CHAPTER 2

Christian Marclay's Two Clocks

In order to advance with the moving reality, you must re-place yourself within it. Install yourself within change.

—Henri Bergson, *Creative Evolution*

Bergson famously associated the cinema—or, in his preferred term, the cinematograph—with immobility. This characterization might strike some as surprising, given that cinema's very innovation was, presumably, to replicate a lifelike moving image. From its earliest attempts at narrative, cinema was also telling stories that suspended the logic of linear time through ellipsis, dream imagery, and eventually crosscutting, flashbacks, and other temporally complex techniques. The idea that film is static and unchanging goes against common sense; for many of us it is the first art form that comes to mind when we think of time-based media. As I remark in the introduction to this book, Gilles Deleuze, perhaps Bergson's most well-known philosophical heir, found this claim so peculiar that he devoted two entire books to its refutation. This is obviously an overstatement, but it would be one way of understanding the question to which *Cinema 1: The Movement-Image* and *Cinema 2: The Time-Image* provide the answer.

Deleuze begins *Cinema 1* with an exploration of Bergson's theory of movement. He notes that "it is strange that Bergson should give the oldest illusion such a modern and recent name ('cinematographic')," given that the attempt to reconstitute movement out of static frames

or instants dates back at least to Zeno's paradox.[1] In fact there is a passage in *Creative Evolution* in which Bergson himself acknowledges that the "illusion of movement" in cinema is not strictly speaking an illusion. He conceded that there *is* real movement in cinema but suggested that it is "in the apparatus" rather than in the image itself. Bergson describes the projector's movement as "abstract and simple, *movement in general*, so to speak."[2] Creating the impression of motion by running a reel of still frames through a machine, in other words, is like adding tap water to dried vegetables. The apparatus may be turning, but the images on the still frames will not truly be set in motion, any more than the vegetables will be restored to a freshly picked state.

What Bergson seems to object to most about cinema, though, is not its infamous tendency to create an impression of movement out of what are in reality only still fragments. He is no Platonist, and no moralist about the phoniness of sensory appearances. His famous definition of matter as an "aggregate of images" in *Matter and Memory* says as much.[3] Rather he objects to cinema's determinism: the fact that the entire film is already there on the reel, already engraved in a fixed number of frames. Barring some disaster with the projector, it will not reveal any genuinely new images when it is played. Cinematic movement may be false, but the trick is a problem only to the extent that it dupes us into thinking that *all* movement and all temporality is modeled after that of the film apparatus. Bergson's critique of the cinematograph falls only gently on its fragmentary state and not at all on its cave-of-shadows illusionism. His primary devil is the deterministic way of thinking: the idea that matter and movement could be unfastened from the weathering influence of time. Cinema is immobile not because its images stand still but because once they have been printed onto the celluloid, the story will be told the same old way every time the film is shown.

THE PUZZLE AND THE MELODY

We can comprehend Bergson's issues with cinema more fully by turning to two similar metaphors he invokes throughout his collected writings: the jigsaw puzzle and the mosaic.[4] As described in chapter 1, a jigsaw puzzle is made up of fragments of a larger image whose creation predates the act of putting the pieces together. Its picture is available all

at once, often on the box in which the pieces are contained. It does not add up to more than the sum of its parts. The whole picture is already there, in schematic form, before we begin to work on it. If the pieces are put together properly, nothing wildly unforeseen will emerge. The duration of time that we spend on it will not qualitatively affect the result. We can put it together in an hour or over the course of a whole year, in a single sitting or in ten-minute sessions. We can start with the edges or from the center; none of these choices will affect the final image. The activity of solving a puzzle is purely mechanical. The image is not really created by the one who puts it together; it is, as Bergson puts it, "reconstructed."[5] It has been fabricated in a separate time and place from the time and place in which we assemble it. This separate time and place corresponds to an unearthly, quasi-theological realm, as well as to the deterministic, eternalistic modes of thought to which Bergson is so allergic.

Bergson's picture puzzle is a metaphor, before its time, for the digital. Like jigsaw puzzles, digital images are made up of pixel pieces that have been coded elsewhere. If the program runs properly, they will display a picture that has already been composed in advance. Like someone who assembles a puzzle, the computer that displays the image on a screen or monitor does not really create this image; it reconstructs or "renders" it. It can render it using a different suite of software programs, different hardware, on screens of dimensions large and small, but none of these is meant to alter the resulting picture beyond recognition unless a glitch or error is introduced.

