index card.

I cannot handle this particular index card, but I understand that it had an existence in the world. Other animated experiments by Breer I could have touched, for they did not always assume a cinematic form. In the mid-1960s, for example, he exhibited as sculptures several mutoscopes, mechanical variations on the flipbook. Their sculptural form makes literally tangible the three-dimensionality of the organizational model offered by *Blazes*. In addition, these mutoscopes remind the viewer of the three-dimensionality of the film's source material. Its constitutive cards could be picked up, moved around, rearranged, rotated. "I have frames in my hand," Breer told P. Adams Sitney and Jonas Mekas in 1971, describing the process behind three of his later films, *66* (1966), *69* (1969), and *70* (1971). "Those cards are frames. And so I am playing with a piece of film, really. I am editing with individual frames."[32]

Through such manipulation Breer was able to "attack the basic material, to tear up film, pick up the pieces and rearrange them."[33] Breer thus inadvertently—but significantly—answers earlier calls for "three-dimensional" systems of organization by Benjamin and Eisenstein. Benjamin, for one, anticipated how Breer's mutoscopes would make palpable the multiple reorderings to which Breer

submitted the hundred index cards of *Blazes*: "The card index," he wrote in "One-Way Street," "marks the conquest of three-dimensional writings."[34] Eisenstein, in a diary entry written one year after the publication of "One-Way Street," reached a similar conclusion: "It is very hard to write a book. Because each book is two-dimensional." The book, then, should be three-dimensional, in fact, spherical, which would allow for "a synchronic manner of circulation and mutual penetration of [its] essays."[35]

Eisenstein's emphasis on simultaneity and synchrony finds its realization in *Blazes*, "a film where notions of continuity are shattered," as Breer calls it: "The succession of abstract pictures follows so quickly and is so different from one to the next that one doesn't accurately see any one picture, but has the impression of thousands."[36] That Breer here chooses the word "impression" is, I think, particularly striking. However colloquial in its deployment, it nonetheless recalls Eisenstein's frequent use of the word *Eindruck* in the original German version of "The Dramaturgy of Film Form" (1929), in which he explores the relationship between the still image and cinematic montage. As François Albera has observed, this seminal essay borrows from the lexicon of printing: *Eindruck*, or "impression," is a term common to engraving.[37] What is significant about this word choice is how it reinforces the *-graph* of the photograph, of the still image. In Eisenstein's account, the image is *inscribed* in the viewer's perception. "The idea (sensation) of movement" of a discrete object, Eisenstein explains, "arises in the processing of superimposing on the retained impression of the object's first position the object's newly visible second position."[38] We might read this explanation as an erroneous allusion to the role the "afterimage" was believed to play in facilitating human perception of cinematic movement. What is most important, however, is its emphasis on the *force* of the still image. The single frame is an "impression," an engraving, a *print*. Even if no one frame is ever discernible to the naked eye, so great is "the degree of incongruity" between each frame that even greater is "the intensity of impression."[39]

According to Albera, meanwhile, the "frame-based" works by experimental filmmakers like Werner Nekes, Peter Kubelka, and Paul Sharits also realize Eisenstein's argument. But it is not only the avant-garde that produces frame-based work. Like Edward Small and Eugene Levinson, I would contend that all animation—whether produced by a single artist, such as Breer or Jacobs, or at a major production studio, such as Universal or Warner Bros.—amounts to "single-frame cinematography," a definition that "logically implies that animation and montage are equivalent, that they represent the same basic operation."[40] And while most cartoons aim to soften the discontinuity between frames through the careful frame-by-frame reconstruction of animal and human locomotion, they sometimes deviate from that tendency—and quite radically. I will examine this technique, along with its implications for the single frame's dual status as art and document, in the next section.

## RETINAL BOMBARDMENT

As early as the 1920s, with Otto Messmer's *Felix the Cat* series, animated cartoons began featuring brief "flicker" sequences consisting of the rapid alternation of all-black and all-white frames or positive and negative images—sequences meant to evoke blinding pulsations of lightning or elicit the sort of somatic overload brought on by shock. This technique is used in Wilfred Jackson's *The Busy Beavers* (Disney, 1931) in the midst of a rainstorm, in Walt Disney's *The Golden Touch* (Disney, 1935) to simulate the granting of King Midas's wish, and in William Hanna and Joseph Barbera's *The Night before Christmas* (MGM, 1941) to underscore an electrocution. Decades before Peter Kubelka's *Arnulf Rainer* (1960), Tony Conrad's *The Flicker* (1965), or Paul Sharits's *Epileptic Seizure Comparison* (1976), animated cartoons explored the thresholds of cinema's formal and material structures. The "retinal bombardment"[41] induced by stroboscopic effects deliberately undermines the fluidity of the animation.

To produce these effects, the camera operator usually photographed a blank card every other frame. Some of the more blinding sequences alternate cards of varying colors—red to blue to yellow—but a simple white insert is typical. But not all blank frames are created alike. They, too, are historical documents. This is particularly evident in stroboscopic sequences from two separate films: Bob Clampett's *A Gruesome Twosome* (Warner Bros., 1945) and Walter Lantz's *$21 a Day (Once a Month)* (Universal, 1941). In Clampett's film, a white frame flashes on-screen at a moment of impact: a character has been pummeled over the head with a club, and the audience, too, is pummeled by the sudden blast of white. The white frame is an ellipsis in the action—we last see the character upright, the club coming down on his head, and when we are returned to the scene the club is broken in half, the character's eyes are drooping, and his tongue is dangling out of his mouth. In the missing moment we are both concussed. The white frame breaks the sequential logic of animation. And, on closer inspection, it does even more to break the continuity of the scene. Visible in the upper-left corner is a sketch, and not just any sketch: it is a pencil drawing of a dog's head, which served as the basis for a cel painting that appears about twenty seconds earlier in the same film. In other words, that incongruous white frame is a document of the film's production, one that can be cross-referenced with a document in the same film: a "before" sketch and its "after" painting, one upside down and the other right side up, one black and white and the other fully fleshed out in ink and paint, one an irruption in the flow of the animation and the other embedded in its frame-by-frame logic.

