Reviews

Time, Bergson, and the Cinematographical Mechanism

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Back in the early days of cinema, 1907 to be precise, Henri Bergson became one of the first philosophers to incorporate cinema into a philosophical discourse. His use of cinema was relatively inconsequential, merely a clever and topical analogy to demonstrate the method by which the intellect grasps knowledge of reality. The context for this discussion was Bergson's epistemological dualism of the intellect and intuition, perhaps the philosophical area he is best remembered for outside of his views on time (durée, or duration). Cinema may have played a minor and secondary role in Bergson's philosophy, but the argument I will put forth is that the broader philosophical and cultural context out of which it grew bears remarkable relevance for contemporary film theory and aesthetics. And not because of the increasing importance in recent film theory of Gilles Deleuze -who owes an enormous debt to Bergson- but because Bergson was the first to give philosophical expression to the 'idea' of cinema: *moving* images. The purpose of this essay will be to draw out the precise contextual meanings Bergson gave to cinema and how they can help us to understand some of the fundamental, and fundamentally philosophical, properties of cinema: movement, fragmentation, and time.

The "Cinematographic Mechanism"

In several essays and in the final chapter of *Creative Evolution* (1907), Bergson employs what he calls the "cinematographical apparatus" as an analogy for how the intellect approaches reality. This analogy appears within Bergson's epistemological dualism, where intuition is placed alongside the intellect as a means of acquiring absolute knowledge. According to Bergson "movement is reality itself" (*The Creative Mind* 169). The intellect is by nature a spatializing mechanism, which means that to acquire knowledge it employs concepts, symbols, abstraction, analysis, and fragmentation. Hence the intellect can only express movement -reality itself- in static terms. It "substitutes for the continuous the

discontinuous, for mobility stability...." (*The Creative Mind* 222-223). Bergson likens this process to the cinema apparatus. The camera begins with a real movement, breaks it down mechanically into a series of static single frames and then returns the movement through the projecting apparatus. The movement that we see is a reconstituted illusion. Bergson writes:

> Such is the contrivance of the cinematograph. And such is also that of our knowledge. Instead of attaching ourselves to the inner becoming of things, we place ourselves outside them in order to recompose their becoming artificially. We take snapshots, as it were, of the passing reality....We may therefore sum up...that the mechanism of our ordinary knowledge is of a cinematographical kind (*Creative Evolution*, 332).

In effect, in Bergson's epistemological system, the intellect is best suited to the study of inert objects, immobility and being, and intuition to the study of movement, change, and becoming (duration). Intuition is the process used to understand the flux of reality, while the intellect gives us a necessary, pragmatic grasp of reality. This dualism of intellect and intuition seeps naturally into Bergson's views on art. Although Bergson never articulated a theory of art, he came closest in his treatment of comedy, *Laughter*. Throughout this wonderful monograph Bergson holds art in high esteem because it can communicate a more direct vision of reality. For most non-artists, the pragmatic necessities of everyday perception act as a 'veil' over reality. Through intuition and a 'disengaged' vision, the artist can lift this veil and offer us a privileged view of reality. The intellect, because of its pragmatic nature, thickens the veil between reality and consciousness. The logical consequence of Bergson's cinema/intellect analogy is not hopeful for anyone envisioning cinema as a high art form: cinema can not communicate 'reality'. Before even thinking of moving onward to discuss Bergson in the context of film theory, this negative analogy must be addressed.

Bergson's position on cinema as a Platonic Form-like process is implicitly made in other writings. In the essay "The Perception of Change" Bergson claims that the art best suited for representation is painting: "...nowhere is the function of the artist shown as clearly as in the art which gives the most important place to imitation, I mean painting" (*The Creative Mind*, 159). What about film? Does Bergson purposively neglect film's representational power because it "spatializes" reality? This point has important consequences for film theory. It appears that Bergson believed that film, because of its mechanical nature, can not be human enough, in the tradition of the great painters, to give its audience a privileged view of reality. With painting Bergson believes he is selecting the art that achieves the best balance of artistic intervention and mimetic capability. From the same text as above, Bergson says: "The great painters are men who possess a certain vision of things which has or will become the vision of all men."

On the contrary, two great film philosophers, Andrei Tarkovsky and André Bazin, take this same impression of the artist being able to achieve a deeper, inner sense of reality, but replace painting with film. Both Tarkovsky and Bazin accord an intangible element to the mechanical agency of the camera (a certain level of objectivity, a psychological factor, an element of chance) but the camera's mechanical agency is not the sole defining feature. Arnold Hauser makes a similar

point in *The Sociology of Art*: "A process which is photographed and projected onto a screen is still not a "film," for an artistic form is not the product of a mere medium...." (621).

Tarkovsky fully believes, as does Bergson, in the ability of the artist to achieve a higher vision, but the difference is that he does not place restrictions or create a hierarchy according to the nature of the artistic tool. Since the politicization of film theory in the early 1970's it became a sort of theoretical litmus test for critics to take to task as naive and reactionary Bazin's notion of the ontology of the photographic image. Bazin's critics noted that the camera is not an impartial, neutral observer outside the influences of culture and politics. Years earlier critics were using the same argument to disprove cinema's claim to being art, stating that cinema can not be an art because it is a mechanical representation of the world. It is interesting that Bergson, who predates these early critics, criticizes film within his philosophical context in a way similar to this early film philosophy criticism.

The consequences of this for realist film theory has been important. I will not delve into this much-traveled theoretical debate but will merely raise a few points. Firstly, if we accept the phenomenological apologies that have been made for Bazin, the seminal realist film theorist, then we can believe that Bazin never meant, in the strict cause and effect fashion, that the camera records a politically and culturally "neutral" reality. As Igor Korsic argues in his book *Suspended Time: An Analysis of Bazin's Notion of Objectivity of the Film Image* (1988), critics of Bazin's cinematic ontology have been guilty of theoretical "incommensurability." In other words they have misunderstood him or not met him on his terms (which are essentially phenomenological). Korsic claims that Bazin's notion of objectivity is best understood as "ambiguous objectivity" and not in the naturalist sense. If we follow the evolution of film theory on this question we can see a 180-degree turn from the camera as mere mechanical reproducer, to the camera as anything but a neutral observer. The truth is probably somewhere in between and depends on the context, the sensibility of the artist and the definitions used (of objectivity, subjectivity, reality).

