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Abstract

The paper aims at developing an account of time-consciousness that can integrate embodied experience and the materiality it is embedded in. Following Maurice Merleau-Ponty and his concept of the *flesh of time*, I will present an alternative to idealist and materialist theories of time. A concept of time, that can integrate the complex structures of bodily and technological relations, can account for the changes in memory formation brought about by technology. By going step by step through classic concepts of time of both the continental and the analytical tradition, I will show how the concepts gradually change from purely subjective or idealist accounts (Kant, Husserl, McTaggart) to more and more materialist accounts (Mellor, Hansen, Stiegler). Still the experiential aspects of embodied cognition and memory formation play no central role. Therefore, Merleau-Ponty's concept of the *flesh of time* will be introduced as a means to understand the generalized sensibility that comes with digital technology. This concept will not replace a differentiated account of time-consciousness and memory formation. It rather aims at bridging the gap between human experience and the material (technological) base. Thus, it can account for the fundamental changes in the construction of memory as we experience it in the digital age.

Keywords: Time consciousness, Memory formation, Technology, Embodiment, Ontology of time

1 Introduction

The construction of memory depends on the media we use as well as on the physical and social structures of our life-world. Memory evolves with the usage of technology in a broad sense. What we remember and how we remember it, depends on the interweaving of experience, materialities and technology. Storytelling has influenced how we conceptualize time and memory: It taught us how to imagine possible worlds, historical places and utopias of the future. Scripture, print and more recently digital technology shape how and what we remember. The wirings in our brains literally are different from those of our grandparents when it comes to the way we memorize things, how we feel the urge to remember and how we retrieve memories from the depth of our consciousness.

This paper takes the issue one step further and looks at constitutional theories of perception of time and memory. The aim is to identify constitutional factors and find ways to accommodate them within a theoretical framework. I will give a critical account of theories that either omit the material basis of memory formation or the role of experience. Both, as I will argue can be integrated and I will show this by referring to Maurice Merleau-Ponty's concept of the *flesh* (1964).

Traditional concepts of time and memory in the Kantian and analytical tradition omit the role of embodied experience and materiality for the constitution of time consciousness. Current approaches in media philosophy attempt to theorize how technology shapes perception of time. Mark B. N. Hansen (2006) and Bernard Stiegler (1998) present exemplary theories

which emphasize the non-conscious influence technology (*technological a priori*) exerts on human perception of time and memory. This paper aims at a critique of both, the traditional concepts as well as approaches using the *technological a priori*, because both fail to integrate the perceptual and experiential dimension of time consciousness and memory. Following Merleau-Ponty I will argue that account of the perceptual dimension of time-consciousness is needed in order to account for the changing ways in which memory is constituted in times of digital technology.

2 Idealist vs. materialist concepts

The widely used conceptual differentiation of A- and B-Series of time goes back to J.M.E. McTaggart (1908). He distinguishes time as structured by past, present and future (A-series), which comprises memory, perception and anticipation as cognitive modes on the one hand side and time structured by before/after relations (B-series) on the other. McTaggart took those two structural descriptions of time as ontologically not on par and asked which one of those is to be regarded as fundamental for the existence of time and henceforth is ontologically primary. He argued for a primacy of the A-Series (which emphasize perception and change of time) and argued that the B-Series cannot account for change. Relations of before/after stay the same no matter from which temporal position one looks at them. If an event lies in the future, is present or has already become past, is a process of change: the temporal properties of being past, present or future change in relation to the temporal position of the beholder. McTaggart defines change as the changing of the predicates of one event: At first the event is future, then becomes present and eventually will become past. In the B-Series an event takes a position in a succession of all the events coming before or after. This position never changes and hence change cannot be accounted for (the contemporary B-Theorists say the contrary). McTaggart concludes that the A-Series is fundamental to time, because only this series can account for change, which is essential to time. But the changing of the temporal predicates leads to a contradiction (McTaggart, 1908) and that is why time ultimately is unreal, which means it does not exist outside of human experience.

In the continental tradition of time theory, however, the question of experience or intuition of time is prevalent. The Kantian theory treats time as a necessary *a priori* form of intuition (Kant, 2009, p.178-182), hence Kant focuses on the subject as the ontological decisive fundament. With Kant time has come to be treated as a matter of cognition, most theories before treated time within metaphysics as a question of substance, e.g. Leibniz and Newton. Within the Kantian approach time is *dematerialized*. In Kant's definition of time as *transcendental ideal*, time is in not related to matter anymore. Instead time is treated as an immediate intuition with no outer correlate whatsoever.