In his discussion of a similar form, the mosaic, Bergson notes that in order to reproduce a painting accurately with fragments of tile, one would require "an infinity of elements infinitely small, presenting an infinity of shades."[6] In one sense his assessment is hyperbolic; modern computer users know that mere millions of pixels (not an infinite number) suffice to produce a remarkably lush digital copy of a painting to the naked eye. But in another sense Bergson's remark is still instructive: the digital image will always fail to reproduce the *whole* of the painting, even if it offers a completely identical facsimile of it. The computer cannot reproduce the *durational* aspects of the painting: the three-dimensional layers of paint that have accrued, dried, cracked, and faded over time (even if these are visible in the reproduction), or a line

drawn over a shorter amount of time by the hand of a painter in a continuous gesture (even if the line appears unbroken in the copy). As Bergson notes, a picture made up of discrete points, however numerous they are, is based on the same fallacy of divisibility that plagues Zeno's paradox: on the abstract geometrical principles that claim that any whole can be endlessly divided, broken into parts, and reassembled without fundamentally altering it. The grout, cuts, and frame lines between the pieces, however micro thin, will always be there.

For Bergson the cinema too is "digital" in this sense. In *Creative Evolution*, the cinematograph is the primary culprit in promoting what he sees as a widespread misunderstanding of how new things and events are rolled out into the world. He takes cinema as an emblem for a way of seeing in which the world is "cut up into little bits . . . substituting for movement immobilities put together." We all, Bergson claims, have set going a kind of cinematograph inside us that slices up reality into discreet units of useful data, easy to instrumentalize but artificially removed from the stream of time. This operation introduces three kinds of falsifications. First, it presents essentially freeze-framed versions of objects, matter, and phenomena that are in reality always changing and in motion, however miniscule those changes and movements may be. Second, it attempts to reassemble a whole out of these instants: twenty-four static frames per second or similar "partial views put end to end," as Bergson calls them.[7] The frames, strung together like beads on a string, are taken to represent a continuous duration of time: twenty-four beads might be equivalent to one second, sixty beads might equal one minute, or whatever ratio we assign. But in reality the beads are not distinct from one another: time is more like one whole, continuous bead. Third, as with the jigsaw puzzle, all of the data are determined in advance, ready to unroll, and nothing that has not been recorded will spontaneously appear. In life, though, the utterly unexpected does appear from time to time: the pieces, beads, and still frames are not all in the box when we start.

The cinema is a symbol, albeit only a symbol, of the deterministic view of history in which everything that will ever happen has already been programmed in advance by the proverbial deity as clock maker. The clock metaphor originates in theological thought, but Bergson associates the cinematograph largely with Newtonian time: secular, scien-

tific, statistical ways of thinking. These ways of thinking also claim for themselves a muted omniscience or modest ability to predict the future when they place confidence in the rules of probability and chance. For Bergson, though, probability is smoke and mirrors; it "works" only due to an empirical fallacy that brackets the radically unforeseen from its calculations.

Bergson provides a group of metaphors for the opposite of the cinematograph: a kind of thought that in his view is more accurately grounded in durational time. These metaphors for what some call "process-based" thought are strewn throughout his writing, and they include an inflating rubber balloon, drawing, dancing, walking through a town seen for the first time, and a melody. He turns most often to music for this purpose. In *Matter and Memory*, he analogizes true temporal continuity to a musical piece played by heart.[8] Whereas a line of grout separates the tiles of a mosaic, musical notes can liaise with one another. He suggests that in music, future notes are already somehow present in or anticipated by past and current notes, while remaining in no way predetermined by what has come before. In *The Creative Mind*, he describes this movement from the other end: just as the future is virtually anticipated in the present, so too the echoes of past notes resonate in new notes. Bergson describes this phenomenon as "the indivisible and indestructible continuity of a melody where the past enters into the present and forms with it an undivided whole." He contrasts this live musical continuity with its bead-like representation on paper, in which "we line up, one after the other, states which have become distinct."[9]

In his *Theory of Film*, Béla Balász turns to Bergson's writings on melody in order to elaborate his concept of polyphony. Balász writes that although a melody is composed of single notes in a sequence, it "has no dimension in time. . . . The last note, which may not be played for some time, is yet already present in the first. . . . The melody is not born gradually in the course of time but is already in existence as a complete entity as soon as the first note is played."[10] This passage might seem perplexing since music is Bergson's metaphor for that which is genuinely time-based, not that which exists all at once in advance. But the contradiction is only apparent. The key is that for both Balász and Bergson, the melody is an indivisible whole, not a collection of parts that can be separated, rearranged, and thrown back together without

altering the music in a qualitative way. It exists "all at once" not because we might just as well play all the notes in the score as a single chord but because it is not isomorphic with itself. Unlike, say, a crystal, we cannot break off a chunk of a melody and have the resulting segments retain the identity and structure of the other connected parts. So it is, Bergson says, with time and matter as a whole.