Bergson's critique of film is unique because he goes beyond merely stating that the camera apparatus is a machine. Film functions in a manner similar to the way the intellect takes "snapshots of reality." (Hugo Munsterberg would use a similar point to demonstrate that film was an art.) Can Bergson's appraisal of film be discounted as easily as that of the critics who doubted film as art? There is a slight difference in their respective intents. Early film critics were lobbying against the possibility of film being considered a legitimate art form. Depending on your sensibility, Bergson's project may be more damaging, because by equating film with the spatializing intellect film becomes "incapable" of re-presenting real time, duration, and hence reality. If this Bergsonian hypothesis is accepted then a filmmaker can not affect an audience, or can not intuit, on the same level as a painter or composer. Bergson's comments on film can not, I believe, be countered in the same way that Munsterberg, Arnheim, and company countered the early critics of film as art. It must be countered on its own terms.

Before beginning my rebuttal, or re-appropriation of Bergson's cinema project, a deeper understanding of Bergson's use of the cinematographic mechanism is necessary. In the following lengthy quote Bergson uses film as a metaphor for the

"unreality" of spatialized movement. I'll quote the passage in its entirety:

> For that is what our habitual representations of movement and change hinders us from seeing. If movement is a series of positions and change a series of states, time is made up of distinct parts immediately adjacent to one another. No doubt we still say that they follow one another, but in that case this succession is similar to that of the images on a cinematographic film: the film could be run off ten, a hundred, even a thousand times faster without the slightest modification in what was being shown; if its speed were increased to infinity, if the unrolling (this time, away from the apparatus) became instantaneous, the pictures would still be the same. Succession thus understood, therefore, adds nothing; on the contrary, it takes something away; it marks a deficit; it reveals a weakness in our perception, which is forced by this weakness to divide up the film image by image instead of grasping it in the aggregate (*The Creative Mind*, 17-18).

The context of this quote, taken from an essay entitled "Growth of Truth: Retrograde Movement of the True" from *The Creative Mind*, is a discussion of the inadequacy of understanding time in a deterministic line that eliminates freedom of the will and deprives evolution of its creative nature. At first glance the passage appears baffling. Does Bergson mean that running a projector at one hundred times the proper speed (16, 18, or 24 frames per second) would not effect the projected image? One would have to assume his familiarity with the basics of the projecting system and assume the contrary. In the same essay Bergson refers to duration as "novelty" and "unceasing creation." Could it then be that what he means is that even regardless of the projection speed or after repeated screenings the images remain (relatively) the same, that there is no change? The most sensible reading of the passage, I belief, is that Bergson was not referring to the representational nature of the images, but the recording process. And that regardless of what speed the film runs at, the content of the individual frames will not change.

A passage from the final chapter of *Creative Evolution* partially titled "The Cinematographical Mechanism of Thought and the Mechanistic Illusion", throws light on the earlier passage. Bergson states that, theoretically, it would not take a boy any time to reconstruct a picture puzzle because the picture is already conceived before opening the box. It may take X amount of minutes on the first try but less on subsequent occasions. The process could be sped up to the point of it being instantaneous, and it would not effect the outcome of the picture because it is already given. This parallels the line in the earlier quote stating that the speed at which the film is run does not effect what is being shown. Bergson is using these examples as microcosms of the static, mechanistic, teleological, or Platonic conception of reality. In this schema the only quality that time has is length. Bergson then compares the boy with his picture puzzle to the artist with his/her blank canvas. Bergson says that "to the artist who creates...time is no longer an accessory... it is not an interval that may be lengthened or shortened without the content being altered" (369-370). Duration, understood as consciousness itself, plays an integral part in the outcome of the artwork. The distinction that Bergson makes throughout this final chapter comes down to "time-length" versus "time-invention" (372).

Now that we fully understand how Bergson is employing the cinematographical method we can summarize his critique of it in the following:

- A film, once made, is already given, therefore time does not play a "creative" role. Film is similar to the mechanistic conception of reality, like the picture puzzle or the calculability of pool balls on a billiard table.
- The cinematographic process is like the intellect in that it takes "snapshots" of a passing reality. The movement is only an illusion generated by the projector. Movement does not exist in the images but is thrown back into them. Film is a spatialization of time/reality.
- Duration, the essence of reality, does not play a part in the cinematographic process because the process involves a "succession" and not "interpenetration" of static images.

Before beginning my counter-argument I would like to stress that Bergson's critique of cinema, if it could be called that, is always as an analogy for what he really wants to critique, the intellect. It never goes beyond the "cinematographic process." Ultimately, as I will later demonstrate, this provides a means to salvage cinema from the anti-spiritual, anti-poetic, intuitive, temporal label that Bergson attaches to the pure intellect. Since, for his purposes, Bergson only employs part of the cinematographic apparatus (camera and projector) he overlooks many elements which, when brought into the fold, weaken his argument.

I'll begin with the first stated critique. There are two points that Bergson omits to note in this argument: 1) the creative process involved in filmmaking and 2) the incompatibility of using the picture puzzle and cinematographic method as interchangeable analogies. The point of the analogy between the picture-puzzle and the painting is that time plays a role in the latter but not in the former. Regardless of how much time it takes to reconstruct the puzzle, the picture will not be effected. Bergson uses the same logic with film, but time plays much more of a determining role in the film process. Whether it takes the boy one second or one day to reconstruct the puzzle bears no consequence on the picture. With the cinematographic process, however, time can not be given such an arbitrary value. The time in which the film is "recreated" (projected) must match the time (speed) at which it was filmed. Running it ten times faster may not effect the property of the film strip (which is part of Bergson's point), but will play havoc with what is seen on screen. The role that time plays at this stage is purely technical rather than creative, but, nonetheless, more of a determinant than that played in the picture-puzzle.

Even if we allow Bergson this point, we can not disregard the incompatibility on which the analogy rests. The interchangeability of film and the picture-puzzle rests on unequal terms. In the case of the analogy between the picture-puzzle and the artist/canvas Bergson commences at the start of the process, with the picture in its many pieces and the canvas blank. With film, however, he begins with the film already made, given. He completely neglects the role that time plays in the creative filmmaking process. There is certainly as much uncertainty on the filmmaker's part as to the outcome of the film as there is on the painter's (and arguably much more considering the joint nature of film). By beginning with the film as given Bergson is automatically placing it on the "negative" side of the analogy, rather than on its proper ledger, the "positive" art side. Because film

involves a mechanism that Bergson can use as a wonderful analogy for the way that the intellect spatializes, fragments, and abstracts, it is bound to this "negative" side of his dualism.