The founder of phenomenological theory Edmund Husserl remained in this tradition but described the experience and constitution of time within the subject in much more detail. Other than Kant he analyzes the constitutional process of time within consciousness alongside the concept of intentionality. Both Kant and the phenomenological tradition in the wake of Husserl treat time as subjective, as *transcendental ideal*. Time does not belong to the material world, it is neither a property of things nor a substance in its own right. Time is a form of intuition, a way of conceiving of the world. In this sense time is a necessary condition of cognition – without time or duration there would be no objects to conceive.

With regard to the ontology of time McTaggart as well as Kant and Husserl agree: Time as we *experience* it does not exist outside the conceiving subject. It is neither a property of something nor a substance. That means that there are no past, present or future facts outside our minds and hence memory has no material basis. These dimensions of time are projected onto the world by our minds. The existence of time and hence of memory is tied to subjectivity. In McTaggart's theory memory is not a topic, since he regards time from a purely analytical perspective. Kant and Husserl take memory as a productive act of the cognizing subject. Thus, memory is conceptually close to phantasy: both modes of consciousness produce their object by an act of imagination. The fine-grained differences of productive imagination are developed in Jean-Paul Sartre's *The Imaginary* from 1940 (2010). Though Sartre follows the Kantian tradition in the idea, that time is *transcendental ideal*, hence does not exist beyond consciousness, he famously argues for the materiality of memory and all other forms of productive imagination. He describes how imaginative acts rely on a material basis (*analogon*) which triggers acts of reproduction of memory or mental imagery. Here temporal perceptions are tied to a form of materiality and causation.

Causation is the key concept within the *New B-Theory of Time*. D. H. Mellor (1998) for example aims at an ontological foundation of time via causality. Mellor as proponent of the New B-Theory of Time agreed with McTaggart only insofar as he also thinks that time as A-Series is unreal. He does not conclude that therefore time is unreal. He suggests that even if there are no tensed facts in the world, there is time in form of a B-Series. The ontological foundation of time is achieved by causality. The before/after-relation of cause and effect determines an innerworldly temporal structure that accounts for change as a necessary condition of possibility for time to exist. The B-Series that is fundamental to time in Mellor's sense is not the temporal order of events. This temporal order owes its temporality a deeper before-/after-relation, namely that of cause and effect. Causation makes things change with time, or else remain the same because even stasis is caused: something keeps a thing from changing. Mellor even translates Kant's theory of time into a causal theory. He holds that the temporal order of our perceptions is caused: "So the time order that these perceptions make me perceive is fixed by their causal order [...]" (Mellor, 2005, p. 631). Mellor's move defers the order of temporal events to a physical structure which governs not only the material world but also the inner world of perception and thought. In short: Mellor argues for the reality of time and takes time as based in causality. Causality is a concept that is, at least in Mellor's terms, not subjective. It is the fundamental structure of the physical world and minds are part of this physical world, that is why Mellor takes perceptions within the mind also as causally related.

3 Time as material process

Mark B.N. Hansen develops a concept of time that stresses the idea that time is not only defined by change but it can change itself (Hansen, 2006, p.209, 295) via subliminal processes of temporal materiality. He develops his account of time in the face of the new media art and its performative character. Following Merleau-Ponty Hansen focuses on the embodied character of perception and hence of time-consciousness. He draws on Merleau-Ponty's idea of the lived body and the concept of affect.

Time-consciousness and the experience of time are central questions in phenomenology. For Husserl it is the fundamental form of consciousness because every possible object of consciousness needs to be given in time. But time itself is never given as an immediate object. To analyze time-consciousness one needs according to Hansen and Bernard Stiegler (1998) a temporal object, which reveals the functioning of time-consciousness. Husserl's paradigmatic temporal object is a melody. A melody is a special form of object because it only appears within the flux of time. Time belongs to its form of appearance. In Husserl's theory, it is an immediate form of memory (retention) that constitutes temporal objects.