The stroboscopic sequence in *$21 a Day (Once a Month)* is more protracted. The first in the studio's *Swing Symphonies* series, *$21 a Day (Once a Month)* showcases an original song by Felix Bernard and Ray Klages. An army of toy soldiers and stuffed animals, stationed at "Camp Pain," engage in training exercises as well

as a spirited performance of the title song. The sequence in question features a stuffed dachshund and turtle, asleep in their barracks. The dog, disturbed by his companion's snores, first knocks the turtle's head into his shell. When the snores continue, he stuffs a pillow into the shell. The turtle, now unable to breathe, flails about, and his shell fills with air until it finally bursts, sending him ricocheting out of it. The sequence concludes with the turtle, now shell-less, hanging from a nail by the seat of his red flannel pajamas. Most of the sequence is done "on twos"—that is, the same cel setup is photographed twice, a standard labor-saving practice at most US studios, in that only twelve original drawings were needed per second, rather than twenty-four. But this changes in the second or so it takes for the turtle's shell to explode: the majority of the cel setups in this sequence are photographed only once, and much attention is paid to subtle changes in details even seemingly as minor as the contours of the puffs of smoke emitted by the turtle's shell. Nearly every frame stands as the sole record of an ephemeral document: a stack of transparent celluloid sheets, each one uniquely painted and inked, set against a static background painting. Every other frame, however, records not a cel setup but a white sheet of paper. The alternation between colorful representations of the struggling turtle and white frames creates a flicker effect that serves to enhance the visual impact of the explosion.

As with *A Gruesome Twosome*, what is unusual about *$21 a Day (Once a Month)* is the particular white sheet of paper that has been photographed. The sheet is not blank, but rather bears a sketch of Woody Woodpecker, Walter Lantz's most famous cartoon star. Once Woody has been detected, one can begin to think in all earnestness of this sequence as a catalogue of historical documents. Although Woody's position shifts ever so slightly from frame to frame, one can compare each of the frames in which his face appears and determine that it is, in fact, the same drawing that has been photographed multiple times. One is thus brought back to the sequence's creation: the camera operator, the technician assigned what is notoriously the most tedious of studio tasks, arranging first the cels against the static background, then taking a photograph, then removing the cels and the background and putting the sheet of paper in their place, then taking a photograph, then replacing the background and arranging a new stack of cels, and so on. Because the sheet of paper's sole function is to provide a white frame, it matters only that it covers the entirety of the field of the lens; it matters not if Woody appears in the exact same place each time.

Did the camera operator know Woody would be visible in the final film? Is it only possible to see him because *$21 a Day (Once a Month)* can today be viewed via a "restored" digital copy, one that perhaps brightened an image that the camera operator had intended to be obscure? These are facts that cannot be retrieved from the reproduction of this document alone. What I *can* observe is that only Woody's head and neck have been drawn on the sheet of paper, which leads me to believe that this sketch served as the source for an animation cel onto which Woody's

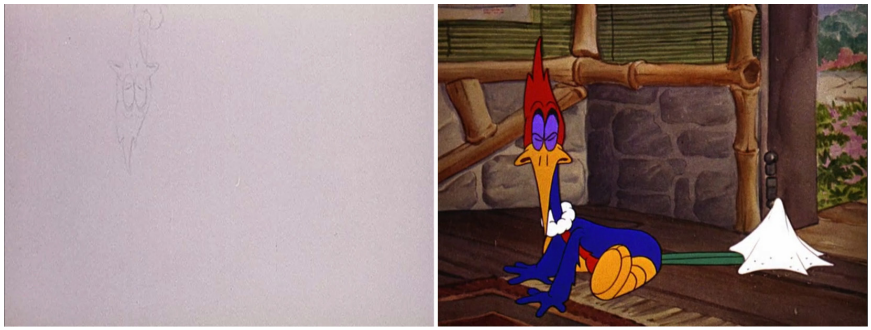

FIGURE 1.2. Woody Woodpecker in *$21 a Day (Once a Month)* (Universal, 1941) and *Knock Knock* (Universal, 1940).

head and neck were then traced in ink and painted. That cel would have subsequently been placed on top of another cel, on which the rest of Woody's body had been inked and painted. A study of early Woody Woodpecker shorts reveals that the cel counterpart of this sketch appears at the end of Alex Lovy's *Knock Knock* (Universal, 1940)—the very first short to feature Woody Woodpecker, as it turns out. A comparison of the original sketch as recorded in *$21 a Day (Once a Month)* and the final cel setup (as recorded in *Knock Knock*) strongly suggests that the camera operator for the former flipped over the sheet of paper in order to photograph its verso side—all the more reason to believe that Woody was not meant to be visible (fig. 1.2). The close study of the most minute details of these frames, these documents, as well as the differences between them, brings to the fore the process of the film's production, which would otherwise be obscured. The original sketch bearing Woody Woodpecker's face is long lost, and with it the trace of an animator's hand, but here it is preserved.

Yet an unbridgeable gap separates the viewer from the history to which this document testifies. It is possible to see that the animator drew on paper and that he used a pencil, but we do not know the animator's name, the paper's dimensions, the pencil's grade. More importantly, effaced is "the mark of the history to which the work has been subject," which, as Benjamin states, "can be detected only by chemical or physical analyses (which cannot be performed on a reproduction)."[42] There is thus a limit to the knowledge afforded by the reproduced document, a limit all too familiar to researchers who work with, say, magazines on microfilm. It is this distance that Nicholson Baker bemoans in his extended polemic against the endemic practice of destroying old newspapers in order to photograph (and hence preserve) them—the loss of the "empirical, thumbable thing."[43] Without such "thumbability," the bibliographical analysis of text is impossible, as Lawrence Cummings notes:

> The "document" cannot be held up to bright light or tilted toward it in order to decipher erasures, to separate bleeding from the reverse from actual marks on the obverse, to look at a crabbed hand at an angle, or to practice similar techniques. The writing surface cannot be examined to determine whether it is paper or vellum, much less what quality. Watermarks are usually invisible, chain marks disappear, and gatherings cannot be determined. Stubs left from removed leaves can easily be missed.[44]

Perhaps this all seems gratuitously nostalgic, this pining for the irretrievable, reified moment. Or perhaps it all amounts to a rejection of the utopian potential of technological reproducibility, that promise of hitherto unconceivable proximity, of the new microscopic vision afforded by the camera lens, of the placement "of the copy of the original in situations which the original itself cannot attain," and the resultant revolutionizing of social relations.[45] But my pursuit of the original document is driven largely by a desire to understand how its physical properties shaped the work of art. I know, for instance, that inkers and painters at the studios had to wear white cotton gloves, so as to prevent smearing the cels with the grease on their hands, and that the departments in which they worked had to be kept both humid (to prevent the paint from chipping) and cool (to prevent the paint from getting too sticky). The mediating presence of the screen—not to mention an unknown number of generations between the "restored" digital copy and the photographic negative—keeps the material, the witness to these conditions, beyond reach. If I long to touch the original document, to hold it in my hands, it is because I hope to understand how the paper's dimensions and the pencil's grade determined just what trace the anonymous animator could leave, as well as to understand the economic, social, and political networks that likewise left their mark on the work's construction. Or, as Virginia Jackson says of Emily Dickinson's manuscripts:

> These objects themselves mark not only the absence of the person who touched them but the presence of what touched that person: of the stationer who made the paper, of the manufacturer and printer and corporation that issued guarantees and advertisements and of the money that changed hands, of the butcher who wrapped the parcel, of the manuals and primers and copybooks that composed individual literacy, of the expanding postal service, of the modern railroad, of modern journalism, of the nineteenth-century taste for continental literary imports.[46]

The intensity of the impression left by these white frames, these historical documents, extends beyond the initial violent impact on the viewer. They do more than leap out of the filmstrip. They lead us away from the film altogether, toward the anonymous workers who produced them, toward the organization of labor at the studios, toward the circulation of materials (paper, cels, pencils, paints), toward the histories of which they are but a fragment, a crystal.

## THE MANUSCRIPTS THEMSELVES

What I have described is montage. In Eisenstein's formulation, montage resists the linearity of the filmstrip. Conceived of as superimposition, in which one image is overlaid atop another, or as juxtaposition, in which two ideas are not just placed side by side but pitted against one another in conflict, montage overflows the continuous stream of film. The Kino-Fist thrusts itself into the audience; the advent of the synchronized soundtrack brings with it the possibility of sound-image counterpoint; the wide-angle lenses of his cinematographer Eduard Tisse mobilize the static image through wild contrasts in scale; "the dynamic square," a screen that can change shape, suggests frames that exceed the dimensions afforded by the conventional filmstrip. Montage is multidimensional, contradictory, simultaneous, contrapuntal, stereoscopic.

Jay Leyda, who studied with Eisenstein in the Soviet Union and translated many of his writings into English, attempted to apply his mentor's theory of montage to literature and, ultimately, history. His efforts culminated in two documentary biographies, *The Melville Log: A Documentary Life of Herman Melville* (1951) and *The Years and Hours of Emily Dickinson* (1960), the first of which was dedicated to Eisenstein. The structuring principle behind both works is simple: they present, without commentary and in chronological order, excerpts from marginalia, deeds, newspaper articles, census reports, and other historical documents pertaining to the lives of these two great writers. While chronology is the overall structuring principle, Leyda is most interested in what happens on a smaller scale, through juxtaposition. In his introduction to *The Melville Log*, for instance, he argues that "the relation *between* two documents, *among* a cluster of documents . . . tells us far more than we would ever have guessed by examining them singly," and that "these invisible relationships speak not only of Melville but of the historical climate in which he worked and died."[47]

Leyda thus follows a model of "literary montage" remarkably similar to that which guided Benjamin's *Arcades Project*: "I needn't *say* anything," Benjamin writes. "Merely show. I shall purloin no valuables, appropriate no ingenious formulations. But the rags, the refuse—these I will not inventory but allow, in the only way possible, to come into their own: by making use of them."[48] Indeed, Leyda referred to his own research process as "rag-picking."[49] How familiar Leyda was with Benjamin's work is unclear. He corresponded with Max Horkheimer about translating "The Work of Art in the Age of Its Technological Reproducibility," about which Benjamin then sent him a letter in 1937, but this project never came to fruition.[50] Nonetheless, it is hard not to read his claim that Emily Dickinson "would make mosaics of her oblique quotations, each jagged color fragment lightly contributing to her broad design"[51] without hearing echoes of Benjamin's *The Origin of German Tragic Drama* (1928):

> Just as mosaics preserve their majesty despite their fragmentation into capricious particles, so philosophical contemplation is not lacking in momentum. Both are made up of the distinct and the disparate; and nothing could bear more powerful testimony to the transcendent force of the sacred image and the truth itself. The value of fragments of thought is all the greater the less direct their relationship to the underlying idea, and the brilliance of the representation depends as much on this value as the brilliance of the mosaic does on the quality of the glass paste. The relationship between the minute precision of the work and the proportions of the sculptural or intellectual whole demonstrates that truth-content is only to be grasped through immersion in the most minute details of subject-matter.[52]

Both Leyda and Benjamin are interested in the relationship between the part and the whole, the tile and the mosaic. Each individual fragment catches the light in its own way, teasing the eye; set alongside another glass shard, light bounces to and fro, changing colors. Out of this interplay emerges a picture of the whole. Thus Leyda warns in the preface to the biography of Dickinson that "the reader should be prepared for the strangest possible variety of juxtaposed documents, transcribed and extracted from manuscript and printed sources, ordered and dominated by a single chronology, and presented with a single aim: to get at the truth of Emily Dickinson."[53]

There exists extensive literature on the status of the document vis-à-vis Dickinson's poetry, much of it concerned with the economic, social, and political networks in which Dickinson and her materials were enmeshed.[54] For instance, Alexandra Socarides concludes her recent monograph on the paper used by Emily Dickinson with the observation that William Carlos Williams wrote many of his poems on prescription pads. "Might we attribute Williams' short lines not only to the tenets of Imagism, but to the contours of his small prescription pad?" she asks. In posing this question, Socarides invites us to return "to the moment of writing," to "the scene of composition."[55] A similar question leads me to scour the reproduced document in search of clues about the original's materials. But, as I have suggested above, this search often comes up empty. Worse, it risks privileging one aspect of the production process over others or engaging in a naive materialism that "tells us that in regard to railways one should only think of rails and ways, in regard to trade contracts only of sugar and coffee, and in regard to leather factories only of leather."[56] How far back should one go? To the factory where cels were manufactured? To the chicken coops wherein hens laid the eggs that will serve as base for tempera paints? To the earth from which the pencil's graphite was extracted?