I will address the second critique by way of Bergson's own diffusion of Zeno's paradoxes. Many thinkers have explained Zeno's paradoxes in different ways. Bergson's attempt can be used to question his appraisal of the cinematographic mechanism. By applying uncompromising common sense and logic Zeno attempted to reveal the contradictory and paradoxical nature of change and movement. In this metaphysical arena Zeno sides with Parmenides (reality is fixed and unchanging) over Heraclitus (reality is flux and change). In one of his paradoxes Zeno offers the logical deduction that the tortoise, once with a lead, could never be surpassed by the much faster Achilles because each point along the way is infinitely divisible. Each advance Achilles makes is matched by the tortoise's own, with the space remaining between them infinitely divisible, ad infinitum. Bergson claims that this remains a paradox only when the movement, the race, is treated like space and is divided into an infinite series of movements rather than the single movement that it is. Bergson anticipates how Achilles would explain away the paradox: Achilles would simply describe the race as taking one step followed by a second, a third, and so on until he surpasses the slower stepping tortoise. When both movements are treated as indivisible wholes then the paradox is removed. (Zeno's paradox of the arrow is solved likewise by Bergson. You can not treat the object moving with the act of movement itself.)

Can not Bergson's own explanation of Zeno's paradox be applied to his labeling of film as a spatializing mechanism? Bergson claims that film, because it is only an illusion of movement provided by the interrupted (the black strip in between each frame) and timely coded projection of individual static frames, is not an indicator of reality, is not a true movement. But isn't this only the case when the projector stops and we see the individual frozen frames? Isn't this similar to what Zeno did with the race between Achilles and the tortoise? If the film is left to run uninterrupted from the starting line (the first frame) to the end can it not be taken as one complete, indivisible movement and as "real" as the race? The statement "succession adds nothing" does not bear truth in film. The filmic illusion of space, movement, and time comes alive, in the end, out of a finely tuned, precise ordered succession of static images. The movement is whole and complete, not unlike the final outcome of a carefully worked out musical composition. A movement that is broken down (spatialized) through mathematics or logic, like Zeno's paradox, is not a spatialization of the same order as a properly running film. If a film is stopped, slowed down or accelerated beyond its original order, then a claim for spatialization can be made. If it is left to run its proper course then film remains on the same level of metaphysical art as any other.

For Bergson the key to reality is that all change (time and movement) should be treated as indivisible. Time broken down is spatialized time and not duration. True time and true reality does not consist in states, since states imply immobility. Certainly film is only an illusion of movement, but for film to exist there can be no immobility. (Not to mention that the illusion is only one of degree, since normal perception, as Bergson himself argued in *Matter and Memory*, also has its share of illusions.) If there is, the illusion is shattered. Once this is done you have forced spatialization onto film in the same manner as when a whole movement is broken

down into several. I will now proceed to Bergson's third reservation: the inability of film to appropriate duration. This dictum has the most intriguing consequences for film theory.

A still photograph spatializes time by freezing the present; a photograph becomes what is impossible in reality: the present as a razor's edge. Cinema is based on photography but completes the process by returning movement to the image. On the screen objects move, people move, and the image (camera) moves. To think of film as a series of individual static frames is no different than thinking of a Bach concerto as a series of notes strung together. Bergson's definition of duration as the present pregnant with the past has no better analogy than the cinema. On its own a film frame is relatively meaningless beyond its mere denotative content, but as they flow through the projector gate they come alive.

According to Bergson memory, as well as time, is forever growing and "pregnant." Memories are not forgotten, only stored and subject to the whims of perception and recall. Consciousness is similar to time, duration and memory: it is ever frugal, so nothing is "lost." The time and consciousness of yesterday lives on in the time of today. Likewise the frames of a film remain stored after they are seen and there is no absolute present in any one frame. At 1/24 a second a frame is not perceptible to the naked eye. Therefore accumulation plays an integral part in cinema. In *Time and Free Will* (1889) Bergson defines duration as "the form which the succession of our conscious states assumes when our ego lets itself live, when it refrains from separating its present state from its former state" (100). Duration is the "undercurrent" of human personality (Kumar, 334). In her article "What Bergson Means By "Interpenetration" Karin Costelloe points to interpenetration as the key to duration and to an understanding of Bergson's philosophy. She describes interpenetration as an indivisible element that is part of what Bergson takes to be in constant flux and change: duration, real time, consciousness, life. Interpenetration is a process whereby "the nature of what comes after only finds its explanation by reference to what came before" (148).

The relationship of one film frame to the next can be seen as analogy for interpenetration, as can be the general principles of montage. In interpenetration "the parts depend for their qualitative character upon their connection with the whole of the rest of the process" (Costelloe, 149). Interpenetration is contrasted to independence or discreteness. Costelloe says that duration, life, movement or consciousness can be treated independently, that is abstracted (as the intellect does), but when they do, they are falsified or taken out of their "natural habitat." When Bergson treats the cinematographical process as static frames independently aligned in succession he is falsifying film. The frames of a film interpenetrate in much the same way as musical notes. In *Time and Free Will* Bergson uses music as an analogy for duration: "...as happens when we recall the notes of a tune, melting, so to speak, into one another" (100). Seeing that interpenetration plays such a pivotal role in duration, film can not be excluded from its realm.

There is yet another way that film can be salvaged from Bergson's critique (in his terms) and brought into the realm of real time and duration. In the same article Costelloe discusses the experience of a man listening to the same musical piece twice. Although the piece remains the same, the second listening is different on the basis of it containing the first hearing. Bergson's theory of change and duration is

in fierce evidence here. Each subsequent hearing of the same musical piece will be different because the state of the person evolves. The piece, now familiar, may be attended to with indifference, boredom, disinterestedness, or perhaps a heightened interest. The past hearings are not forgotten but have merely "gnawed" into the person's consciousness and "left their mark." Why can't this same process apply to film? Subsequent viewings of films often reveal more or, sometimes, unfortunately, less. The preconceptions of a previous viewing will always assume a role in the subsequent viewing. When the viewings are separated by large gaps of time the change is often staggering. Other times the difference is subtle. The state of the person at the moment of viewing can likewise effect the perception of a film (tired, sad, agitated, etc.). If the indicator of duration and change rests on the individual consciousness perceiving the art work then film can not be neglected because, regardless of its mechanical process, the film will still "grow" and "gnaw" into a person's consciousness. Like the repeated musical piece, the film is merely an interpenetrating part of the whole process, that being consciousness.