The paradigmatic temporal object for Stiegler is cinema/movie. Hansen develops his concept along the lines of new media art, mainly film/video. Since consciousness in phenomenology is understood to be necessarily intentional, it is always directed toward an object. Time-consciousness can thus be analyzed only in relation with its object, but *every* object is given in time and hence *is* a temporal object. Stiegler and Hansen stress the temporality and classify only a certain range of objects as temporal objects, namely those objects, which are extended in time without ever being wholly present at one moment in time.

The central question is: Why can different temporal objects tell different stories about time-consciousness? Or: How can time-consciousness change with its temporal objects? If this were true, then time-consciousness is a historically changing form of cognition. Hansen holds that there is no basic structure of time, time only exists in form of "myriad of temporalizations" (Hansen, 2009, p.297). Time in this view manifests or realizes itself in different medial forms. One paradigmatic form for the current historic situation is *digital inscription* (Hansen, 2009, p.297). Digital media constitute a temporal structure that reaches beyond human perceptual abilities according to Hansen and alters human ways of perceiving and remembering time.

Similar to Mellor's approach to define causality as the basic structure of time, Hansen takes media as constitutive of temporal perception. The main difference between the two approaches is that Mellor identifies one abstract structure that encompasses everything within the physical world. Hansen's concept of media is pluralistic in the sense that it comprises the whole variety of medial forms, which is consistent with his conviction that there is *no time in itself*. The reason why Hansen stresses plurality of media is that his arguments are directed against subjectivity of time. It is not the Kantian *a priori* structure of subjectivity in which time is based but the temporal structure of media. Media is understood as a material means to induce temporal intervals that are not constituted by the subject. This idea can also be found in Stiegler's theory: He holds that temporal objects like film induce *not-lived* memories by means of technological reproduction that influences and alters non-consciously embodied perception of time.

Hansen *combines* the idea of a medial *a priori* with a phenomenological understanding of time-consciousness in his readings of Merleau-Ponty and Husserl. In Husserl objective time or the innerworldly origin of time-consciousness is explicitly not a subject of phenomenological analysis (Husserl, 1991, p. 10). Merleau-Ponty broadens the concept in his late work on *The Visible and the Invisible* and integrates the subject's embeddedness and alikeness with the world of the objects and things in the phenomenological setup. Hansen draws on that approach: His considerations of the ontological foundation of time seems to stand in no substantive relation to his concept of experience of time. He takes time-consciousness to be an *embodied* consciousness. This is a point he stresses in his 2004 interpretation of the media artworks of Douglas Gordon and Bill Viola. Here the question arises: In how far is Hansen's idea of embodied time-consciousness compatible with his medial *a priori* in his 2009 essay on technical time?

I will outline shortly Hansen's two premises and then confront them with Merleau-Ponty's notion of the *flesh of time*. First some words on the question of embodiment: Hansen reads Gilles Deleuze in his elaborations on the *time-image* in cinema as a theorist of disembodiment because in the time-image the image-inherent logic is not the one of the moving body like in the *movement-image*. In separating the image from the engaging perspective of the moving body, time becomes the object of the representation. What film represents when it uses the technique of the *time-image* rather than that of the *movement-image* is *pure time*. When the camera is no longer a substitute of the moving body, its images reveal something that does not correspond the world as an embodied subject sees it. What appears is a logic of time which is no object but still can be represented by means of media.

Stiegler follows this Deleuzian direction of disembodiment when he characterizes technics as the "pursuit of life by means other than life" (Stiegler, 1998, p. 17). In his later works he elaborates on technically constituted temporal objects, namely film, as a means to disclose the temporal structure of consciousness. He does so in following Husserl's analyses of the inner time-consciousness, which are guided by the temporal object of the melody. Stiegler substitutes the melody by film. Cinema is according to Stiegler the paradigmatic temporal object that informs our time-consciousness. Just like Husserl he lays emphasis on retention (as primal form of memory) as the basis of time-consciousness. Here Hansen notes a tendency toward disembodiment: Stiegler combines Husserl's emphasis on retention with an idea of a medial *a priori*. He introduces a third kind of recollection of the past besides the retention (which is the immediate past that is kept in mind in the present moment) and memory (the active reproduction of past events). Both are distinctive acts or modes of consciousness. The concept of *tertiary memory* does not describe a mode of consciousness but the externally stored past. This medial stored past involves images that *have not been lived* by the subject. Stiegler proposes a "structural coupling between media technology and consciousness" (Hansen, 2004, p.597). Time-consciousness, to put it in extremely simplified terms, is structured by external intervals, it is invaded by technologically constituted temporal patterns and memories. In Stiegler's theory those patterns are essentially cinematographic and build upon external storages of memory.