Leyda's biographical study of Dickinson provides one solution. In his pioneering attempt at the avenue of research gestured at by Socarides, Leyda claimed to have ransacked "the dust of neighbors' attics" in pursuit of material on Dickinson. The result is a model of organizing historical documents that facilitates

cross-referencing and re-sorting. Of particular fascination to him were the books that Dickinson read, for he thought of books not as immaterial texts whose material is only incidental but rather as historical artifacts that exist as concrete objects capable of circulating through social networks, bearing notes in their margins, and surfacing in unexpected contexts.[57] (His description of his method as "rag-picking" is thus especially apt, as rag-pickers were the ones who sold paper manufacturers their base materials.) In a letter to Millicent Todd Bingham, the daughter of Mabel Loomis Todd, who was one of Dickinson's early editors and the mistress of Dickinson's brother Austin, he writes, "I'm using Miss Dickinson for my excuse to be reading all of George Eliot (and most for the first time, too)." In the course of his reading, he tells Bingham, "I have come across some surprising links," including an echo of a passage from Eliot's *Mill on the Floss*, first published in 1860 ("Mrs Glegg . . . had inherited from her grandmother . . . a brocaded gown that would stand up empty, like a suit of armor"), in a letter Dickinson wrote to Samuel Bowles in 1862 ("your memory . . . can stand alone, like the best Brocade").[58] Recognizing such connections helps disabuse us of the conception of Dickinson as an isolated, mystical genius. She becomes, instead, decidedly human, a product of her distinct time and place.[59]

One of the last novels Dickinson read was Hugh Conway's *Called Back* (1883). The book, which was given to her as a gift and which she discusses admiringly in a letter to her cousins, demonstrates how such objects could circulate in the late nineteenth-century United States. It accrues even further meaning, meaning that reverberates well beyond Dickinson alone, when one considers the place it assumed in the final days of her life. These two weeks (April 30 to May 16, 1886) are documented in two pages of *The Years and Hours of Emily Dickinson*, wherein Leyda marshals material ranging from Dickinson's letters (one, addressed to T. W. Higginson, reproduced in her hand, the other transcribed by Leyda) to a doctor's prescription to diary entries to reports from local newspapers.[60] At play are a variety of styles, including the uncanniness of Dickinson's nearly indecipherable handwriting working in concert with its prophetic undertone (". . . does he live now? My friend—does he breathe?") and the hyperbolic language of the diary entries (writes Mabel Loomis Todd, Dickinson's brother "is terribly oppressed"). Five successive documents read as follows:

EARLY MAY? ED sends a message to Louise and Frances Norcross:

> Little Cousins,
>
> "Called back."
>
> Emily.

MAY 12. *In the* Record: Prof. Todd is still searching for the trans-Neptunian planet, being convince that he has found the spot in the heavens where the planet will sometime be discovered as a star of the thirteenth magnitude.

MAY 13, THURSDAY. *Austin Dickinson's diary:* . . . Emily seemed to go off into a stark unconscious state toward ten—and at this writing 6 P.M. has not come out of it. Dr Bigelow has been with her most of the afternoon

*Dr. Bigelow prescribes, for convulsions:*

Chloroform

Olive Oil

*In the* Republican, *May 17:* Miss Emily Dickinson, daughter of the late Edward Dickinson of Amherst, was stricken with apoplexy Thursday morning, and her condition is believed to be hopeless.

These five entries are mysterious, even unsettling. Was Dickinson "called back" by Conway's novel or by the trans-Neptunian planet David Peck Todd of Amherst College Observatory thought he had found? When on Thursday did Dickinson leave her "stark unconscious state" and begin to go into convulsions? When did Dickinson know she was going to die (as the letter to her cousins suggests she did), and what are we to make of the fact that the *Republican* was reporting on her still being alive (albeit apoplectic) two days after she had died? Why chloroform? Why *olive oil*? Austin Dickinson's diary then recounts the day of her death:

MAY 15, SATURDAY. *Austin Dickinson's diary:*

It was settled before morning broke that Emily would not wake again this side.

The day was awful She ceased to breathe that terrible breathing just before the whistles sounded for six.

Mrs Montague and Mrs. Jameson were sitting with Vin.

I was near by.

Did the whistles' sounding take up her last "terrible" breath? Which "side" was Austin "near by"—"this" side or the side to which Dickinson has crossed?

Lingering over Austin's words and returning to the documents above and below them, as the organization of text allows one to do, gives way to surprising motifs and unexpected tensions: Mrs. Todd's "terribly" is echoed in Austin's "terrible"; Prof. Todd scans the heavens just days before his wife would recount Dickinson's dying day; Dickinson scrawls "breathe" while on the facing page her brother uses the same word. The sense of hopelessness and resignation that emerges in the relationship between these documents could not be achieved by reading the matter-of-fact *Republican* news report alone. More importantly, these documents realize the major goal of Leyda's project: to expose just how deeply rooted Dickinson's work was "in national and community life, in family crises, and in her daily reading." "To ignore this," he warns, "is to divorce Emily Dickinson from her real, tangible surroundings."[61] In an earlier essay on Dickinson's relationship with her

domestic worker Margaret Maher, parts of which he would adapt for the preface of *The Years and Hours of Emily Dickinson*, he admonishes:

> One of the several harmfully false aspects of the "Emily legend" is that she lived and worked alone. The more one looks into the reality of the matter, the larger grows her circle of friends, acquaintances, correspondents—the more continuous her exchange with other minds and other temperaments. . . . Everyone who established any degree of contact with the poet writing there requires investigation. The people who worked for the family, [for] example—should they do no more than slide along the backdrop of this drama, carrying their dish and pitchfork?[62]

With this attention to the everyday domestic labor that is so often forgotten or neglected, Leyda's biography quite clearly provides a model for how to approach the cultural document: as the crystal of the total event.

It also explains, perhaps, why Leyda often fails to emphasize the expressive elements of the documents he transcribed and collated. He was a major collector of Dickinson's original manuscripts (he donated his collection, which he enumerated and catalogued, to Amherst College Library in 1956), and consequently could not help but be intimately familiar with the aspects of Dickinson's poems that have so fascinated many of her scholars: her handwriting, which changed drastically over the years; her choice of pen and paper; her peculiar lineation, punctuation, and capitalization. It is these characteristics, effaced in typographical renditions of her poetry, to which much of the scholarship of the past thirty years has attended. Before Thomas Johnson's *The Poems of Emily Dickinson* appeared in 1955, the public knew only versions of her poems stripped of their stranger stylistic decisions, such as the frequent dashes. Johnson details at length the transformations Dickinson's handwriting underwent over the course of her lifetime. It was only with the publication of R. W. Franklin's *The Manuscript Books of Emily Dickinson* (1981), however, that general readers were brought face-to-face with facsimiles of her poems in their original state. Dickinson had bound many of her poems into small groups, called "fascicles," but these were disassembled and scattered by her later editors. By painstakingly examining the manuscripts, Franklin was able to reconstruct their original order. "The primary evidence is from the manuscripts themselves," he writes—evidence he could not have gathered from photographic reproductions, as he then makes clear with the following description of his process:

> Soiling on first and last pages usually identifies the first and last sheets of a group, and the various links afforded by stain offsets, matching smudge patterns, pin impressions, and manufacturing defects like paper wrinkles place one sheet ahead or behind another. Puncture patterns, where the needle pierced the paper for binding, and stress effects, caused by the pressure of opening a fascicle against the tension of the stabbed binding, vary within fascicles, with initial sheets differing from subsequent ones in amount of curvature along the fold edge and in the direction and extent of damage to the binding holes.[63]