Bergson's comparison of the cinema mechanism to the intellect may work fine as an analogy but weakens when pushed. The fact that a film remains relatively unchanging once it is made does not detract from the creative filmmaking process or the time anew that each viewing may give. By the same reasoning, the speed at which a record is played does not change the actual song. It will distort the sound, in the same way that an improperly projected image will alter what is seen, but the record in its sleeve and the film in its tin remain unchanged. Any artwork once completed becomes, relatively speaking, eternal. The "time-invention" takes place during the creative process and, depending on the art, again each time it is viewed by a changed consciousness (and a changed collective or social consciousness). More importantly, Bergson neutralizes both the content of a film and film's unique aesthetic potential for dealing with time. Contrary to Bergson's views, film can be seen as the "temporalization of space."

Why then does Bergson prematurely discount film as art? Granted it provides him a pleasant and topical analogy for the intellect, but he remains blind to the potential cinema as an art would soon show towards areas that are dear to him: memory, consciousness, flux, movement, and time. Considering that the quotes referred to covered the years 1907 to 1934 we can not conclude, as does Gilles Deleuze, that Bergson's views were conditioned by early cinema's relative lack of formal complexity. (Remember that Bergson died in 1941, the year *Citizen Kane* was made.) Deleuze recuperates Bergson based on the historical match of *Matter and Memory* and *Creative Evolution* with the era of primitive cinema (1896 and 1907 respectively). He claims that early cinema's lack of narrative complexity, emphasis on the fixed frame, and lack of montage denied Bergson the possibility of seeing cinema's potential to represent time. As Deleuze writes, "The evolution of the cinema, the conquest of its own essence or novelty, was to take place through montage, the mobile camera and the emancipation of the view point, which became separate from projection. The shot would then stop being a spatial category and become a temporal one, and the section would no longer be immobile, but mobile. The cinema would rediscover that very movement-image of the first chapter of *Matter and Memory*" (*Cinema 1: Movement-Image*, 3). Not only does Deleuze fall short of representing the complexities of early cinema, but overlooks the fact that Bergson did live long enough to see cinema mature, and did not revise his early views on the cinematographical mechanism. Largely because

they served their purpose fine (as a metaphor for the spatializing intellect).

The answer to why Bergson discounted film rests in and can not be separated from his philosophical prejudice, which can only be understood in its context. Bergson stood as a fierce antithesis to deterministic philosophies reigning at the end of the 19th century such as mechanism and finalism. Bergson lived and wrote in a period marked by relentless scientific progress. This escalation of science and technology altered the shape of the collective consciousness. Where time was once an abstract entity in one's life, advancements in movement (transportation and communication) brought the question of time out in the open as a tangible element (something to save, to fritter away, to consume, to collect). For the first time since Kant's rebuttal of the Newtonian laws of fixed, homogenous time and space, time was fiercely spatialized beyond the inner self. Sparked by his poetic and artistic sensibility, Bergson took it upon himself to counter the pervasive determinism of the late 19th, early 20th century. The nineteenth century onslaught of socialized machinery and technology was part of Bergson's attack. Bergson states that we are all first and foremost social animals and, as typified by Jacques Tati's Bergsonian vision, an individual stops being a healthy member of society once "the mechanical becomes encrusted upon the living." It is only natural then, that Bergson would be unflattering and indifferent to the first art that "did not develop...from a popular art, but from an experimentation with a technical discovery which was completely alien to art" (Arnold Hauser, *The Sociology of Art*, 1974, 621.).

Therefore, Bergson's resistance to mechanism and distrust of technological progress blinded him to the artistic potential of film. He fell prey to the genetic fallacy. He strongly believed that art gave humanity a reprieve from the falsified utilitarian reality we live with; unfortunately his vision of art did not include film. However, where Bergson's vision falters, (or is short-sighted) others take over. For example, Andrei Tarkovsky, equally opposed to mechanism and technology, carries the Bergsonian vision over to film:

> Cinema is the one art form where the author can see himself as the creator of an unconditional reality.... In cinema man's innate drive to self-assertion finds one of its fullest and most direct means of realisation. A film is an emotional reality, and that is how the audience receives it -as a second reality (177).

Even Lewis Mumford, one of the more intelligent technological critics, realizes the Bergsonian potential of film: "...the motion picture synthesizes movement through both time and space...it contributes something to our picture of the world not given completely in direct experience....Without any conscious notion of its destination, the motion picture presents us with a world of interpenetrating, counter-influencing organisms: and it enables us to think about that world with a greater degree of concreteness" (342-43).

Bergson distinguished between matter, body, and brain (the inorganic) from spirit, consciousness, and mind (the organic), but always admitted their need to be united. This is why he felt the need to propose a mediated state between realism and idealism in *Matter and Memory* by demonstrating that the brain, the seat of

idealism, is also composed of matter. Remove matter and the brain goes with it. Even matter has a minute element of duration. For Bergson matter in fact is expressed as energy, which itself can be best expressed as pure motion. Therefore matter may not be as 'immobile' or static as we think. "Matter, for Bergson, is best conceived as energy, and energy is the ultimate form of motion; thus the shapes of material objects are not properties of the objects but are 'snapshots taken by the mind of the continuity of becoming' (Marta Braun, 278-79). Author Braun quotes Bergson: "All division of matter into independent bodies with absolutely determined outlines is an artificial division" *Matter and Memory*, 259). In Bergson's view of reality, then, matter is in a constant flux of becoming, and it is only out of our sensory perception that immobility is present. Here we can see Bergson's inversion of Plato's illusory view of time. With matter also in constant movement, time becomes in fact the very foundation of reality.

Film is unique in relation to the idealism-realism split. It is obviously matter and inorganic, but its immediacy, vibrancy and mimetic strength bestow it an organic and "alive" quality. Cinema does the same 'error' as human perception, which is why Deleuze sees Bergson's philosophy as a form of 'disguised' film theory. Where society in the late 1800, early 1900's was concerned with movement and time, cinema was the culminating expression of that concern.

Multiple Bergsonian Film Theories

1) Bergson's Image as Model for Gilles Deleuze

The question Gilles Deleuze poses in his film philosophy is whether cinema is the newest, perfected version of that age old Platonic illusion of the static Ideas, or an expression of a new type of movement and duration? Ancient philosophy gives time the quality of an illusionary double of the transcendental Ideas. Modern science breaks time down as points within or "any-instances-whatever". For Deleuze movement-image occupies a transitional phase between these two moments in philosophy. Cinema in its infancy, the apparatus of cinema, is like the "any-instances-whatever", static frames in time. All that is necessary for the projector apparatus to return movement to the static images is constancy and uniformity from one "instance" to the next. According to Deleuze, both assessments of movement and time are in the end equal. The ancients reconstitute movement through "eternal poses" and the moderns through "immobile sections". The problem in both cases is that the "Whole" is already assumed, already given. And when this is done, movement and time no longer exist. The Whole can never be assigned or constituted, for it is always "Open." Duration is always opening up to a ceaseless continuity. The movement-image and time-image is broken down into sets (immobile sections of time, static shots or static moments), the movement that translates that set to the whole (the mobile section of the whole, montage), and then there is duration or the whole (time-image). "Duration suggests that temporal change inheres in things, in the state of things. This changing state is what Bergson and Deleuze call the whole, such that movement expresses 'the change in duration or in the whole' (Movement-Image, 8, quoted in András Bálint Kovács, "The Film History of Thought," *The Brain is the Screen* ed. Gregory Flaxman, Minneapolis: University of Minnesota Press, 2000).