Bergson's metaphors are refreshingly concrete, particularly the ones that are found in texts other than *Matter and Memory*, which is perhaps his most oft-read work among English speakers. They allow us to picture something as abstract as the difference between durational time and its corrupted successors in vivid detail. These metaphors, though, are still only metaphors; they are most helpful when we refrain from transposing them onto their corresponding aesthetic forms and media and onto the matter that allows them to exist in space and time. His metaphors for immanent, durational forms—music, drawing, dance—emphasize the time-based process of creating, performing, and observing these forms over and against any static objects that might result from them (the gesture of drawing a line rather than a framed drawing; the movement of walking as opposed to a map of the walk). Similarly his metaphors for deterministic forms—the cinema, the jigsaw puzzle, the mosaic—tend to bracket the time of production and reception in favor of certain physical characteristics of their assembly (the canned reel of still frames as opposed to the experience of watching a film). There are time-based works of art that behave as if they were immune to the effects of time, or that can be broken into segments without necessarily affecting our core interpretation of them. There are also stationary works of art that solicit an awareness of time passing, that "change" depending on how long we look at them, or that are designed to decay and alter their shape over the years. We may find that a wildly kinetic film operates as if it were isomorphic with itself and predictable from the start, or we may discover an experience of felt duration in a monochromatic, still image. Some works, like the one I will introduce in the following section, might even do both at the same time.

THE DIGITAL

Imagine a clock that marks each second with an abrupt tick or flick of ordinal numbers. This type of clock is digital, figuratively speaking. It is cinematographic in the Bergsonian sense. Each second appears to be immobile and complete in itself, demarcated by a metaphorical line of grout between one instant and the next. By a fiction of division, each artificial unit of time appears separate. In the commonsense understanding of how time works, it is either 11:00 or 11:01, and both cannot be true at the same time, even though a moment's reflection confirms that even according to the clock's own logic, it is only "exactly" one or the other one second out of sixty. Now imagine a clock with hands that move smoothly and continuously around in a circle, or with numbers that fade into one another. This clock is analog, according to the Bergsonian definition we are now in the midst of working out. Each minute "melts" gradually into the next without abruptly articulated outlines. Although it is still only a metaphor for time, and one that suffers the flaw of depicting it spatially, it more closely imparts a felt sense of Bergsonian duration.

Christian Marclay's breathtakingly meticulous *The Clock* (2010) is a work that helps us better comprehend and appreciate the differences between these two modes. A twenty-four-hour digital video installation, *The Clock* is assembled entirely of found footage from film and television history, most of which contains images of timepieces or references to the time conveyed through dialogue. Marclay edited the footage such that the minutes unspool in order, with the timeframe that the film encompasses in a one-to-one ratio with its run time. Under the screening conditions that Marclay stipulates for the work, the video is synched to the time zone in which it is shown. It functions as an accurate timekeeper. With images collected largely from commercial Hollywood and British film, the work is a tour de force of sampling and astonishing in its precision.

Is Marclay's clock analog or digital? Its source material, celluloid film and VHS tape, suggests the former, whereas its installation as a digital video suggests the latter. But these answers take the question too literally. Instead we might ask whether the work operates according to digitalic principles (those that Bergson associates with the cinematograph

and the jigsaw puzzle) or analogic principles (those that he associates with the melody), keeping in mind that such principles are not endemic to the matter out of which the works are composed. The answer to the second question requires fewer contortions of taxonomical thinking but is also less obvious.

In an initial reading, we might be tempted to label *The Clock* the ultimate example of Deleuze's time-image, a film composed entirely of images of time. The work takes time itself as its subject matter and content. We see image after image of clocks and watches of every conceivable brand, size, and shape; there are sundials, sand timers, gorgeous pocket watches, and a seemingly omnipresent Big Ben. The fact that the work screens only as a synched twenty-four-hour loop would seem further to qualify it as a durational experience, perhaps a cousin of contemporary slow film, long-form musical experiments of the 1960s, or "drag-time cinema," as Parker Tyler dubbed it, à la Warhol's *Empire* (1964).[11] All of these features would seem to situate *The Clock* conceptually on the side of the analog, as a work in which time matters: a work that makes us heavily conscious of the passage of time.

2.1. Christian Marclay, *The Clock* (2010), installation view. © Christian Marclay. Courtesy of Paula Cooper Gallery, New York, and White Cube, London. Photo by Todd-White Photography.

