This essay brings together theories of writing as a technology and theories of cognitive semantics with the film *Memento* in order to make the case that cinema disembodies the human sense of story-time.

## "Graphism" and Story-time in *Memento*

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ver the past decades, the profoundly important place of narrative in human life has been established in many ways in different disciplines, from literary studies to psychology, medicine, and philosophy. Literature itself has made a focal issue of the fundamental importance of narrative, especially, but not only, in postmodern fiction, which commonly works to make conscious the heretofore unconsciously operating structures of storytelling. One recent entry into this ongoing examination of narrative, Christopher Nolan's film *Memento*, has taken the literary investigation to a kind of extreme, for it explores narrativity by portraying a human being who is without it. *Memento*'s protagonist, Leonard Shelby (Guy Pearce), suffers a physical trauma that deprives him of what I will call human story-time capacity: he lacks the cognitive ability to situate himself in an ongoing beginning-middle-end. This, in itself, makes the film unusual and intriguing. But, as we shall see, even more intriguing is what *Memento* shows us in the process of telling Leonard's story, for we are also

shown an exploration of the technologizing of story-time as a cognitive capacity. A close examination of *Memento* with respect to story-time helps us establish some useful generalizations about film as a kind of storytelling.

n order to set the stage for our study of this technologization, we first need to make clear the significance of story-time as cognition. George Lakoff and Mark Johnson, among others (notably Grodal), have shown that there exists a core of conceptuality emerging directly from the physiological nature of the human species. The support for their claims arises roughly from a method of surveying a very large array of linguistic samples, finding in these samples concepts that can reasonably be called universal, and relating these concepts to human motor and sensory capacities. They conclude that there must be a specifiable realm of semantics that precedes any manifestation of an actual language. The semantic core is built into our cognitive nature. It is one of our evolutionarily-provided capacities, and it is expressed linguistically in definable sets of cognitive metaphors. Over the years, they have made the case for various built-in cognitive conceptualities. I want to consider one of their strongest: time. They argue that our understanding of time, at least in its primordial sense, is not a function of culture but of nature: it is a feature of the "cognitive unconscious" and is "built into our conceptual systems" (137). Further, our knowledge of time depends on our "real experience of events" in space, and most commonly on motion, both our own and of others (139). On this level, we do not really have to think about temporality. We simply know it as a function of being human, in the same way that we know motion when we see it.

Mark Turner has taken the idea of cognitive conceptuality in a related but different direction, arguing that, in its most basic form, story, too, is a function of nature rather than culture. Because of our built-in cognitive apparatus, "story as a mental activity is essential to human thought" (12). We experience the world fundamentally in terms of "small stories of events in space" (13) before we have any particular words with which to speak or write stories. These stories are "the knowledge that goes unnoticed but makes life possible [. . .]. They are so essential to life that our mastery of them must be almost entirely unconscious" (14). Any actual storytelling, then, occurs as a secondary representation that takes on its fundamental qualities from our pre-existing cognitive conceptuality. It seems to me that, in spite of some differences, what Lakoff and Johnson say about time and what Turner says about story are conceptually quite similar, which is not surprising. Diachrony is essential to narrative and time alike. In each case, a bottom-line conceptual capacity depends on the visual perception of motion in space. The "small stories" with which Turner begins are very much like the metaphors and mappings laid out by Lakoff and Johnson. So, taking the work

of these three together, we have an established foundation for what we could call the human story-time cognitive capacity.