Bergson uses 'image' as a new term to navigate between the duality of idealism and realism. It is this work on the 'image' in Bergson's most complex work, *Matter and Memory*, which inspired Deleuze to say that *Matter and Memory* was a book of hidden film theory which prefigures cinema: "The shot would then stop being a spatial category and become a temporal one, and the section would no longer be immobile, but mobile. The cinema would rediscover that very movement-image of the first chapter of *Matter and Memory*....there is also the thesis of *Matter and Memory*, mobile sections, temporal planes ...which prefigure the future or the essence of the cinema" (*Cinema 1: The Movement-Image*, 3). And in turn it is Bergson's discussion of the 'image' which informs Deleuze's theory of the cinema image.

Bergson uses the image as a meeting point between perception and reality. Matter is the aggregate of all possible images, and perception a selection of these images as they pertain to the body (which is, of course, matter). As Bergson writes in his introduction, "Matter...is an aggregate of "images." And by "image" we mean a certain existence which is more than that which the idealist calls a representation, but less than that which the realist calls a thing -an existence placed halfway between the "thing" and the "representation" (9). An image exists not only in the mind and not only beyond the mind. In the example Bergson gives, a man unschooled in philosophy would be surprised to be told that what he sees in front of him exists only in his mind, but be equally surprised to be told that the qualities of the image he sees (color, texture, density, etc.) exists only in the image and independent of his mind. Every image has 'pictorial' qualities, which are the contributions made by individual senses (perception, desire, need), and 'factual' qualities, which are those inherent in the image (size, shape, density, color, etc.). In almost every case, the latter is shaped, to some extent, by the former. So the image exists in itself and as we perceive it, since everyone's own privileged image of the world is part of that same matter (aggregate of images). The body is our personal center of the image world, or the privileged image. Bergson relates this inevitable subjective component of perception in the following sublime (and hauntingly cinematic) passage: "Here is a system of images which I term my perception of the universe, and which may be entirely altered by a very slight change in a certain privileged image -my body. This image occupies the center; by it all others are conditioned; at each of its movements everything changes, as though by a turn of a kaleidoscope" (*Matter and Memory*, 25).

Bergson relates this to the question of the body and the soul in the following manner: pure memory (image unseen, uncalled for by perception) = soul; pure perception (image unrelated to memory, in direct contact with image) = matter. Perception is dependent on sensory-motor mechanism: action necessary to our daily existence. It is present directed. Memory is mental, hooked in to the past, and less tied to pragmatic needs. Though they co-exist and largely shape each other, in their pure virtual states they belong to the realms of matter (perception) and mind (memory). (An example of the latter in its pure state is dreaming, or daydreaming, or drug induced states.)

Bergson's duality of perception and memory forms the source of Deleuze's movement-image and time-image. In Bergsonian terms, the aggregate images (matter) of cinema are broken down into movement-images and time-images. The movement-image, like pure perception, is regulated by the sensory-motor action

that responds to the demands of perception (the brain which acts as the nerve center of action). In the classic movement-image actors are placed in narratives that require direct and immediate action to situations and problems. The time-image, like pure memory, is disconnected from the pragmatic needs of pure images, which leads to a breakdown in the sensory-motor mechanism. Action becomes paralyzed and characters become unable to move toward positive, goal-directed action. Which is why time-image becomes the domain of the journey narrative, dream states, and narratives marked by disconnected flights of fancy. Hence out of Bergson's attempt to solve the duality of mind-body with the intermediary states of perception and memory, grows Deleuze's theory of the cinema image. In the movement-image time is at the service of the pragmatic necessities of narrative movement. Time 'loses' itself in the mechanics of narrative. In the time-image the linked fusion of movement to narrative action breaks down, leading to moments where time is not at the direct service of narrative movement, and for brief moments we are presented with pure images of time.

2) **Bergson's Durée (Duration) as A Model for Film Analysis**

A projector must go forward, it can not "contemplate" the past... but images can. The film image, along with film's formal and aesthetic capabilities, (including everything that is involved up until the film is ready for screening) is the element that Bergson neglects to consider and this is where cinema becomes so strongly Bergsonian. The poet and philosopher T.E. Hulme, an avid Bergsonian, also believed that interpenetration was a key to an understanding of duration. What technique can better duplicate interpenetration than the superimposition and dissolve, or cleverly used depth of field composition? On another level, editing that appropriates the inner state of the protagonist can also be seen as duration at work. What other art can visualize consciousness, the essence of duration, as well as cinema? Whereas Deleuze begins with Bergson's concept of 'image' to construct his film theory, I would like to shift the emphasis over to Bergson's duration to see what the consequences may be for film theory.

Bergson distinguished between two types of time, spatialized time and real time (which he called Duration). Spatialized time is time that is conceptualized, abstracted and divided. Duration is time that flows, accumulates and is indivisible. The metaphor Bergson most often used to describe Duration was consciousness (and personal identity), a form of "I think, therefore time endures." Duration rests within the consciousness of a person and can not be "stopped" or analyzed like the mathematical conception of time as a line. Our true inner self, our emotions, thoughts, and memories do not lie next to each other like shirts on a clothesline but flow into one another, one sensation gnawing and overlapping into another. "Inner duration exhibits no sharp (i.e. spatial) breaks from one moment to the next. Its components (our different memories, passions, sensations) interpenetrate and can not be sharply distinguished. Duration can therefore not be measured" (P.A.Y. Gunter, 19). Unlike space, which according to Bergson is homogeneous, static, infinitely divisible, and absolute, Duration is indivisible and can not be measured in a numerical, mathematical fashion. [1] Bergson articulates the difference between Duration and clock-time as follows:

> When I follow with my eyes on the dial of a clock the movement of the hand which corresponds to the oscillations of the pendulum, I do

> not measure duration ....I merely count simultaneities .... Outside of me, in space, there is never more than a single position of the hand and the pendulum, for nothing is left of the past positions. Within myself a process of organization or interpenetration of conscious states is going on, which constitutes true duration. It is because I endure in this way that I picture to myself what I call the past oscillations of the pendulum at the same time as I perceive the present oscillation.(*Time and Free Will*, 107-108)

Just as one can not gauge the intensity of an emotion with a numerical value (more or less angry, happy, etc.), Duration escapes being extended into spatial conceptions. But, even Bergson admitted that, "there is hardly any passion or desire, any joy or sorrow, which is not accompanied by physical symptoms; and, where these symptoms occur, they probably count for something in the estimate of intensities" (*Time and Free Will*, 20). Therefore even internal phenomena that can not be quantified numerically, have visible correlatives.