2.2. Big Ben, from the opening titles of *The Third Man*, directed by Carol Reed (1949).

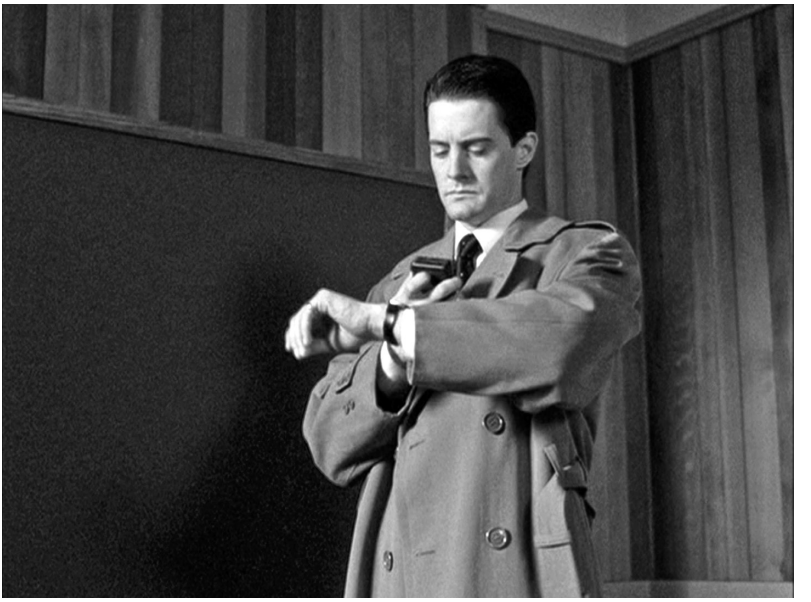
And yet several critics have noted that the experience of *The Clock* is surprisingly less one of tedium or palpable endurance than piqued anticipation. A. O. Scott notes that *The Clock* "generates a peculiar kind of suspense."[12] Roberta Smith writes that while *The Clock* "is accurately parsing real time, movie time goes nuts, rushing past in an exhilarating, surprisingly addictive flood."[13] For a work that we approach by preparing ourselves for an endurance test or perhaps hoping for a meditative, contemplative state, we instead encounter the quick tempo of an action film. Much of the praise that Marclay has accrued relates to the achievement of a work of epic duration that is nevertheless intensely, even compulsively absorbing.

The suspense or captivation that *The Clock* solicits is due almost entirely to its use of classical continuity editing. Cut by cut, with the accuracy of a Swiss timepiece, it deploys the techniques of suture explained by film theorists of the 1970s. It rarely violates the syntactical conventions of continuity, rarely breaks the spell of primary identification with the look of the camera and secondary identification with the looks of characters. The transitions are for the most part straight cuts: eyeline matches and movement, direction, and position matches that carefully obey the 180-degree rule. The majority of these are also "false" matches, as film scholars sometimes call them. At 2:52 p.m., for example, there is

2.3. Tippi Hedren in the opening sequence of *Marnie*, directed by Alfred Hitchcock (1964).

a shot of a black-clad group driving in a van on a dusty road; the driver glances into the rearview mirror. The next shot, which, according to the rules of continuity, should reveal what this character sees in his mirror, is from a different film, as becomes clear in its reverse shot, which now reveals Nicholas Cage looking into his rearview mirror in *Raising Arizona* (1987). A similar cut brings us from an image of a character peering through binoculars to a masked point-of-view shot from another film. The movement of characters between rooms and through doors also provides ample material for false continuity cutting. A character knocks at the door of a house at 3:41 p.m., but two shots later Orson Welles replaces this figure at a different door in *Mr. Arkadin* (1955), filmed from a similar angle and distance, for a kind of cinematic knock-knock joke.

Many of Marclay's edits are less precise in their spatial geometry but still well within the parameters of narrative continuity. In these cases the rough edges are smoothed over with a skilled use of sound bridges, unsurprising for an artist who has worked extensively in audio. At 2:43 p.m. we hear the sound of a train in the distance. A cut brings us to a shot of a train platform, followed by another shot of a different train platform. A dark-haired woman with a yellow handbag walks away from us. It is the opening shot of Hitchcock's *Marnie* (1964), which, in the original film, is silent but for the sound of Tippi Hedren's shoes ticking down the platform. In *The Clock*, though, the sound of the train persists and helps us to forget that we are in fact watching a sequence strung together out of different train stations, film stocks, and so on.



2.4. Kyle MacLachlan as Special Agent Dale Cooper, checking his watch in an episode of *Twin Peaks* (ABC, 1990).

At times Marclay uses dialogue to shift from one clip to the next, for example when a question posed in one film is answered by a character in another. Given the fact that much of the dialogue concerns the time—Kyle MacLachlan, microcassette recorder at the ready, tells Diane that it's 12:27 p.m.; Gael García Bernal speculates about the 3:10 train to Yuma—these transitions work almost effortlessly. Echoing Marclay's *Telephones* (1995), an earlier found footage work, phone calls placed in one diegesis spread into several others. At 4:10 p.m. a pan on an old-fashioned spiral phone cord continues across a cut to a distressed Mia Farrow, who now picks up the receiver. Graphic matches, particularly in close-up, likewise provide a kind of automated continuity: shots of clock faces, watches, and portable electronic devices showing the time cut easily to similar shots from other films.