For many, the resultant *Manuscript Books* were revelatory. They inspired Susan Howe, for one, to argue that Dickinson's "calligraphy influences her meaning," and Jerome McGann, for another, to the claim their "handcrafted textual condition . . . urge us to treat all her scriptural forms as potentially significant *at the aesthetic or expressive level*."[64]

Leyda, of course, was not privy to these debates (which in part reflect a broader scholarly turn toward the materiality of the book), but he would, I suspect, be more than sympathetic to those scholars who now wish to treat Dickinson's manuscript holographs as they have Stéphane Mallarmé's plans for "Un Coup de Dés" or Mikhail Larionov and Natalia Goncharova's folk- or "lubok"-inspired graphic experiments—not as text, but as material documents. Per his promise that "in transcribing these documents no silent changes have been made," he repeatedly accommodates curiosities or mistakes in the originals—thus Albert Norcross writes to his cousin Emily Dickinson, "I visit your Fathers family almost every day and stay some knights."[65] When preparing Dickinson's manuscripts for the collection at Amherst College, he took extensive notes on the quality and condition of the paper the poet used, from watermarks and embossing to creases and tears.[66] Leyda was even in close communication about these matters with Joseph Cornell, who dedicated eight of his boxes to Dickinson. In a letter dated October 7, 1953, Leyda informs Cornell that Dickinson routinely clipped ads from newspapers, wood engravings from children's magazines, comics from *Harper's*, and illustrations from *Scribner's*—"all used, of course, with a significance far beyond the intentions of their artists."[67] *The Years and Hours of Emily Dickinson*, for its own part, includes some reproductions of Dickinson's handwriting. Had it been published two decades later, one can imagine Leyda devoting substantially more space to these reproductions. After all, his later documentary portrait of Eisenstein, *Eisenstein at Work* (1982), consists primarily of photographs and photographic reproductions of Eisenstein's manuscripts.[68]

But his interest does not reside in any one document and its attendant aesthetic or expressive elements. Leyda strives to piece together a larger historical truth—a bigger mosaic in which each document is but a single tile. When he contacts the granddaughter of Tom Kelley, a laborer employed by Dickinson's father and the brother-in-law of Margaret Maher, about a document she may have her possession, he seems as excited by the new network of associations this discovery will reveal as by its particular (and peculiar) material properties:

> Here is a big hope inspired by your books: for many of her poems Emily used scraps of paper, & in at least two instances these were the fly-leaves of books. One of these is inscribed "Edward Dickinson 1824" and *may* have been cut from your Vol II of Irving's Sketch Book! At some future time I hope you will consent to lend these books to Harvard so that all may be examined with this in mind. It did not occur to me at all at first that the torn-out pages could have been torn by herself![69]

In spite of his dogged quest to amass every last scrap and "chance remnant"[70] of Dickinson's life, though, there remain limitations to Leyda's documentary method. He values the incongruous juxtaposition, the relationship between and among documents, the discontinuous image; not all traces are valuable to him. The case of Mark Hofmann makes the sort of traces Leyda's biographies overlook apparent.[71] Hofmann forged hundreds of documents in the 1970s and 1980s. Some, like his forgery of Stephen Daye's 1639 broadside printing of "The Oath of a Free Man," were based on genuine historical documents. Others, like the manuscripts he created in order to undermine the theology of the Church of Jesus Christ of Latter-day Saints, were his own creation. In the latter category fell a poem by Emily Dickinson, which eventually wound up on the auction block at Sotheby's several years after Hofmann had been sent to prison for theft by deception and the murder of two people. While Hofmann's story is particularly salacious, it also speaks to the limits of Leyda's project—and the limits, too, of the knowledge afforded by technological reproduction.

Hofmann, like Leyda, attended to the details of documents, details he then attempted to duplicate. He matched the chemical composition of his materials to the chemical composition of the materials available during Dickinson's life. He became adept, with the aid of Franklin's *The Manuscript Books of Emily Dickinson*, at copying her handwriting. He wrote the forged poem on a sheet of Congress paper, which had an embossed image of the Capitol building as letterhead—Dickinson was known to have used such paper in 1871 and 1874. He then folded the paper in thirds, just as Dickinson did. A scholar interested in the document's aesthetic or expressive levels might look at Hofmann's forgery as Martha Nell Smith looks at Dickinson in her 1996 essay "The Poet as Cartoonist," in which she marvels at a doodle Dickinson drew on a sheet of Congress paper: "The poet draws around the diminutive embossed likeness of the U.S. Capitol building, adding a smokestack to its dome and, on its left, a little stick figure shuffling along."[72] Or, if one is charged with conducting a forensic analysis of the document, one might deploy a whole other interpretive arsenal: "Scanning Auger Microscopy Dating (SAMD)," for instance, which "measures ion diffusion of inks in paper and determines the age of a document with an accuracy of 15± years for inks made with a heavy metal,"[73] or "x-ray fluorescence spectrometry," or "fourier transformspectrometry," or "comparisons of color macrophotographs of the typography," or an examination of "the presence of zinc and manganese, which are not ordinarily found in modern papers."[74]

Or, if one were Leyda, one would not be concerned with the status of any single document—for any document, regardless of what aesthetic or forensic analysis might yield, would not be meaningful alone. "A 'document' should be distrusted as much as a photograph," he writes in the introduction to *The Melville Log*, "for documents are as fallible as their human authors."[75] Leyda did not adhere to the procedure followed by Franklin in his reconstruction of Dickinson's fascicles, nor

did he submit the scraps he assembled to any of the rigorous rounds of testing performed by the Library of Congress Preservation Office in their investigation of Hofmann. His analysis uses no X-rays and matches no smudge patterns. Instead, he regarded each one as "a seed that has to be packed into a compost of old newspapers and clipped magazines, the dust of neighbors' attics, the grime of birth, marriage, and contractual records, the diaries and tombstones of dead friends—the mould of Amherst, in fact—in order . . . to flower again."[76]

A favorite source for Leyda were collectors of postmarks, who, he remarks, "guarded some of the documents here that otherwise would have long since vanished on the village dump."[77] These collectors were, too, valuable to Hofmann in his own research. In order to forge letters related to the early history of the Mormon Church, Hofmann expertly duplicated the postmark used in Palmyra, New York, between 1829 and 1834.[78] These two men, however distinct their ultimate aims, become the mysterious figure described by Benjamin in "One-Way Street": "The pursuer of postmarks must, like a detective, possess information on the most notorious post offices, like an archaeologist the art of reconstructing the torsos of the most foreign place-names, and like a cabbalist an inventory of dates for an entire century."[79] Leyda's interest in postmarks was not primarily aesthetic, as it is for Jen Bervin and Marta Werner, the editors of a collection of the poems Dickinson jotted down on the fronts, backs, and flaps of envelopes.[80] He is closer, in fact, to law enforcement agencies that monitor mail, in that his interest resides in the networks of associations these letters can reveal.[81] But law enforcement reads that archive from above. Leyda reads his from below.