Now, given these claims, it would seem to me that we can look at cinema in a new light. For cinema is a unique medium for representing movement, and, thus, will entail a unique representation of story-time.<sup>2</sup> Though I have been using the familiar word "cinema," I should more properly be using the term cinematography because I want the etymological resonance: cinema, from the Greek for movement; graphy from the Greek, to write. Considered etymologically, cinematography, like all other words ending in "graphy," takes us back to the original form of writing: chirography, or handwriting. This will matter for our examination of *Memento*. Of course, as is well known, the poststructuralist understanding of the significance of writing, most famously put forth by Jacques Derrida, has been extremely influential in literary criticism. However, there exists another, equally robust, scholarly understanding of writing. For the past several decades, a substantial group of scholars in various fields have investigated the nature and effects of writing as an invented human technology.3 Considered as a technology, writing has had a well-established set of profoundly positive and negative effects on human life. First and foremost, it disembodies language by converting the sounds of speech into a visual image. Writing renders the oral/aural nature of language into a kind of material object, so that our otherwise evanescent words may be held in hand, looked at, studied at length, recited verbatim, carried far and wide in their exact original form, etc. The upsides to this kind of innovation are fairly evident. But, of course, there are downsides. As Plato prophesied long ago, the importance of memory in human affairs changes drastically with writing. Over time, writing usurped the place of what we may call public or communal memory, the oral means of handing on the past that is the only kind of history accessible to non-literate humanity. Plato charged that writing is unnatural, in that if you ask questions of it, it cannot respond; said another way, with writing, our words are no longer a function of the body. Because writing removes our words from our voices and our faces and our histrionics and some specific flesh and blood communicative context, we cannot be as sure of the success of our linguistic intentions as we typically can be in speech. Needless to say, even in face-to-face speech, we can never be absolutely sure that our intended meanings are precisely understood by a given listener. But then, this notion of precision is simply a misbegotten idea (Jackson). The fact is that, given the bodies and physiologies by which we are constituted as a species, the embodied exchange of a verbal speech-act must be the paradigmatic linguistic communication. Writing disembodies our words and so objectifies that which otherwise occurs only in the form of verbal speech-acts.

As the technology of writing disembodies language, so photography technologically disembodies what I will call the glimpse or an instant of looking, and so cinematography technologically disembodies looking at motion or change. Though the camera as a mode of looking has often been mentioned,<sup>4</sup> once again, no one to this point has considered this key cognitive aspect of the medium and what it can mean for understanding film. A photograph does not simply capture the image, though it can easily appear to do only that. It captures one instant of looking at the image. With photography, human beings are enabled to look at a thoroughly disembodied "looking-at" as a material object, something that can be handled, turned in the light, filed away, mailed off, used in court, etc. The cognitive effect is of the eye having been removed from the body; as Noel Carroll puts it, one "necessary feature of a motion picture [...] is that it is a detached display" (Carroll 63).

As with chirography and typography (print), the positive effects and uses of writing with light are fairly evident. But if something is gained, something is also inevitably lost with the disembodiment of any of our primary cognitive abilities. An ongoing conflict between the bodily organ and the mechanistic surrogate always follows the success of the given technological innovation. Nowhere does such a conflict more clearly show up than in the storytelling arts, which are, after all, our default (that is, non-literate) ways of explaining the world and ourselves. Here, I agree with Walter Benjamin's thinking on the loss of authenticity that comes with photography and film (217–51), but I find that loss occurring not in the object represented but in the cognitive capacity represented by the mechanical form of reproduction. With writing, the primordial loss is our originary embeddedness in orality. With photography, the primordial loss is our originary embeddedness in what I will call our natural visuality. But, because photography is intrinsically synchronic, the conflict between our visuality and its technological disembodiment only fully shows up in cinematography: the truly storytelling instance of "writing with light." In trying to discover the signs of this conflict, we need to keep in mind that these technological disembodiments always involve an ironic, and in some ways tragic, retroactivity. Orality as such only becomes apprehensible as a thing in the world when its original primacy is lost to writing, and, thus, a nostalgia for what has been lost is built into what is gained. Similarly, visuality as the given humanly optical way of being in the world only becomes apprehensible when its original primacy has been lost to photography. The psychic consequences of that loss show up most fully in cinematography.

But cinematography does more than just this. Given that our cognitively-based sense of time depends on looking at motion, then we may say of film that it disembodies time. In contrast to any previously existing technology that somehow gives a

material objectivity to time—all of these technologies would, in fact, be involved with the measurement of time—film detaches the cognitive operation by which we know time from the body. Film makes a kind of object of looking-at-motion, and therefore a kind of object of time.

aving sketched out this theory, let us now look at *Memento*. It begins with a classic film noir opening—the first thing we see after the credits is an image of a murder. But at the same time, we also find ourselves in a very unclassical formal mode. The camera lingers in a long, uncut colour close-up of a still photograph held by a man's left thumb and forefinger. The photograph is clear enough, easy to make out, so the extra-long take pushes our awareness of not just the content but the specific form in which the image is preserved. Further, as we watch, we discover that this is a Polaroid. We make this discovery at the same time we discover that the film we are watching is running in reverse, for the Polaroid un-develops. When the image has disappeared, we cut to another angle of the Polaroid. This time we see the torso and then the face of the man holding the photo. In a few seconds, we see the Polaroid camera pull the photographic paper back into itself, then a gun jump from the floor back into the man's hand. The sequence continues in reverse until the instant of the shooting, when we learn that the man holding the photograph has murdered the man in the picture. Then we fade to black.