While time is in large part *The Clock*'s subject matter and topic, and while the march of minutes provides a kind of coatrack on which its clips are hung, *The Clock*'s primary principle of cohesion is not time, but space. It is a work about clocks and the ways that they metaphor-

2.5. Mia Farrow on the telephone at 4:10 p.m. in *Rosemary's Baby*, directed by Roman Polanski (1968).

ize time rather than a work about duration. The work adheres strongly and expertly to the editing conventions of classical Hollywood, which, as Stephen Heath and others have explained, were inherited from Quattrocento-era principles of perspectival painting designed to provide the viewer with a naturalized perception of space that was in fact man-made.[14] These conventions operate to promote a sense of space as contiguous and mappable, even when that space does not exist in the real world, perhaps having been cobbled together out of various half-built studio sets and painted backdrops. As Marclay puts it, in *The Clock* "you become aware of how film is constructed—of these devices and tropes they constantly use. . . . An actor looks down at his watch and, suddenly, you have a close-up of the watch. But, if the first clip is in black-and-white and the next is in color, you know you've been fooled."[15]

In this way, as Marclay acknowledges in the same interview, *The Clock* owes a debt to Bruce Conner's *A MOVIE* of 1958, often credited as the first found footage film or, more precisely, with pioneering the technique of creating continuity out of diverse archival material. Marclay's description suggests that *The Clock* operates didactically, teaching a lesson about cinema's illusionism by showing how the techniques it uses to maintain the fiction of continuity can be deceptive. Of course, Conner already taught this lesson, and one could argue that cinema has been teaching it in various ways since its inception, by wittingly or unwit-

tingly revealing its own sleights of hand.[16] The glue that holds Conner's and Marclay's disparate clips together is the same glue used in conventional narrative film: our minds piece together a Euclidean geometry of space as long as the camera does not cross the 180-degree line, as long as there is a sound bridge in place to give us the impression that we are still within earshot of the previous shot, and so on. If we are still fooled by this illusion, shame on us.

I will soon be suggesting that *The Clock* actually has more to offer than its creator attributes to it in this short, somewhat decontextualized quotation. What is clear, though, is that due to its heavy reliance on the conventions of spatial representation, *The Clock* is as much a movement-image as it is a time-image. In spite of its long duration, it formally has more in common with classical Hollywood than with *Empire* and its slow-film kin. One might call it a digital clock masquerading as an analog clock: a work whose face appears to be a valentine or eulogy to an archaic form of cinema but whose underlying mechanisms are digital in the Bergsonian sense I have described. Its pleasures are largely those of suspense. Like the second hand that ticks abruptly from one line to the next rather than gliding smoothly through them, the shots tend to be articulated with straight cuts. The cuts are rapid, as if we were zapping a remote to access scenes from around the world and across decades. Time does not wash over us; we must remain hyperalert to keep up with the work's rapid pace. *The Clock*'s underlying structure is thus cinematographic in Bergson's sense and narrative in Heath's sense: it chops up the flow of time into separate instants, and the flow of space into gridded segments. It thereby exposes the "digital" aspects of classical continuity editing in general, even when used on analog, celluloid film.

According to this reading, *The Clock* offers *not* Deleuzian or Bergsonian time-images in all their complexity but rather a database of sliced-up minutes that exist synchronically, all-at-once, and that only happen to have been arranged in a way that implies diachronic duration. The work is also at least somewhat isomorphic with itself: while not absolutely excerptable or divisible, its argument does not develop gradually over the course of its full running time; audiences seem to find that they get the structure of the work within only a few minutes. Like the jigsaw puzzle whose completed picture is visible on its box, we already know,

2.6. Harold Lloyd hangs from a clock in *Safety Last!*, directed by Lloyd (1923).

in a way, where *The Clock* is going and how long it will take to get there. At many points we could substitute a close-up of a different clock from a different film without significantly altering our experience or interpretation of the work.

There is an additional "digital" aspect of this clock, one that the work invites but that is to some extent at the discretion of the viewer. This is the game of trying to identify the source footage, treating *The Clock* like a long round of pub trivia. As A. O. Scott writes, "You can't help but engage . . . in a game of visual Name That Tune. This is both stimulating and somewhat enervating." Some of the most satisfying shots in *The Clock* are ones gleaned from familiar, canonical films: Harold Lloyd hanging precariously from a clock tower in *Safety Last!* (1923); the shrill scream in *The Tin Drum* (1979) that shatters the glass of a grandfather clock; Orson Welles in *The Third Man* (1949) bellowing the line "In Switzerland, they had brotherly love, they had five hundred years of democracy and peace, and what did that produce? The cuckoo clock." These clips' omission from the work's pantheon would somehow be wrong, and their appearance induces the pleasure of recognition for the avid cinephile.

The activity of identifying the footage, though, takes us out of the durational experience of the work into a scattered, deracinated encyclopedia, treating it like a massive digital database of clips. Indeed that was its genesis: Marclay hired assistants to cull through over ten thousand clips of digitized found footage and sort them into folders, one for each minute.[17] The work, when viewed this way, becomes a static archive that we match up with names and dates from our memory files (or from our smartphones). This is not necessarily a bad thing, but it is not conducive to an experience of durational time, except insofar as it compels us to speed up our note taking.