## THE TINIEST AUTHENTIC FRAGMENT

In his discussion of those detectives, archaeologists, and cabbalists who are collectors of postmarks, Benjamin provides a variation on the mosaic metaphor of *The Origin of German Tragic Drama*. "Stamps bristle with tiny numbers, minute letters, diminutive leaves and eyes," he writes in "One-Way Street." "They are graphic cellular tissue. All this swarms about and, like lower animals, lives on even when mutilated. This is why such powerful pictures can be made of pieces of stamps stuck together." It is important to remember that Benjamin by no means privileges an object's function as a document over its status as art. Instead, he sees this as a dialectical relationship, which allows him to analyze documents like stamps as if they were art, and in so doing illuminate their deeper documentary value. The postmark is thus, to him, "the occult part of the stamp." But the esoteric meaning he sees the postmark as bestowing on the stamp resonates well beyond the stamp itself: "There are ceremonious ones that place a halo about the head of Queen Victoria, and prophetic ones that give Humbert a martyr's crown. But no sadistic fantasy can equal the black practice that covers faces with weals, and cleaves the land of entire continents like an earthquake."[82] Of course, Benjamin reads not only

documents as art, but art as documents. In a famous 1934 address at the Paris Institute for the Study of Fascism, he reflected on the "revolutionary strength of Dadaism," which he saw as operating in accordance with "the procedure of montage," whereby, as I noted in the first part of this chapter, "the superimposed element disrupts the context in which it is inserted."[83] His *Arcades Project* marks his attempt to fulfill the promise of Dadaism by mastering "the art of citing without quotation marks"—hence every entry, every scrap, would disrupt the context into which it was inserted, as is the very nature of quotation.[84] It was to be structured *by* interruption.[85]

Benjamin's theory of collage, montage, and quotation is useful for interpreting the animated cartoon, particularly cartoons that incorporate preexisting print sources into the graphic composition. This common practice, implemented in order to save time and labor, most often takes the form of an insert of a newspaper composed of a fake headline (which serves to provide narrative exposition) atop columns of text clipped from a genuine newspaper or periodical. In order for the viewer to be able to read the headline, the newspaper is held on-screen for several seconds, effectively interrupting the flow of the animation in the manner of an intertitle or establishing shot. While this serves a specific narrative function, it nonetheless ruptures the animation as such, offering stillness in place of motion.

Such collages appear in countless shorts: Otto Messmer's *Felix Doubles for Darwin* (Pat Sullivan, 1924) and *The Non-Stop Fright* (Pat Sullivan, 1927), Tex Avery's *Gold Diggers of '49* (Warner Bros., 1935), Frank Tashlin's *Dog Meets Dog* (Columbia, 1942), Dick Lundy's *Wacky-Bye Baby* (Universal, 1948), and Izzy Sparber's *Ghost of the Town* (Paramount, 1952), to name but a few. Sometimes the combination of graphic elements results in absurdist juxtaposition, as is the case with a newspaper in Jack King's *Donald's Dilemma* (Disney, 1947): the image of an especially dashing Donald Duck, captioned "Donald Duck Spends Week End in Newport," stands astride a headline that begins "Sausage Ceilings." Others summon tabloid stories of bygone eras, such as the remarkable birth of the Dionne Quintuplets in 1934 ("Dionne Quins 'Doing Fine'; Eat Solid Food," reports the *Daily Record* in Bob Clampett's *Porky's Movie Mystery* [Warner Bros., 1939]) or the "Black Widow" Louise Peete's execution in a California gas chamber in 1947 ("Death is an indelicate subject," she tells the *Daily Snooze*, which makes an appearance in Chuck Jones's *Haredevil Hare* [Warner Bros., 1948]). Still others, such as Max Fleischer's *Now You're Talking* (Fleischer Studios, 1927), Burt Gillett's *Lonesome Ghosts* (Walt Disney, 1937), and Friz Freleng's *By Word of Mouse* (Warner Bros., 1954), by clipping from phone books or classifieds, entice the modern-day viewer to dial phone numbers long since disconnected or apply for jobs long since outsourced (fig. 1.3).

This trope is significant for several reasons. First, like the flicker sequences described earlier, it presents an alternative to the sequential logic of animation. Second, it aligns the practice of cel animation with another medium: microfilm.


FIGURE 1.3. Selected pages from newspapers and telephone books, as preserved in animated cartoons.

After all, both microform periodicals and celluloid animation were produced in similar ways—through the labor-intensive process of photographing single-page documents one at a time. In addition, these documents were, more often than not, ephemera. For example, the cartoon figures painted onto transparent celluloid sheets were frequently washed off once they had been photographed, so that the cels could be reused in subsequent productions. And, in order to photograph bound volumes onto microfilm, individual pages had to be ripped from their spines, rendering the act of preservation also an act of destruction. In both cases, the final film stands as the only record of a work's existence.

Take Bob Clampett's *Tortoise Wins by a Hare* (Warner Bros.), which was released in theaters on February 20, 1943. Early in the film, an issue of the *Chicago Sunday Tribunk* [*sic*] announces the event that will serve as the film's narrative: "Hare Races Tortoise Today." Bugs Bunny and his foe, an amiable tortoise, are pictured below the headline. But the remainder of the frame directs our attention elsewhere, away from the cartoon. The source newspaper is the November 1, 1942, issue of the *Chicago Sunday Tribune*, which was also photographed onto microfilm and later scanned as part of ProQuest Historical Newspapers' online database.[86] Both Clampett's film and the copy preserve other headlines from that day: "Party Victory and Large Vote in Seen in Illinois"; "'Praise Lord': Navy Chaplain Finally Found"; "10 Short Wave Radio Stations Leased by U.S."; "Jap Cruiser Is Blown Up." This small smattering of news items gives one a sense of the world of which *Tortoise Wins by a Hare* is a part: Election Day is around the corner, and the United States is deeply embroiled in World War II, attacking Japanese ships, broadcasting propaganda, and mounting rescue operations.