In a second, we fade up to a black-and-white close-up profile shot of a man's unmoving lips. A voice says: "So where are you?" The question will shortly be answered by the same voice, as the camera moves slowly up to his eyes. We find that this is the same man as in the previous sequence, and, because of the close-up, we intuit that this is his interior voice asking himself the question. But, especially because his lips do not move and because we have not heard the voice before, the question seems at first to have been spoken by the film itself, directly to the viewer. Having switched from a reverse-running colour sequence into this undefined scene, exactly where are "you" now in relation to filmic storytelling?

The question seems utterly common. Yet it distinctly captures the dilemma of Leonard Shelby, our protagonist, and it will be repeated in different forms three more times. In fact, a variation of it will be the last words of the film. We soon learn that a year before the beginning of the story, Leonard had woken up in the middle of the night to find his wife gone to the bathroom. Having gone to check on her, he discovered a masked intruder suffocating her with a shower curtain. He jumped on the killer, but a second, unseen intruder struck Leonard from behind and smashed his head into the medicine cabinet mirror. The attackers escape and are never caught. As

a result, Leonard suffers a *physical* trauma that destroys his ability to create new memories: a condition known as anterograde memory loss. He can, in general, recall his memories from before the trauma, but otherwise he can only recall the immediately preceding fifteen to twenty minutes of time. There have been a number of fine studies of trauma in recent years, typically taking a psychoanalytic slant;<sup>5</sup> and there have been at least two studies of *Memento* directly in relation to trauma-theory.<sup>6</sup> But neither of these latter studies makes the point that the physical nature of the trauma matters for two key reasons. First, it creates an entirely new take on the standard stories of memory loss. Unlike all previous films about amnesia, for instance, this plot does not build suspense on the anticipated re-finding of a lost self-identity. This plot will be driven purely by Leonard's obsession with finding and killing his wife's murderer. But more importantly, the physical nature of the trauma means that the film is considering its major issues on the level of cognition itself.

The first words of the film, then—"So where are you?"—are a crucial question. Though issues of memory and identity will constitute the core of the story, the first question is not, as we might expect: "Who are you?" or even more likely, "Who am I?" or at least "Where am I?" The speaker, at this point still unnamed to us, addresses himself in second person. The present tense verb imbeds him and us immediately in this very moment. He goes on, trying to answer his own question of place. "You just woke up," he says, "and you're in some hotel room." As the camera pans around the drab, characterless space, he turns directly to the question of time, though interestingly not to the time of day, which is just as well since he wears no watch and the room has no clock. "It feels like maybe it's the first time you've been there," he says, "but perhaps you've been there" for some indeterminate time. As with the self-objectifying "you," he does not say "here," but "there," as if he is somehow outside himself. In a way, he comes across as an anomalous kind of new-born, appearing full-grown, with a mind, with language, but disoriented in space and time. The camera cuts abruptly to the film's first high angle shot. We look down on the speaker, who is half-dressed, lying in his bed looking around, lost. At the same instant that we take on this god-like view, he tries in an embarrassed tone to answer his first question: "It's kind of hard to say. I don't know. It's just an anonymous room." Right away, we find that the fundamental groundings of the self—an apparently sound body, a mind, and language—do not appear to do their usual work. Namelessness, dislocation, and temporal uncertainty are the barebones facts. With the question unanswered, we fade to black, leaving the protagonist as in the dark as when we first saw him. Meta-narratively speaking, the viewer is also left in the dark. The rest of the film will give us at least a kind of answer to the question we have been asked.