THE ANALOG

This reading of Marclay's *The Clock* as digital rather than analog and as movement-image rather than time-image is only a first step. This clock has two faces, and the second face is exquisitely attuned to durational time. In order to see it, the viewer must partly let go of both the Name That Film game, which keeps us stuck in the logic of the database, and the riveting suture of the montage, which keeps us locked in the geometry of space. When we do so there are moments when time almost seems to deviate from the metronome. For example, 3:00 p.m. seems to last an awfully long time. Bells go off as students are released from school, Little Miss Sunshine shows up late for a talent show, Big Ben pops up yet again, and we check in on a man gagged and bound in a basement who has been there since at least 2:40. We hear children singing and counting in German; it is the opening sequence of *M* (1931), which enters first as a sound bridge over a shot of a man counting on his fingers in close-up. The high-angle shot of Lang's children playing their counting game in a circle resembles the shape and movement of a clock. Here the payoff lies not simply in knowing that the image is from *M* but in the unexpected graphic match and the "reading" of this image as a clock—perhaps even as a reminder of how little time remains for the child about to be kidnapped. By 3:05 p.m. we have jumped to an image of the Palantine campaign headquarters in *Taxi Driver* (1976). Like *M*, this film is in part about child predation, and we have just seen a series of images of children being released from school; there is thus a dramatic irony superimposed on the connections demanded by conti-

2.7. Children in a high-angle shot from *M*, directed by Fritz Lang (1931), make for an unexpected graphic match with the shape and movement of a clock.

nuity editing. At 4:18 p.m. Marclay cuts from Maggie Smith to Maggie Cheung, as if establishing continuity on two Maggies. Here the work's movement seems more playful, more "creative" in Bergson's sense, less like the outline-matching operations of the cinematograph. The duration of these sequences also feels different, like something other than the few minutes of screen time or the hundred-odd years of film history we traverse.

There is a second mode of sequencing in *The Clock* that likewise functions analogically, so to speak. Several segments concern characters who are waiting or who have been made to wait: the man bound to a column in a basement; Joan Crawford's beleaguered daughter sitting at the dining table after being served her "rare not raw" steak and refusing to eat it. Often the source films elide the full span of these characters' waiting periods because they too have abided by narrative continuity rules that allow for ellipsis and an uneven ratio of screen time to die-

2.8. Michelle Williams is fingerprinted in *Wendy and Lucy*, directed by Kelly Reichardt (2008).

2.9. The police station clock in *Wendy and Lucy*.

getic time. As *The Clock* is a twenty-four-hour work, though, Marclay is able to install these scenes in their proper places on the timeline. In a scene sampled from *Wendy and Lucy* (2008), a ragged Michelle Williams is fingerprinted in a police station, with an institutional round, white clock visible on the wall. More than two hours later we see her again, in the same room, still waiting to be fingerprinted. In Reichardt's original film, the machine has malfunctioned and Wendy has been detained

2.10. The clock atop Steele's in *The Girl Chewing Gum*, directed by John Smith (1976).

there during the interim, but we are spared the waiting time by the magic of ellipsis. Marclay's viewer, by contrast, comes to appreciate the length of the interval that has elapsed.

There is a third type of transgression *The Clock* makes against digital logic, one that often coincides with the sense that there is a particular consciousness behind the selections, a predilection or fondness for certain films that earns them a disproportionate amount of screen time. One of these is a longish sequence devoted to a portion of John Smith's *The Girl Chewing Gum* (1976), an experimental film that, like Conner's *A MOVIE*, seems to serve as a touchstone for Marclay. The original work, like *The Clock*, relies on a trick played with cinematic conventions, in this case the use of a post-dubbed voice-over to create the impression that the film is being directed from the sidelines while we watch what is, in fact, documentary footage. At 1:10 p.m. the camera tilts up to reveal a clock face, then zooms unsteadily into a close-up on it. Just prior to this point in Smith's original film, the narrator gives the order "Now, I want everything to sink slowly down as the five boys come by. Hold it.

. . . And now I want the clock to move jerkily towards me." Smith's original voice-over continues, "Now, I want the long hand to move at the rate of one revolution every hour, and I want the short hand to move at the rate of one revolution every twelve hours." As if by magic, the world obeys his commands.

The conceit of *The Girl Chewing Gum* is cinematographic: the narrator can pretend to control what appears in the frame because it was in fact already there on the reel. The pedestrians' movements, the clock's rate of revolution, even the tilting of the horizon are, in one of Bergson's metaphors, like opening a fan to reveal, presto, an embroidered image that was actually already there, prefigured on the silk.[18] The comedy of Smith's film arises from this mock omnipotence. In Marclay's repurposing, we, like the narrator, can pretend to a degree of omniscience: we all already know what time the clock atop the Steele's building will display. Those of us who have seen Smith's film also know that soon the girl chewing gum will walk by. In the footage that he samples for *The Clock*, though, Marclay removes Smith's voice-over, thereby eliminating the separate off-screen space from which the film is faux-enunciated. He retains some of the original diegetic sound, the ringing of an alarm bell, and overlays and harmonizes it with cello music.