But the version of the *Tribune* that appears in *Tortoise Wins by a Hare* contains one other curiosity, apart from the elements pertaining to the cartoon: a tiny joke headline inserted just above the fold. It reads, "Adolph [*sic*] Hitler Commits Suicide." We know this to be a joke: because Hitler was still alive in November 1942, not to mention February 1943; because it does not appear in the source material; because Hitler's first name is misspelled; because we can make out the borders of the piece of paper on which this fake headline was written, and so on. Yet even this joke seems urgent. Whose idea was it? Who wrote it? How could they possibly know that Hitler *would*, eventually, commit suicide? What is all the more fascinating is that Clampett would then reuse this mock newspaper at least two more times—first in *Fighting Tools* (Warner Bros.), released October 13, 1943, and again in *What's Cookin', Doc?* (Warner Bros.), released January 8, 1944—each time altering the name of the newspaper, as well as the major headline and accompanying illustration, but never removing the reference to Hitler's suicide (fig. 1.4). The mock newspaper created for *Tortoise Wins by a Hare* thus becomes a historical document in its own right, with a life wholly apart from its source material. Yet the news reported by the *Chicago Sunday Tribune* on November 2, 1942, continues to reassert itself; that "Jap cruiser" is blown up again and again, that Navy chaplain is forever being found. The year 1942 exists alongside 1943, 1943 is nested within 1944; each new collage contains telling fragments of what came before it.

Similarly, Clampett's newsreel parody *Meet John Doughboy* (Warner Bros., 1941), like Winsor McCay's *The Sinking of the Lusitania* before it, is twice a documentary: first in its appropriation (here to comic ends) of documentary rhetoric, and second in how it provides a photographic record of ephemeral documents. Partway through the cartoon there appears an issue of the phony *Los Angeles Newsprint*, published on April 2, 1941, with a fake headline announcing, "President Orders 'All Out' Test of Defense Strength." The *Newsprint* is, in fact, an altered version of

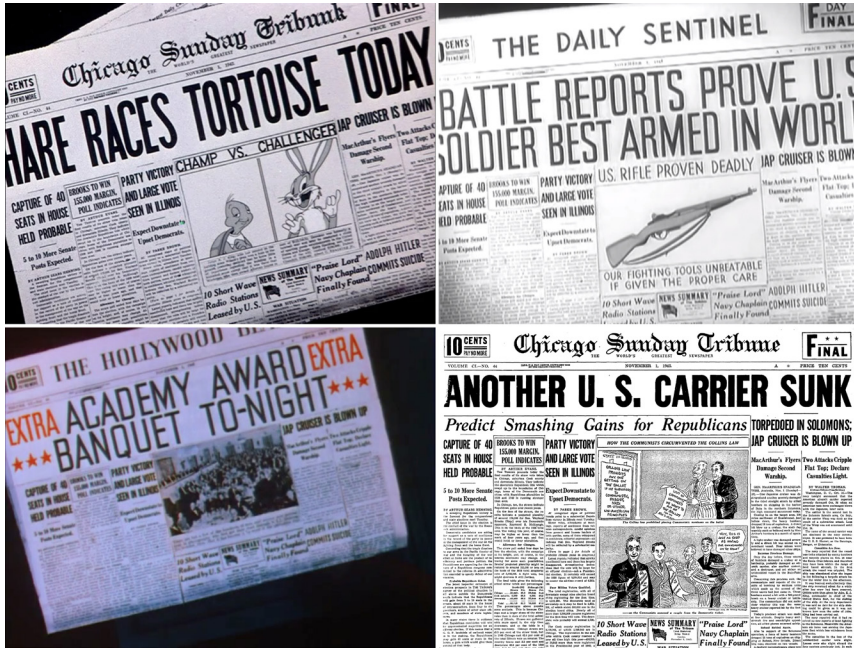


FIGURE 1.4. "Adolph Hitler Commits Suicide" headline as it appears in Bob Clampett's *Tortoise Wins by a Hare* (Warner Bros., 1943) (top left), *Fighting Tools* (Warner Bros., 1943) (top right), and *What's Cookin', Doc?* (Warner Bros., 1944) (bottom left), and the actual November 1, 1942, issue of the *Chicago Sunday Tribune* (bottom right).

*Los Angeles Examiner*, as their similar logos makes clear. Yet if one compares the April 2, 1941, issue of the *Los Angeles Examiner* as it is reproduced in *Meet John Doughboy* to the April 2, 1941, issue reproduced in the microfilm published by the University of California, Los Angeles, subtle differences emerge: the latter hosts the headline "20,000 Strike at Ford's Huge River Rouge Plant," where the former reads, "Sitdown Starts Big Ford Strike at Dearborn Plant." In short, the altered version of the *Examiner* that made its way into the cartoon is from an edition—the "9 A.M. Extra," presumably—that has not been preserved on microfilm. Consequently, it could very well be the case that the cover of this particular edition of the April 2, 1941, issue of the *Los Angeles Examiner* has been preserved for posterity thanks solely to *Meet John Doughboy* (fig. 1.5).

But there is even more to the story: "Just as the bloody fingerprint of a murderer on the page of a book says more than the text," Benjamin told his Parisian audience in 1934, "the tiniest authentic fragment of daily life says more than painting."[87] The fragment of daily life that here says the most is that article about the strike at the Ford River Rouge plant in Dearborn, Michigan, which would last until April 11 and ultimately involved forty thousand automobile workers. *Meet John Doughboy*,


FIGURE 1.5. Newspaper in Bob Clampett's *Meet John Doughboy* (Warner Bros., 1941) (left) and the actual April 2, 1941, issue of the *Los Angeles Examiner* (right).

meanwhile, premiered on July 2, 1941. What happened in the three months between the walkout by workers at Ford and the theatrical release of *Meet John Doughboy* is invisible to those watching the film, but it is nonetheless an irreducible component of the network of relationships that bear on the film's making: on May 19, after being notified that the inkers were planning to strike, Warner Bros. producer Leon Schlesinger locked his animators out of the studio.[88] A little more than a week later, the animators at Disney Studios went on strike, and Warner Bros. directors, including Chuck Jones—who was once a lowly cel washer—joined their picket line in solidarity. "Michelangelo, Raphael, Titian, Rubens, Da Vinci and Rembrandt all belonged to guilds!" claimed one of the signs carried by an animator walking the Disney picket line, while a pro-union comic strip, published in *PM* magazine, asserted that they were "striking for the same things steel workers, coal miners, and machinists strike for."[89] The dialectic between art and labor, between the aesthetic object and the historical document, is articulated in this three-month interstice.