Now we come to the tricky business of trying to explain the form of Memento. For it is, as scholars such as Christopher Williams and Rosalind Sibielski have noted, most thoroughly postmodern and therefore is, at the least, antagonistic to our usual expectations of plotting, and at most, utterly ambiguous. Memento consists of a series of alternating colour and black-and-white episodes separated by fades to black. Except for the reverse-running opening episode, the filming in all other episodes runs in regular forward motion. The black-and-white episodes taken just in themselves make up a continuous narrative sequence, such that we could cut them out of Memento, splice them all together as a separate unit, and have a film much like any other. But the colour episodes introduce another anomaly. They have been created out of an originally linear whole that has been chopped into segments and then rearranged with the chronologically last segment installed as the linear first segment we see, the next to last segment placed second, the third from last segment third, and so forth. It is as if we were to read the last chapter of a novel first, then the next-tolast, and so forth until we "ended" with the first chapter. Further, when we have absorbed the entire film, we realize that the black-and-white segments are a cut up linear whole that in fact leads chronologically directly into the colour story. For Memento's last black-and-white episode does not end with a fade to black as in all the previous transitions. Rather, it fades directly into colour. After Leonard kills the man he believes murdered his wife and caused his memory loss (and this is not the same man as in the opening episode), we see a Polaroid of the dead man fade into view, in the normal development of such a photograph. However, it fades up into colour, as does Leonard's hand and the rest of the world around him. The last episode, then, begins in the black-and-white plot but ends in the colour plot without the usual fade to black in between. But the final image of this final episode remains true to the layout of the rest of the colour episodes: the last image of the film is also the last image of the immediately preceding colour sequence. In other words, at the linear last moment, the film turns round and heads back through the inverted colour episodes until it arrives at the linear first image, which is to say the reverse-running, fading-out Polaroid of the murdered man. We could possibly take everything apart, splice all the black-and-white episodes together in linear sequence, the last of which would fade into colour, and then we could splice together all the colour episodes in normal linear sequence, and let them follow the black and white sequence. We would, then, have one chronologically continuous story that begins in black and white, but ends in colour, with the last episode being the literally reversed filming. I have done what I can to make this understandable, but the fact is that Memento, in a particularly compelling way, must be experienced as cinema, as a story told in moving images.

The formal complexity of Memento immediately brings into focus the issue of the spatial nature of our understanding of time. The non-linear alternating of black-andwhite and colour episodes requires us to work simply to determine our place at any given moment of the actual chronology, and the doubling back upon itself of the plot forces us always to be moving literally both forward and backward at any point in the story. Looking at Memento constantly involves us in the question of "where" we are in the temporal order; "where," not when, because, on the cognitive level, the apprehension of time is dependent on metaphoric translations from our optical sense, from the seeing of movement in space. This is evident from the language I have had to use above: "our place at any given moment," "moving forward and backward." In fact, seeing movement is so fundamental to our notion of time that the question "when are you" does not even make sense. And because, again, Leonard's condition is physical, not simply psychological, the film as a whole foregrounds the fact that our fundamental understanding of time is not cultural but psycho-biological, a specifically human cognitive ability upon which any given cultural representation of time must be constructed. Taken as a whole, then, the film itself serves as a memento, or reminder, of what it means that we know time through our sense of looking at motion.

In the chronologically earliest moment of *Memento*, Leonard Shelby appears as a kind of new-born. But, since he is also obviously a grown man, then what kind of newborn is he? And what does he grow into across the course of the film? The story that comes to us in black and white will involve basically two actions: Leonard will be tattooing his left thigh, and, after a period of talking to himself in voiceover, he will talk on the phone with someone we never see or hear, but who seems to know about his past. To consider the tattoo first, we find that it takes on an almost ritual quality.<sup>7</sup> The camera lingers over many unimportant, tiny actions that in themselves add nothing to the story. Just as the Polaroid and not the photographed image was the focus in the opening, so the act of writing is the focus now. We are introduced to writing in the second black-and-white episode, which picks up directly from where we previously left off after the first. Still alone, still speaking to himself in interior voiceover, Leonard considers how, though "you" do not know where you are or how long you have been "there," "you know who you are, and you know kind of all about yourself." Having brought up the basic issue of self-identity, he continues that, in order to maintain some sense of a normal self, "for day to day stuff, notes are really useful." But just writing notes in general is not enough: "You really do need a system if you're going to make it work . . . you kind of learn to trust your own handwriting." Obviously, for someone with his condition, only handwriting would work because he would have no way of verifying that any other writing was his own. However, there are special cases.

He goes on to explain that "if you have a piece of information which is vital, writing on your body instead of a piece of paper can be the answer. It's just a permanent way of keeping a note." His own handwriting and tattoos, then, are the essential means by which he achieves some kind of normality.