Hansen criticizes this approach by outlining that Stiegler takes the cinematographically informed consciousness as a "universal model of perception" (Hansen, 2004, p.600) whereas for Husserl the temporal object of the melody figured as a heuristic means to describe time-consciousness. In Stiegler's emphasis on retention – tertiary memory induced by film – Hansen detects a move toward disembodiment just as in Deleuze. Hansen concludes that the impact of tertiary memory on the selectional process of perception neglects the subjects "embodied history" (Hansen, 2004, p.600), because of Stiegler's focus on the *non-lived memories* (memories that are external to the subject or do not belong to its experiences) that are inserted into the subject's mind by cinema. According to Hansen he neglects the crucial role of embodied perception, which preselects the percepts according to its own standards and experiences.

The question is how Hansen integrates the body within his approach on time. In his reading of Husserl and Merleau-Ponty he emphasizes the dimension of the future, of protention rather than retention. In Husserl, the concept of protention is not developed in great detail. Protention means anticipation of the perceptions yet to come. Those anticipations are formed on the basis of retention, of what has just passed. Francisco Varela, who reads Husserl from neuroscientific perspective, proposes a whole other view on protention: He takes protention to be fundamentally different from retention. Protention is not a mere educated guess what will happen soon by means of what happened just now. Rather protention figures as the dimension of affect. Hansen defines affect by referring to Francisco Varela: "the phenomenological correlate of the neural dynamics from which the present emerges and is therefore inseparable from the protentional dimension of time consciousness. [...] protention intends the new prior to any impression or perceptual present" (Hansen, 2004, p.608).

Hansen uses the concept of affect to argue for time consciousness as embodied. He takes it as basis of his description of time-consciousness. The protentional dimension of affect is central because it explains the openness of perception for the new. Newness in this concept is not a radical alterity but alterity that is made available by embodied cognition, by the subject being a visible object within the world of other objects. In Merleau-Ponty subject and object are no *a priori* categories. In a genetic perspective, an experiential process. The intimate (primordial) togetherness of subject and world is the condition of possibility for newness and affective relation. Hansen takes this primordial *being with the world* as basis of a contamination of time-consciousness by a "non-lived" which is not a "recurrence of a tertiary past" (Hansen, 2004, p.610). Rather the new or non-lived stems from the material infrastructure of the "thickness of the preobjective present" (Hansen, 2004, p.611). Up to this point I agree with Hansen. In his interpretation of Merleau-Ponty's theory he does not consider what the coupling of subject and world does to the material infrastructure. The opening of a perspective within the world also affects the world or the material infrastructure. Not only the objects and in this case the technical temporal objects of media contaminate time-consciousness. The category of the object in Merleau-Ponty emerges with the one of the subject. This theoretical dimension has gone missing in Hansen's theory. He opens the structure of time-consciousness to technical induced intervals but does not reflect the impact of their being perceived by a subject.

On the one hand side, there is the problem that Hansen uses the so-called B-Series (before/after) for the ontological foundation of the A-Series-structured (past, present, future) time-consciousness: In his elaborations on the medial basis he refers to a minimal before/after-structure that is induced by medial temporalizations. Here he uses the a-subjective B-Series to explain altered experience of time, which is in itself structured by tenses and the subjective present. How this minimal structure turns into a thickness of the subject's present remains an open question. This problem also occurs in Mellor's theory and he also falls short of an explanation how human perception constitutes tenses from the minimal before/after-relation of its input. Here a phenomenological approach needs to be integrated within the ontological considerations. For the question of constitution Hansen refers to Francisco Varela's concept of *affect* (Varela, 2005). By affect he means a property of perception, which is the condition for openness to new impressions (Hansen, 2004, p.609) but is itself not filled by any impression. Affect is not to be confounded with anticipation, which itself is an intentional stance informed by experiences of the past. Affect in Varela's and Hansen's version has as neural correlate a structure that is different that of present-time consciousness (Hansen, 2004, p.608) and hence is involved in the constitution of the passage of time. That makes protention the primary source of time consciousness though it still does not explain its tensed structure.