Throughout his career Bergson adapted and evolved Duration to fit the respective field or subject of inquiry (in his case from psychology-psychophysical, to metaphysics, to biology and evolution, to new physics and cosmology, to religion and morality). Applying Duration to cinema theory and analysis does not necessarily imply a wholesale acceptance of his philosophical system. For example, I can not agree with Bergson's semantic labeling of spatialized time as being "not real," "unreal," or any "less real" than Duration. There is also an absoluteness to Bergson's terminology that can leave one intellectually paralyzed. This is evident in the epistemological method Bergson believes is best able to understand Duration, intuition. Even if one is willing to accept intuition, it is difficult, if not impossible, to articulate the role it plays in an intellectual or analytical endeavor. For example, while Bergson would agree that it is perfectly natural for the mind to break up (analyze) change into its component states, the very term "states," which implies immobility, destroys the essence of change, movement, and "real time" (Duration). With regard to this paradox of philosophical ideal and pragmatic practice, Karen Costelloe writes, "For all practical purposes these mathematically constructed continua make a useful substitute for reality. But Bergson maintains that they are only substitutes and that interpenetrated wholes are not composed of even an infinite number of discrete units (Karin Costelloe, 145).

Bergson calls on Duration to do a great deal across his philosophical system. He also defines it in such subjective terms that it sometimes becomes very opaque. These criticisms aside, Duration remains a richly provocative term that encapsulates most of the qualities that comprise a human understanding of time (ceaseless change, irreversibility, interpenetration, memory, co-existence of the past in the present). Without assuming all the implications of Bergson's Duration, some of which would, as noted, be prohibitive to any analytical pursuit, the following aspects of Duration can be profitably incorporated into a philosophically-based textual-formal, critical-analytical method:

- Change: To quote Ted Honderich, "time is the dimension of change, a fact which distinguishes it from the three dimensions of space." To emphasize the state of "Becoming" Bergson adds the adjective "ceaseless" to change,

but change alone will do as an important gauge of the multiple temporal dimensions of a film (used alongside Deleuze's "set," which underscores the informational change within a shot). Implicit in change is the notion of movement, which should also be an important aspect of any textual-formal analysis concerned with time and temporality.

- Interpenetration: Karen Costelloe defines interpenetration as the process "in which the parts depend for their qualitative character upon their connection with the whole of the rest of the process" (Karin Costelloe, 149). Adapted to film, interpenetration is the process whereby the discrete formal parts of a mise-en-scene work in unison to render the shot's temporal whole.
- Novelty, Creativity, Unpredictability: These terms, dear to Bergson's understanding of Duration, can in certain cases, play a defining or interpretative role in the textual aspects of a film. Creativity/novelty bears an important relation to change. For Bergson time was the province of unexpected change with the potential for creation.[2] For example, a long take can unfold in such a way as to introduce the novel and the unpredictable and become an example of "creative time" at play. Though Bergson avoided any negative associations with creative time, there is also the possibility of time to (thematically) become a negative force.

If using these intertwining terms (interpenetration, change, novelty) I am not arguing for their scientific validity in analyzing the brain or consciousness, but that they hold explicative value in the formal and textual properties filmmakers employ to express film time. For example, the metaphor of "interpenetrating" psychic states that Bergson uses to visualize Duration may be impossible to empirically justify; but we can clearly and rationally discuss how two formal qualities work together (interpenetrate) to affect narrative or thematic time.

Duration can also be discussed within a broader concept of aesthetics and style. Art Historian Arnold Hauser, once a student of Bergson's, explains how Bergsonism informed the zeitgeist that gave rise to modern art:

> The Bergsonian concept of time undergoes a new interpretation, an intensification and a deflection. The accent is now on the simultaneity of the contents of consciousness, the immanence of the past in the present, the constant flowing together of the different periods of time, the amorphous fluidity of inner experience, the boundlessness of the stream of time by which the soul is borne along .... In this new conception of time almost all the strands of the texture which forms the stuff of modern art converge: the abandonment of the plot, the elimination of the hero, the relinquishing of psychology, the 'automatic method of writing' and, above all, the montage technique and the intermingling of temporal and spatial forms of the film.... The agreement between the technical methods of the film and the characteristics of the new concept of time is so complete that one has the feeling that the time categories of modern art altogether must have arisen from the spirit of cinematic form....(Arnold Hauser, 1958, 239)

The formal shape given to this Bergsonian conception of time (Duration) by artists working within the respective limitations of their medium (painters, writers, filmmakers) is, in itself, a subject worthy of a book. However, the question here

becomes, how would one ideally characterize Duration in cinematic formal terms? The qualities Bergson gave to Duration, defined above by Hauser, can be easily seen at play in the long take sequence that records real time or a simultaneous representation of different points in time. However, since Bergson so strongly associated Duration with consciousness, a complete cinematic rendering of Duration would also include editing that links subjective accounts of past/present, memory/perception, fantasy/reality, and dream-time/real-time. Modern art (1880-1920) also often assumed one of either two extreme formal methods to appropriate the flux-like state of Duration: extreme fragmentation or organic wholeness. This dual formal interpretation of Duration can be seen in modernist literature, with the use of long, run-on (long take) or short, staccato (montage) sentence structure to suggest a temporal or durational flux (George Bluestone, 59-60). Or in modernist painting, with the minimalist use of color and design that suggests wholeness or indivisibility (long take), or the "all-at-once" collage or multi-perspective technique (montage).