The first and most important of all the writing that we will see onscreen appears in this second black-and-white episode. Leonard notices a memento, a command written on his left hand: "remember Sammy Jankis." Leonard has many tattoos, all of which are mementos to himself; but the camera will focus directly on this one several times across the film. Each time, he rubs at it as if to wipe it off, because it does not look like a typical tattoo. It appears simply to have been written with a ballpoint pen. And yet, though it is in the form of handwriting, no fonts or other ornate design, it is, in fact, a tattoo. It introduces us to the story of Sammy Jankis (Stephen Tobolowsky), the telling of which will take up much of the black-and-white episodes, and the meaning of which will be indispensable for Leonard's present existence.

We will turn to Sammy Jankis shortly, but first, what of this repeated image: a tattoo in the form of handwriting? In a film concerned with the cognition of time, memory, and identity, and whose camera clearly foregrounds the technologies of photography and chirography, not just the content of any given writing but writing itself becomes an issue. And, in fact, at one point, the superiority of writing is stated outright. When Leonard is challenged about the dependability of his written notes, he counters that memory itself and even eyewitness testimony are unreliable. The paradigm model for reliable understanding of the past, he argues, is the written police investigative report: "they collect facts, they make notes, and they draw conclusions."

As a written memento, the form of "remember Sammy Jankis" has several effects. First, it gives Leonard a model against which to judge all other handwriting as his or not. But, of course, this also reminds him of his dependence on handwriting, and therefore automatically brings a certain nostalgia for the time in his life when he could operate without written notes. On the meta-level, the tattoo makes an issue of chirography itself: the technology by which language was first removed from its home in the human body. Further, we have a meta-level sense of nostalgia, for a handwritten *tattoo* is uniquely meaningful: it both disembodies speech and attempts to re-embody it at the same instant. However, it must fail. Once writing has happened, we cannot undo its effects. We have become dependent as human beings on what writing has done to and for us. In a sense, modern human being is "born" with writing, just as Leonard is figuratively being born at this moment in *Memento*. A kind of history of graphism begins to emerge in the story.

This tattoo has another function. It commands Leonard to remember a particular

fact. In Leonard's pre-anterograde life, he was an insurance claims adjuster. He had been involved with a claim by a man, Sammy Jankis, who had developed memory loss after a car accident. Sammy's wife had wanted insurance to cover Sammy's condition, but Leonard convinced himself that Sammy's problem was psychological, not physical, and therefore not coverable under the policy. The inclusion of Sammy's story acts as a kind of foil for Leonard's story, because with Sammy we see what must be the factual case. Someone who cannot remember anything before a half hour in the past cannot exist independently as a normal human being. Sammy, Leonard recalls, was entirely dysfunctional and ended up an immobilized, blank-faced resident of an assisted-living facility. To Leonard, then, "remember Sammy Jankis" is distinctly a memento mori. Only by remembering Sammy can Leonard have a life.

As the black-and-white episodes draw near to the linear end of the film, we find a progress in the implicit history of graphism. Leonard is now trying to inscribe his new tattoo in a type-like font, more like print than the originary handwriting about Sammy Jankis. But beyond this, we find a move away from handwriting all together. After relating the story of Sammy Jankis to the unknown telephone-caller, Leonard begins addressing the caller as Officer Gammell (Joe Pantoliano). This policeman seems to know all about Leonard's condition and history. He begins to steer Leonard toward locating and killing his wife's murderer. In fact, the officer is waiting in the motel lobby to give Leonard directions to a secret meeting place where his wife's killer, a drug dealer named Jimmy Grants (Larry Holden), will be. Leonard writes down a description of the officer and, for the chronologically first time in the film, leaves his room. With this physical transition out of isolation and enclosure, we find an accompanying transition in the means by which Leonard keeps himself from becoming Sammy Jankis. To this point in the chronological story, Leonard has been associated entirely with writing. And he remains so until he uses the handwritten description to identify "Officer Gammell" in the motel lobby. The two men walk outside, and now Leonard takes a Polaroid of Gammell upon which he writes the man's name—he in fact goes by Teddy-and phone number. This is the first time we have seen Leonard use his camera in a black-and-white episode.

Leonard drives to an abandoned warehouse and anxiously searches for his target. In a few minutes, the man whom Gammell has claimed to be the murderer of Leonard's wife arrives, and after some arguing back and forth, Leonard kills him. He then takes a Polaroid of the body, and it is clear that Leonard only accepts the fact of the killing when he sees the photograph. The dead man lies right at Leonard's feet, but rather than studying the body, Leonard studies the developing image. It appears that Leonard is now dependent on the technology of photography, just as he has been

dependent on writing. Writing with light has usurped the pre-eminence of his own eyes looking at the facts before him. In fact, from this point "forward," he will carry his Polaroid camera in a holster under his arm, just like a handgun.