In his book on the painter Francis Bacon, Deleuze offers an account of digitality and analogy that, while not expressly drawing on Bergson, is in keeping with his philosophy. Deleuze begins this discussion with the somewhat Peircean proposition that the digital operates "through code, convention, and combinations of conventional units"—units taken to be discreet from one another, like the tiles of a mosaic. The analog, by contrast, "proceeds by resemblance." Not content with this formula, Deleuze suggests that digital language too contains aspects of "similitude or analogy . . . analogy by produced resemblance." He makes a version of the reverse claim too: that even painting, which he calls "the analogical art par excellence," at times participates in codes. Abstract painting, in Deleuze's view, involves a process of codification, albeit one that at its best does not apply an external code (red = blood, green = nature, and so on) but rather elaborates its own codes internally. "It is thus a paradoxical code since instead of being opposed to analogy, it takes analogy as its object; it is the digital expression of the analogical

as such." In a long paragraph about musical synthesizers, he suggests that it is finally the notion of "modulation (and not similitude)" that conceptually distinguishes the analog from the digital.[19]

The faculty of modulation, the ability to respond to variations of volume, tone, and quality as they occur in time, brings us back to music. In *The Clock*, the soundtrack always has at least one foot in the analog. Its sound bridges finesse the editing, but they also sustain affect, memory, and a different kind of movement across clips whose relations to one another are otherwise primarily geometric. By removing its theological voice-over and substituting a musical score, Marclay in a sense "modulates" *The Girl Chewing Gum*, restoring to it the feeling that something immanent, something that has not been scripted by an off-screen deity, might occur. In other words, Marclay undoes the cinematographic aspects of Smith's film, restoring to it a sense of virtuality.

This sense, like the "pure duration" of Bergson's melody, is foreign to what I have been calling "digitality"—with a reminder of the caveat that digital media do not always obey digitalic logics. Still, computers execute commands that are issued in advance, from the outside, by an enunciator who is off-screen and extradiegetic, so to speak, be it a programmer or a user. They also excel at sorting through and manipulating data: possibilities, variables, things that can be systematized and rendered numerically. It is difficult to deny that the computer appears to be the culmination of Bergson's "cinematographic thought," in a way a much more apt metaphor for this way of thinking than the cinema, the jigsaw puzzle, or the other art forms that Bergson deploys as figures in his writing.

As any proper cinephile can attest, what Bergson calls cinematographic thought is not the only kind of thought in which film can engage. Deleuze's cinema books are, among other things, an extended proof of this very idea. Similarly, digitalic works of art, music, literature, and so on are not the only kind that can be produced with a computer. In his *Parables for the Virtual*, Brian Massumi notes that digital technologies have "a remarkably weak connection to the virtual, by virtue of the enormous power of systematization"; he adds, however, that they may one day enjoy a "privileged connection" to the virtual, perhaps one "far stronger than that of any preceding phylum." At the same time, he affirms the argument against medium specificity: "If all emergent form

brings its fringe of virtuality with it, then no particular medium of expression has a monopoly on the virtual."[20] All types of media, in other words, can tap into its source.

THE VIRTUAL

What is this virtuality, this fringe that surrounds all media of expression? Bergson offers one of his more focused explications of it in "Memory of the Present and False Recognition," one of the key texts collected in *Mind-Energy*. It is immediately clear that the virtual has to do with time. Bergson begins by linking the virtual to the past and memory, analogizing it to a long tape of images generated simultaneously with our present experience, as if reflected in a moving mirror running constantly alongside us. "Our actual existence," he writes, "whilst it is unrolled in time, duplicates itself all along with a virtual existence, a mirror-image. Every moment of our life presents two aspects, it is actual and virtual, perception on the one side and memory on the other."[21] The virtual, according to this metaphor, is the stream of images that duplicates and accompanies our perception at any given moment. It is a live broadcast of sensory experience that is being reflected and duplicated at every sentient moment and that constitutes memory. In *Matter and Memory*, in the same passage in which Bergson defines matter as "an aggregate of images," he clarifies that by "image" he means "a certain existence which is more than that which the idealist calls a *representation*, but less than that which the realist calls a *thing*."[22] Importantly these virtual "mirror-images" are of this type: they are more than representations, less than things. They are of the world, not simply of our minds.

For Bergson the virtual includes both this mirroring of the present in the form of the past and projections into the future, which form another jet in the stream. He calls the second stream a "pantomime": sketches of possible courses of action in response to perceptions of matter in the world. As Bergson puts it, "Thought is directed toward action, and when it does not end in a real action, it sketches out one or several virtual, simply possible, actions."[23] These thoughts may take the form of plans, one or more of which may be actualized after an interval of time, or of fantasies, hypothetical scenarios, wishes, or experiments. In *Matter and Memory*, Bergson describes these activities as forms of

"foreshadowing": a draft or blocking out of possible movements as they might be "acted or played out in space."[24]

Bergson also places a whole set of present-tense perceptions in the category of the virtual, those that remain occluded from consciousness at any given moment. Perceptions that remain on the fringes, either because the conscious mind must block them out in order not to be overloaded by an insupportable amount of stimulation or because the typical frames and lenses, or "canals," through which we allow perceptions to enter are too restrictive to allow reality its full girth and complexity, are virtual in this way. With this third sense of the virtual, Bergson tiptoes toward but stops short of equating it with what other philosophers have called the real. It includes everything in the world that we have missed seeing and experiencing because at the time we encountered it, our attention was directed elsewhere—focused on things that were more relevant to our interests, things that we have recognized in a "habitual" way.[25] These habits are the canals or grooves through which perceptions get sorted, filtered, and reshaped. They are what manifests to the intellect rather than what becomes visible with intuition.