George Bluestone discusses cinema's potential to render Duration at a level more fundamental than long take/editing with his notion of "motion in present" and "perfect continuity":

> ...we note that the motion in the film's present is unique. Montage depends for its effects on instantaneous successions of different spatial entities which are constantly exploding against each other. But a succession of such variables would quickly become incomprehensible without a constant to stabilize them. In the film, that constant is motion. No matter how diverse the moving spaces which explode against each other, movement itself pours over from shot to shot, binding as it blurs them, reinforcing the relentless unrolling of the celluloid....So powerful is this continuity...that at times we tend to forget the boundaries of both frame and projected object. We attend to motion only. In those moments when motion alone floods our attention and spatial attributes seem forgotten, we suddenly come as close as the film is able to fulfilling the essential requirement of the time-flux -the boundaries are no longer perceptible. The transience of the shot falls away before the sweeping permanence of its motion. Past and present seem fused, and we have magically accomplished before us a spatial analogue for the temporal flux (George Bluestone, 1957, 59-60)

Still, according to Bluestone film, "ultimately fails, like the novel, to render what Bergson means by the time-flux." While at the same time Bluestone says, "film, above all other non-verbal arts, comes closest to rendering the time-flux" (Bluestone, 1957, 60). As is evident, there is no clear-cut or singular answer to my initial question, how would one ideally characterize Duration in cinematic form? Cinema is the ultimate time-space art because time and space assume properties of the other. Time is spatialized because we can move about it as in space, and space is temporalized by cinema's dynamic elements (moving camera, slow/fast motion, extreme lenses, etc.). The first person who made this aesthetic observation was Erwin Panofsky in 1934, who said: "These unique and specific possibilities can be defined as dynamization of space and spatialization of time. This statement is self-evident to the point of triviality but it belongs to that kind of

truth which, just because of their triviality, are easily forgotten or neglected" (Panofsky, 218) [3]. As editing and the long take are both capable of temporalizing space and spatializing time, both are capable of rendering Duration. What makes the long take perhaps a more appropriate fit for Duration is that, whatever temporal effect it manifests -compression, ellipsis, distention, real time- it does so within a continuous, "indivisible" shot (time). In any case, the aim here has not been to duplicate or justify exactly what Bergson meant by Duration, or give it a definitive cinematic meaning, but to speculate on a Bergsonian film theory beyond (or alongside) Deleuze's, while offering a theory that can be used as a guide to formal-textual analysis of film.

3) Bergson's Intuition as a Model for Film Experience

Cinema at the 'moment' of its invention can be understood as the next phase in a centuries long investigation of time, light, and movement through the confluence of art, entertainment, science, and, of course, thought (shadow play, the camera obscura, optical toys, motion analysis, photography). Which is why Deleuze saw cinema as providing an image of movement in relation to thought, and why he saw Bergson's *Matter and Memory*, written in 1896, as being infused with the idea of cinema. Other people have discussed the Bergsonian implications of 'movement' and 'thought' within other artistic contexts. Writer Mark Antliff places this late 19th century, early 20th century fascination with representations of time and movement within the context of Cubism and early 20th century modern art. In his book *Inventing Bergson*, Antliff discusses the aesthetic and political influence that Bergson (and Bergsonism) had on Cubism and Modern art. Like other writers on Bergson and Modernism, Antliff concentrates on Bergson's dualities of duration/ spatialization and intuition/intellect and the effect it had on the process of artistic creation:

> In Bergson's philosophy, every expressive medium, whether it be plastic, literary, or musical, is the end of a process whereby the inner, manifold self becomes spatialized through the process of self-representation. Pyschologically, such externalization is manifest in the transition from a highly emotive and alogical state to a non-emotive, rational state of mind. The temporal analogue for this change is the transposition of indivisible duration into a multiplicity of moments each external to the next, whose divisible state veils their inner interpenetration. This fragmented self is both rational and adapted to social life. Thus it becomes evident that all forms of self-representation would seem self-defeating -inevitably the profound self is refracted and impoverished through the very mechanism of self-representation. Nonetheless, there are degrees of spatialization within these modes of self-representation. (Antliff, 48).

The first part of this quote is a perfect description of what Deleuze means when he says that movement-image gives us only an indirect image of duration, and not duration itself. Any form of expression external to the inner self becomes, by design, a spatialization; a fragmentation of the whole (duration). The aim of every artist is to 'minimize' the spatialization that is an inevitable component of every external manifestation (words, images, symbols, etc.). So that, for example, the

words spoken by an average person will normally spatialize, but the words used by a poet work against spatialization. And an image, being more durational than a word, is more conducive to self-expression and revelation of the inner self than the word; with, in Bergson's hierarchy, sound (music) being more conducive to duration than sight. Antliff continues on how an artist must work if they wish to maximize Bergsonian duration: "But our translation of words into images, and images into an original artistic intuition, can only occur if such verbal imagery provokes an alogical and dynamic state of mind in the reader's mind" (49).

The point of this "alogical" alignment of imagery is to place the viewer in a state of mind as close as possible to Bergsonian 'intuition.' And in this we can also see a correlation between an artist attempting to achieve duration and a film attempting to achieve a time-image. As Antliff writes:

> Thus the image, as a literary tool, can draw us towards apprehension of the inner self, for which it is the emotional equivalent. [Quoting Bergson] 'No image will replace the intuition of duration,' but these same images 'can direct consciousness to a precise point where there is a certain intuition to seize on'. To guide consciousness, the writer selects images which are as "dissimilar as possible"; they must bear no logical relation to each other [my emphasis]. In this way the mind can be drawn into a particular alogical disposition described as a kind of attention or degree of tension signaled by the emerging interrelation we posit to connect these images. In grasping their interrelation 'in spite of their differences,' our mind has moved from an extensive or intellectual state to an intensive or intuitive one. Thus we arrive at the state of 'attentive tension' that characterized the original intuition underlying the images, and what Bergson termed 'the unity of the directive idea,' the mental counterpoint to our qualitative sense of physical direction (50-51).

There is a striking link to Deleuze's time-image in the above quote which I placed in italics: "images which are as dissimilar as possible [and] bear no logical relation to each other." Deleuze notes an identical process in the shift from the movement-image to the time-image, where the rational sensory motor link is broken down and replaced by the 'non-commensurable' edit characteristic of the time-image. With the breakdown of the sensory motor mechanism the temporal relationship between shots becomes 'non-rational' and 'non-commensurable.' Which does two thing: 1) like the viewer in front of the Cubist canvas, it places the viewer in a position of having to rely more on their sense of intuition (rather than an intellectual understanding of the narrative) and 2) by dislodging the edit from the hierarchy of action and movement, it erases the link that acts as a divisible, spatializing element of time. This latter point needs some clarification. The classic match cut on action or movement is traditionally seen to camouflage itself and preserve continuity either in time or space (or both). But I will argue the contrary, that these edits, even if mechanically 'seamless,' in fact call attention to the joining of two disparate images and function as demarcation zones (immobile blocks of time or "any-instances-whatever"). This is what Deleuze means when he says that in the movement-image time is at the service of movement. By not relying on these sensory motor edits the film opens itself up to the whole (duration) and the time-image becomes possible.