As we watch (and as described above), the Polaroid slowly develops into colour, as do Leonard's hand and the surrounding world. We have shifted from a black-and-white episode directly into a colour episode without any cut or fade to black. We are minutes from the end of *Memento*. With respect to the black-and-white story we have come to its natural climax. Leonard has progressed from the stark alone-ness of talking with himself and writing on himself, to talking on the telephone, to engaging with another flesh-and-blood human being. He has emerged out of his nameless, featureless black-and-white room and into the public world of full colour. He has gotten revenge on the man he believes raped and murdered his wife. And he has passed from the realm of writing through the realm of writing-plus-photography to the realm of photography itself: as with the first developing Polaroid, we do not see Leonard write on this image.

As Leonard is hiding Jimmy Grants's body in a basement, he suddenly remembers that Jimmy had mentioned Sammy Jankis just before Leonard killed him. This recollection stuns Leonard, because there should be no way that his wife's murderer could have known this bit of his personal history. He concludes frantically that he must have killed the wrong man. Nolan is willfully ambiguous here. Most viewers, even on viewing the scene repeatedly, do not find Jimmy anywhere mentioning Sammy. And yet, if we watch and listen extremely closely as Leonard hauls away the body, Jimmy, who is apparently already dead, may make some slight vocalization that may be "Sammy." From watching the film, there is no way to be certain about this. So either Leonard's sudden memory is false, which means that he simply creates a memory that will enable him to believe he has killed the wrong man—and this in turn means that his desire for revenge has yet to be satisfied—or else he has, in fact, killed the wrong man. Again, there is no way for the viewer to be sure. In any case, Teddy arrives shortly and confirms that Leonard has killed the wrong man. But Leonard dislikes and distrusts Teddy. After they argue, Leonard leaves in disgust and frustration, stranding Teddy by throwing his car keys into the brush. Just before he drives away, Leonard burns the Polaroid of the dead Jimmy Grants, then looks at a Polaroid he has taken of Teddy, and says to himself in voiceover that now he chooses to let Teddy be the man who killed his wife. This he does, knowing that within a few moments he will forget the decision he has just made, but will still have the photograph by which to search for his wife's killer. And so his quest for revenge will begin again. It will be told in the colour episodes running back to the linear beginning of Memento. Teddy will turn out to be the dead man in the Polaroid that undevelops in the opening sequence.

Leonard drives off to continue the hunt for his wife's murderer. In the last shot of the film, he screeches to a halt in front of a tattoo parlour. The camera lingers on the tattoo parlour's sign, to remind us in yet another way that Leonard has moved out of the isolated realm of the motel room and the home-made, handwritten notes on his body. He has moved into a public form of writing. "Now, where was I?" he says. The film screeches to a halt too, at least in the normal way of beginning, middle, and end. But, of course, now we also turn back toward the film's opening sequence. What of this final version of the original question: So where are you? When the question was first asked, we recall, Leonard was just waking up, alone with no knowledge of immediate time or place. He was, in a sense, marooned in a kind of pure present. He had no sense of his existence in terms of an ongoing story-time. Our sense of ourselves depends on our not-necessarily-conscious awareness of being embedded in storytime in such a way that the present moment satisfies all the parts of story. "Now" is the middle between what has come before and what has yet to come; it is the end of what has come before; and it is the beginning of what is yet to come. If we are somehow removed from story-time, we lose all these interconnected orientations and are effectively removed from the human world. But when Leonard asks "Now, where was I?" he has, at least in a sense, re-inserted himself into story-time. He speaks in first person, no longer removed from himself into "you," and he uses the narrative pasttense to situate himself in relation to the present instant. The instant after Leonard asks this last question, we fade to black, and the final credits appear on screen.