Bergson references Leibniz when he describes this third sense of the virtual: "Each monad, and therefore *a fortiori* each of those monads that he calls minds, carries in it the totality of the real. I should not go so far; but I think that we perceive virtually many more things than we perceive actually."[26] In another text he puts it the following way: there are mechanisms or canals in our minds that are "designed to screen from perception objects which by their nature are beyond the reach of action. [But] if these mechanisms get out of order, the door which they kept shut opens a little way: there enters in something of a 'without' which may be a 'beyond.'"[27]

The virtual is this "beyond." It is always available, but it is usually screened out. In order to access it, there must be a coalescence among memory images from the past, hypothetical images directed toward the future, and present-tense images that tend to fall under the radar of everyday awareness. The *kind* of time that allows for access to something beyond and for the emergence of the virtual is not just ordinary, everyday time. It is what Bergson called *la durée*, duration. The virtual emerges through an encounter with durational time. It goes into hiding when time is experienced as abstract, enumerable, and computable, as

if it could be rendered as a long roll, yearbook, or timeline of calendrical units superimposed on the universe. The virtual surfaces when time is perceived as a continuous stream of images that forks, loops, and doubles back on itself, beyond any computational or instrumental framework that we might be tempted to impress upon it.

That said, the virtual is not merely what we see when we extrapolate forward or backward in time. It requires more than a capacity to picture the future or recollect the past. To experience the virtual, we must connect past and future images to the now, maintaining their continuity and metonymic proximity with the present moment and the world, but without collapsing the distinctions among these temporalities. As Deleuze puts it, there is "coalescence" between the actual and the virtual; they are "mutual" images where an "exchange is carried out."[28] We must neither inhabit a perpetual present tense nor get lost in a reminiscence or daydream.

In his essay on dreams, Bergson describes how even in sleep, present-tense perceptions are not fully blocked out: "The eyes, when closed, still distinguish light from shade, and even, to a certain extent, different lights from one another. These sensations of light, emanating from without, are at the bottom of many of our dreams."[29] Even when we lower the blinds, shut our eyes, and stop up our ears, indeed even when we are unconscious, small changes and stimuli emanating from the here and now are always present and available. But they do not usually claim the bulk of our awareness. A surprising amount of our attention goes elsewhere: preoccupied with the past or the future, ruminating over or becoming nostalgic for yesterday's events; planning, dreading, or fantasizing about tomorrow's; dreaming, daydreaming, catastrophizing; sometimes shuttling rapidly among all of these without any awareness that our attention has wandered at all. As anyone who has attempted to meditate silently on the present moment can attest, the past and future (at least the most engrossing parts of them) do not exactly require an engraved invitation to grace our conscious minds. To the contrary, it can be incredibly difficult to maintain a concentrated focus on the things and sensations that are here in the present, even for just a few moments.

The doorway to the virtual—that little "'without' which may be a 'beyond'"—opens when we become aware of the continuity of time.

It requires that we connect to the present in ways that busy habits of mind normally preclude. But it also requires that we not separate the present moment from all the others, as if the universe were beginning again with a blank slate at each passing instant, as if nothing had ever existed prior to this moment and nothing will follow it—a fiction that computers cannot help but subscribe to, at least at this point in their development.

The virtual is also connected to matter, but it is not determined by it. In precisely the same way, the virtual connects to the analog and the digital but is in no way predetermined by them. It is a mode that does not inhere in any particular type of matter or organization thereof. It is not tied to medium specificity: the minerals, substances, and particles that store and release an image or sound cannot be analyzed for their virtual properties. It is radically open-ended without being unspecified or abstract. As Deleuze states, "The virtual corresponds in all respects to the formula by which Proust defined his states of experience: 'real without being actual, ideal without being abstract.'"[30] The virtual, it is true, brushes up against the Ideal; although it is always immanent within matter and the world, it includes more than what Bergson's realists might call mute or brute matter, bodies and concrete objects still stuck in a Cartesian dualist paradigm. For all this, the virtual is still very real, and it cannot exist without a connection to matter of some kind. It relies on matter not simply because materialism and embodiment are good things that sustain living beings and a precarious planet but also because it requires a continued existence over time.

Durational time requires matter. It cannot be simplified into a two-dimensional line, abstracted into units, or laid out before us like a blueprint on a table without being stripped of this powerful quality of virtuality. We cannot grasp it all at once. Nor can we disconnect entirely from the "at once." The virtual requires the mutual enfolding of here and elsewhere, and now and then.