Antliff continues by noting that the Cubist artists Albert Gleizes and Jean Metzinger interpreted Bergsonism into a theory of the canvas so that, "the spectator, ready to establish unity himself, may apprehend all the elements in the order assigned to them by creative intuition, the properties of each portion must be left independent, and the plastic continuity must be broken up into a thousand surprises of light and shade [quoted in *Du Cubisme*. Paris, 1912. Trans. Robert L. Herbert. ed., *Modern Artists on Art*. New York, 1964, 1-18]. "Thus the Cubists breaks up the canvas's unity in such a way as to allow the spectator's own "creative intuition" to "establish unity," and so ascertain the painter's integral and intuitive conception. The canvas' existence as an "organism" is ascertained through a mental process wherein the beholder is led "little by little toward the imaginative depths where burns the light of organization" [Gleizer, Metzinger, ibid, 5]. The unity implicit in the work of art also resides in the mind of the beholder" (52).

In short, when an art is constructed 'logically' to appear alogical, it is up to the viewer to think in an alogical way to intuit what the inner unity/logic is. Some of this can, I think, be used to construct a profound Bergsonian philosophy of cinema and how certain formal qualities such as free form montage or the long take can be used to 'maximize' duration/intuition and temporalize space. It maximizes duration, which is the intuition of the world, of our deep inner selves. For example, in a Bazinian sense, the more ambiguous the drama of a shot, and the more likely the viewer is to maximize intuition. Also, with lingering, contemplative long takes (as Mark Le Fanu suggests in his essay on the long take), there is a stronger possibility for a viewer 'losing' themselves into an inner, intuitive experience where we may gleam images or impressions of ourselves that we would not otherwise -like a waking dream state but guided by the images we are seeing and less irrational than a dream. The film critic Philip Lopate understands this process when he discusses the experience certain films create for him as a viewer which appropriates a state of profane meditation:

> It may sound farfetched to speak of watching a movie as a meditative discipline...but parallels do exist. There is a familiar type of meditation called one-pointedness, which focuses the meditator's attention through the repetition of a single sound or mental image. Yet another meditation practice encourages the sitter to let thoughts fall freely and disorientedly, without anchoring them to any one point. ...At first I used to resist my mind's wandering during such films, thinking I was wasting the price of admission. But just as in Buddhist meditation one is instructed not to brush aside the petty or silly thoughts that rise up, since these "distractions" are precisely the material of the meditation, so I began to allow my movie-watching mind to yield more freely to daily preoccupations, cares, memories that arose from some image association. Sometimes I might be lost to a personal mental thread for several minutes before returning with full attention to the events onscreen; but when I did come back, it was with a refreshed consciousness, a deeper level of feeling.... certain kinds of movies -those with austere aesthetic means; an unhurried, deliberate pace; tonal consistency; a penchant for long shots as opposed to close-ups; an attention to backgrounds and milieu; a mature acceptance of suffering as fate -allowed me more room for meditation. (78-79)

(For a longer discussion of this 'contemplative' stare', see : Staring into the Soul: Sokurov's Povinnost)

In conclusion, Bergson's philosophy of time sprouted from the same 'moment' of great social, cultural, technological, and scientific change that gave rise to cinema. In 1824, thirty-five years before Bergson's birth, the scientist Peter Mark Roget first describes the phenomenon known as persistence of vision. Two years later Louis Jacques Mandé Daguerre and his associate Joseph Nicéphore Niépce produce the first photographic image of time. The years leading to Bergson's birth witnessed an explosion of optical toys and experiments centered on mechanisms which prefigured the illusion of the cinematic apparatus: continuous movement attained with light and speed. While Bergson was graduating from university, Étienne-Jules Marey's invented the "chronophotographic gun," literally a gun to "photograph time." Years later, their tenure at Collège de France overlaps by four years (1900-1904). Six years after the introduction of Standard Time and Frederic Taylor's 'time study' experiments with 'scientific management' (1883) Bergson writes his first book, *Time and Free Will*, a plea against the period's intense fragmentation and commodification of time. A year after the Lumiere brothers' famous train and H.G. Wells' writing of *The Time Machine*, Bergson writes *Matter and Memory*, his painstaking account of movement, perception, and memory. The Modernist artists of Bergson's time were quick to use his philosophical ideas of time and movement as inspiration for their art. The cinematic quality of the Italian Futurist art can be seen as a direct result of their attempt to capture the flux and energy of time with a static, plastic art. Bergson attempted the same with the written word and thought. Cinema completed the process by adding movement back to the reality of the 'image' to become the first art "to take an impression of time" (Tarkovsky, 62). Time is present in all art in one form or another, through either narrative, movement, theme, form, or spectatorship. But, as Gregory Currie argues, cinema is unique because it represents time by means of time: "Film is a strongly temporal art; it cannot but represent time by means of time" (103). Bergson was the first thinker to articulate the mechanism of cinema in its broadest sense: as 'moving matter.' With such a symbiotic link between Bergson's ideas and the 'idea' of cinema, we can see why Deleuze refers to Bergson as cinema's first 'film theorist.' It has been nearly a century since Bergson first talked about cinema, both directly and indirectly. This paper has been an attempt to introduce Bergson back into the 'thought' of cinema.

Endnotes

1) How one precisely defines space and time is dependent on one's position and the discipline involved. For example, most physicists will accord these same spatial qualities (homogeneous, divisible, etc.) to time (hence the term space-time). Bergson escapes this scientific definition of an absolute time by relating time to the personal and the human (consciousness, living organism, and creativity). To say Bergson is "wrong" in doing so neglects the important historical context of Bergson's position: writing against the tide of late 19th century, early 20th century determinism and the economic and industrial spatialization of time.

2) To be accurate, the creative act is not necessarily caused by time, but is its medium. To quote Andrew J. Reck, "Causality is performed by the process, the events, the agents, and not by time, though of course they need time to produce

their effects. Time, then, is not the cause of the work; it is rather then medium in which the work is done....If time is creative, then equally it is destructive" ("Bergson's Theory of Duration," *Tulane Studies in Philosophy*, 8, 1958, 47). In Bergson's process philosophy, however, he stresses Duration as a positive energy in reality. As noted, Bergson's glossing over of time's "nihilistic quality" (Reck, 47) must be seen within the social and cultural context of late 19th century, early 20th century materialist and determinist views of time.

3) As Arnold Hauser noted, Panofsky's terms 'spatialization of time' and temporalization of space' clearly have the earmarks of Bergson.

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