On the one hand, Leonard's conclusions about the continuity of himself and the world are a kind of breakthrough. They appear to be as much as someone in his condition can hope for: at least he has managed not to become like Sammy Jankis. But, on the other hand, the viewer must conclude that only by continually searching for and failing to find and kill his wife's murderer can he possibly continue not to be Sammy Jankis. He has just successfully done this, and so has managed to narrativize himself. But, in a sense, though the return to story-time is what he has most wanted, it must also be what he most resists. For, paradoxically, given Leonard's condition, if this "ending" is to sew things up again in the only kind of positive conclusion possible, then it will need to lead Leonard necessarily back to the disorientation of "Where am I?" And he will say this twice more on the way back across the film (but forward in time) toward the beginning (that is, the chronological ending). It must be the case that Leonard will repeat the story we have just seen over and over again. In effect, this turns out to be the story of a man who, as William Little writes, regularly "reinvents himself as a serial killer" (13).

Similarly, though we have seen Leonard progress technologically from chirography

to photography, he will now necessarily have to return to writing. Without his own handwriting he will inevitably become like Sammy Jankis. Accordingly, as Nolan's camera focused on the act of writing tattoos in the black-and-white story, so across the colour episodes it will focus repeatedly on Leonard writing messages to himself on Polaroids.

We must notice another key image on the way back to the beginning. Story, again taken as a kind of cognitive capacity, cannot be unaffected by the technology of writing. As writing disembodies speech, so written story disembodies story, and certain effects of this disembodiment will appear in written story, most prominently as a sense of loss for the orality that has been disembodied by the technology. Interestingly, the filmic story of the man who is out of story-time deals with just this issue. The elaborate foregrounding of the tattoo in the black-and-white episodes is accompanied by a similarly foregrounded oral story: Leonard's recounting of his interaction with Sammy Jankis. What with the broken up nature of the film, this story takes nearly an hour to fully tell. It has a clear beginning, middle, and end, a clear element of suspense, and is quite coherent. Plainly, he has told this story many times. Not so plainly, though, this story necessarily carries a sense of nostalgia with it because it is exactly the kind of story that Leonard can no longer live. In both its content and its form, it is a relic of his lost past. And it will be left behind once he emerges from his motel room.<sup>8</sup>

As *Memento* has foregrounded not just the content but the form of the photographs, and not just the content but the form of oral story, so it also does with written story. One night, Leonard decides to burn all the material mementos of his wife, and as he does, we get the visual memories that have memorialized the objects. One of the objects most studied by the camera is a novel that his wife would read in bed. In a flashback, the novel, the name of which we cannot quite see, appears to have been well-used, with no cover left, and with thoroughly dog-eared pages. This novel Leonard burns in a ceremonial fire. Before burning it, he thumbs through it, presses it to his face, so that the sense of loss is clear. And the camera takes us twice to an extreme close-up of the burning pages. Not surprisingly, this scene occurs in a colour episode. Historically, oral story is, in a sense, superseded by written story, so it makes sense that we only encounter the novel after Leonard has "grown" out of the blackand-white world of the oral story. Further, as oral story is left behind with Leonard's emergence out of the black-and-white world, so written story gets left behind on the way back to the opening sequence.

Following Leonard on his second quest, we return finally to the linear beginning of the film. But now, what of the one unique element of form: the reverse-running

footage in the opening episode? In a sense, the reverse-running footage shows what we temporal creatures most want of time, but of course can never have. We want not just a memory or a written record or a story of how we arrived at any given present moment, but the preserved visual image of the actual sequence of events, a graphic display of movement that we can literally rewind and replay and re-see. Such an image, though of course it may still carry uncertainties about meanings and implications, will be as close as we will ever get to the lost factual reality. This is desirable for people in general, but for Leonard it represents the maximal fantasy of what he wants most. In the history of storytelling, only cinema can be such a representation.

Just here, we come upon a signal inadequacy in one of our main terms. Strictly speaking, if we take "telling" in its primary sense of relating by speech, then only oral story can be an example of "storytelling." Novels, then, are not storytelling, though, as with all stories, they must ultimately be related to that paradigm case. Also, strictly speaking, "showing" requires the sense of making visible to the eye. Therefore, the ancient showing/telling distinction was, at least with respect to written story, always metaphorical. To "show" a story in the literal sense requires some kind of visible performance of the story, and since all stories depend on diachrony, then to show a story requires some kind of visible performance of action in space. Drama of whatever kind is the originary case of actually showing a story. But drama essentially involves flesh and blood performance before a flesh and blood audience, and this separates it entirely from film (including a film of a play). Cinema, then, is historically the first medium to disembody the showing of story, and therefore the first medium to disembody the showing of time. (This concept takes us back to, and is another aspect of, film's disembodiment of "looking at motion.") No drawing or painting or photograph can do this; for story, like movement or change, is intrinsically diachronic. Perhaps ironically, the visible proof of this bottom-line truth is that we can look at film being rewound to run again. The history of graphism in Memento, then, "ends," as it must, with this unique sign of cinematography: the literal reverse-running of the film itself.