## EYESTRAIN

A page of a newspaper preserved on microfilm isn't the same as a page of a newspaper preserved in a cartoon. The two serve very different functions. One is a document. The other is art. Likewise, the photographic reproduction of an animator's sketch in an auction catalogue isn't the same as a photographic reproduction of that sketch in a flicker sequence in an animated cartoon. But what I have aimed to do in this chapter is to look at animated cartoons, in conjunction with their constitutive documents, with the same "sheer anachronistic perversity" Thomas Elsaesser has ascribed to certain experimental filmmakers: I watch cartoons "through avant-garde eyes," resisting the thrust of their narratives and the momentum of their characters.[90] Seen in this way, the work of art becomes a document, the document a work of art. Consider Jonas Mekas's description of the visual assault propagated by *Blazes*:

> People have told me, after seeing Robert Breer's film *Blazes* or after Stan Brakhage films, that they have headaches. Which is very possible. Others among us, those who have been watching these films more often, feel that the movements are too slow—we could take so much more. Our eye has expanded, our eye reactions have quickened. We have learned to see a little bit better.[91]

The headaches induced by Breer's work are similar, if not identical, to the distinct physiological effects produced by another body of films: as early as 1938, a survey conducted by the *Journal of Documentary Reproduction* found "eye fatigue" to be the most common complaint expressed by the microform users. This is a persistent criticism. For example, the librarian Herman H. Fussler, writing in 1954, acknowledged that researchers frequently experienced "eye strain" when viewing microfilm. And Richard Abel, writing in a recent issue of *Film History*, qualified his "nostalgic fondness for running through microfilm reels of newspapers" with the acknowledgement that such research was fundamentally "challenging to one's eyes and posture."[92]

This is especially true of Breer's *Jamestown Baloos* (1957), a tripartite six-minute film that combines live-action cinematography, stop-motion cutout animation, and single-frame photography. Several passages in the film, in which each frame corresponds to a page or portion of a page of an unidentifiable journal, explicitly signal its indebtedness to what one might call a "microfilm aesthetic." The speed with which these pages flash by renders them unintelligible. The flood of text, none of it decipherable, is overwhelming—a dizzying cascade of illegible images, like the effect of scrolling through microfilm. When one examines *Jamestown Baloos* frame by frame, as one would a microform periodical, the relationship between the two media becomes even clearer. One frame, for instance, features an advertisement for University Microfilms, and another promises "grafts for failing eyes" that are "available whenever needed"—needed after watching *Jamestown Baloos*, perhaps, or after reviewing University Microfilms' latest publications (fig. 1.6). A later section of the film moves from another cascade of journal pages to a series of landscape photographs to a back-and-forth whip-pan, which retroactively invites us to consider the earlier succession of journal pages as itself a sort of whip-pan. Indeed, so fast does the camera whip to and fro that its subject is little more than a blur, a blur familiar to any microform user. *Jamestown Baloos* recasts the experience of viewing microform as an *aesthetic* experience (fig. 1.7).

A little more than a decade later, Ken Jacobs would exploit the homologous "eye fatigue" engendered by *Jamestown Baloos* and microfilm alike in an extended section of *Tom, Tom, the Piper's Son* (1969). In this "aggressive passage," as P. Adams Sitney calls it, the image jumps "in the projector gate to the point of indecipherability by vertical distortion [fig. 1.8]. Audiences seeing this for the first time do not know if the projectionist has misthreaded or if what they are seeing is part of the film itself. . . . As the jumping continues (and it continues for a very long


FIGURE 1.6. "University Microfilms" and "Grafts for Failing Eyes" ads in Robert Breer, *Jamestown Baloos* (1957).

time, seeming as if it were about to rectify itself only to jump again) it becomes evident that the strategy is deliberate."[93] The vertical blur, like the whip-pan in *Jamestown Baloos*, evokes the swift movement of microfilm through the reader: the image skids, slips, slides. In addition, the brief instances in which the image seems "as if it were about to rectify itself" resemble the appearance of microfilm as the researcher settles on a particular page, thinking that perhaps this is the article she is in search of, only to realize that she has not scrolled far enough through the reel's contents.

Here Jacobs reminds the viewer of the origins of his film's source material, a paper print of Billy Bitzer's *Tom, Tom, the Piper's Son* (1905). Such paper prints were created to conform to contemporary copyright law, which allowed only for still photographs to be copyrighted. In order to copyright a motion picture like Bitzer's film, American Mutoscope and Biograph Company rephotographed it frame by frame onto huge rolls of paper.[94] In other words, Jacobs is working from

FIGURE 1.7. Four-frame sequence from Robert Breer, *Jamestown Baloos* (1957).

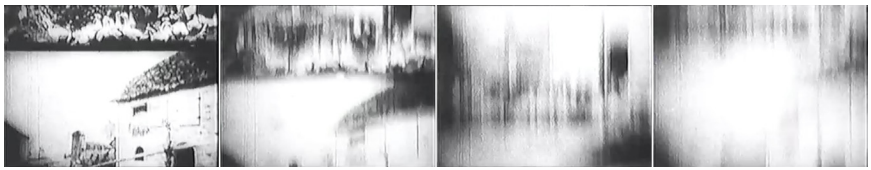

FIGURE 1.8. Four-frame sequence from Ken Jacobs, *Tom, Tom, the Piper's Son* (1969).

"a photographic record of documents"—documents that just so happen to have originally been frames of a motion picture. The paper print is but a large-scale microfilm reel.

Breer's *Jamestown Baloos* and Jacobs's *Tom, Tom, the Piper's Son* show us how we might watch a microform periodical as if it were an animated film, and *A Gruesome Twosome*, *$21 a Day (Once a Month)*, *Tortoise Wins by a Hare*, and *Meet John Doughboy* show us how we might read a celluloid cartoon as if each frame reproduced a unique historical document. The latter way of looking lets us see the labor that cinematic motion obscures, while the former reinvents the eyestrain engendered by scrolling through reels of microfilm as a vertiginous aesthetic experience—modes of viewership that are ultimately united within the avant-gardist's perverse gaze. Meanwhile, the order of randomness and cross-referencing suggested by Breer's *Blazes* reveals underlying, overlooked connections between disparate documents, and the literary montage of Jay Leyda's *The Years and Hours of Emily Dickinson* teaches us how to read the archive from below. By straining our eyes, we can understand animated cartoons dialectically, as historical documents *and* aesthetic objects, not just one or the other. In the chapters that follow, I aim to provide an account of the visual aesthetics of cel animation that synthesizes these two approaches.