Taking all this together, where are we? If cinema as a technology disembodies such basic cognitive capacities as "looking at" and "story-time," and if the disembodiment of basic human cognitive capacities must always carry powerful effects, then we should expect to find effects of this disembodiment at work in film in general. For example, we may expect any scene of writing in film to be overloaded with meta-level content because, as a kind of "graphism," cinematography bears a specific but not obvious relationship with the original graphism: writing. We may further expect that some sense of nostalgia will be built into such scenes, and of course nostalgia, always

reveals much about whoever laments the lost golden time. Further, a film that features any earlier kind of storytelling will necessarily be drawing a contrast between the implicit cognitive significance of film as a technology and the cognitive implications of that earlier storytelling, be it drama, novel, oral, or whatever. Any film that foregrounds film-making will, intentionally or not, be showing the story of what film does to our story-time cognitive capacity.

## NOTES

1/ On built-in pre-linguistic conceptuality, see also Derek Bickerton, Language and Species (Chicago: U of Chicago P, 1990); Ray Jackendoff, Patterns in the Mind (New York: BasicBooks, 1994); and Steven Pinker, The Language Instinct (New York: Morrow, 1994).

2/ Other writers have considered photography and film in relation to time, perhaps the most famous being Roland Barthes in *Camera Lucida* (New York: Hill and Wang, 1981) and Gilles Deleuze in *Cinema* (Minneapolis: U of Minnesota P, 1986), but neither of these authors takes the human cognitive apparatus as a starting point.

3/ See, for example, Marshall McLuhan, The Gutenberg Galaxy: The Making of Typographic Man (Toronto: U of Toronto P, 1962); David Olson, The World on Paper: The Conceptual and Cognitive Implications of Writing and Reading (Cambridge: Cambridge UP, 1994); Eric A. Havelock, The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present (New Haven, CT: Yale UP, 1986); Jack Goody, The Power of the Written Tradition (Washington: Smithsonian Institution Press, 2000); and Walter Ong, Orality and Literacy: The Technologizing of the Word (London: Metheun, 1982).

Al In Christian Metz, The Imaginary Signifier: Psychoanalysis and the Cinema, Trans. Celia Britton (Bloomington: Indiana UP, 1982); John Berger, "Understanding a Photograph" in Classic Essays on Photography, by Alan Trachtenberg (New Haven, CT: Leete's Island Books, 1980) 291–94; Stanley Cavell, The World Viewed: Reflections on the Ontology of Film (New York: Viking Press, 1971); Laura Mulvey, "Visual Pleasure and Narrative Cinema" in Classic Essays on Photography, 833–44; and Vivian Sobchack, The Address of the Eye: A Phenomenology of Film Experience (Princeton, NJ: Princeton UP, 1992). 5/ See Cathy Caruth, Unclaimed Experience: Trauma, Narrative, and History (Baltimore, MD: Johns Hopkins UP, 1996); and Dominick LaCapra, Writing History, Writing Trauma (Baltimore, MD: Johns Hopkins UP, 2001).

6/ William G. Little, "Surviving *Memento*," *Narrative* 13.1 (2005): 67–83 and Peter Thomas, "Victimage and Violence: *Memento* and Trauma Theory," *Screen* 44.2 (2003): 200–207.

7/ For other considerations of Leonard's tattoos, see Little, "Surviving Memento," and G. Christopher Williams, "Factualizing the Tattoo: Actualizing Personal History through Memory in Christopher Nolan's Memento," Post Script: Essays in Film and the Humanities 3.1 (Fall 2003): 7–36.

8/ For an explanation of nostalgia in relation to trauma theory, see Little, "Surviving Memento."

9/ For other distinctions between stage and film, cf. Hugo Munsterberg, "The Means of Photography," Film Theory and Criticism: Introductory Readings, eds. Leo Brandy and Marshall Cohen, 5th ed. (Oxford: Oxford UP, 1999) 401–407; and Noel Carroll, Theorizing the Moving Image.

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