Hansen does not elaborate how the emergence of the subjective structure in turn influences the material/medial structure of the perceptual world. This is a very complex question since it brings up the problem of media. In Hansen, I see two possible scenarios at stake: 1. Media have coevolved with human cognition and hence human cognition including experience of time has always be informed by media. 2. The age of digital media imposes new temporal structures that are *not* modeled according to the possibilities of human perception but still inform and alter our perception and memory. Both scenarios are present in his considerations (Hansen, 2009, p.297). The crucial point in Hansen is that technology constitutes a minimal temporal structure that is independent of intellectual synthesis, he calls it a "purely technical temporal synthesis" (Hansen, 2009, p.298). Time then is *artifactualized* rather than synthesized by a cognitive agent. The experience of time builds on those pre-established structures according to Hansen.

With the new digital art time becomes detached from subjectivity in the sense that those forms of art artifactualize time not according to the human paradigm. Hansen exemplifies his idea describing Wolfgang Staehle's video-installation *Empire 24/7* (for a description see Hansen, 2009). He concludes that:

'By way of it's (Empire 24/7, Y.F.) constitutive hybridity – its capacity to present what is (normally) unpresentable, to aestheticize and mediate what remains beyond aesthetics and media – Empire 24/7 manages to capture and to express our cultural passage to a new kind of temporal reality, one in which human time-consciousness has been marginalized, or perhaps more accurately, in which the functioning of time-consciousness and the functioning of technical inscription of time have parted ways. By presenting to spectatorial consciousness what normally remains below its perceptual threshold – the technical artifactualization of the minimal before-after structure of time – Staehle's work thus demonstrates how extensively processes of temporalization, including those of human temporalization, depend on post-mediatic technics' (Hansen, 2009, p.298).

The term *postmediatic technics* means that technical temporal objects become surrogates of human time-consciousness, temporality becomes *technically distributed* (Hansen, 2009, p.298). Essentially, what happens here is the oppositional move to the traditional Kantian position. Had Kant moved time *into* the subject and its cognitive architecture, Hansen does the opposite: He deletes the subject and projects time back into the material structure of technology. He is talking of technical rather than medial time because media implies the subject as user, perceiver, agent. The reason why Hansen stresses digital art is that he sees a potential of broadening the human access to the material structure of the world (Hansen, 2006, p.266). In this view the technical world is granted an own form ratio detached from human cognition. It is certainly true that most of the machines today have a form of unconscious cognition. In many technical processes information leads to differentiated reaction in

technical devices, whether this justifies the concept of technical synthesis has to be discussed elsewhere.

Merleau-Ponty's notion of the *flesh of time* (*la chair du temps* in French, see Merleau-Ponty, 1964, p.148) aims to overcome exactly this tension between ontology and phenomenology of time. As I have shown, Hansen's concept tackles the question of ontology of time (defining it as non-substantial and material-dependent) as well as the subjective experience of time and its structure. Both aspects are not really integrated within one theoretical approach. The strength of Hansen's approach lies in his minute analysis of temporality in digital art. Accordingly, he stresses the dimension of future in human experience of time (by elaborating on the concept of affect). On the side of the material though there seems nothing but a minimal temporal structure of before and after realized by technical devices. On the side of the cognizing subject there is the complex structure of past, present and future. How these two dimensions go together remains vague. Merleau-Ponty's notion of the *flesh* can help to conceptualize this gap.

The flesh is a concept that is derived from embodied experience (Merleau-Ponty, 1964, p.189). The organic flesh mediates touch and can be touched – it is the place where the intertwining of perceiving and being perceived fall together. Merleau-Ponty gives the concept of the flesh a broader meaning: Speaking of “le tissu de l'expérience” (Merleau-Ponty, 1964, p.189) he uses the term to describe experience and the experienced world as a coherence. In his ontology, the perspective of the subject alters the material world. With the perceiver, the dimensionality of the world is different from that of a world without subjectivity. He characterizes the dimensionality of a world containing subjectivity as *depth* (Merleau-Ponty, 1964, p.268) – the concept of depth contains the invisible, the nothingness: This can only be a feature of a world containing subjectivity. Depth is the dimension that implies invisibility as well as openness – what Hansen (citing Varela and Merleau-Ponty) calls *affect* on the side of the subject. Affect is also an empty structure: if we understand consciousness as intentionality, affect is empty intentionality. It abstractly aims at the new without having it predefined yet. With the concept of the flesh Merleau-Ponty describes the structure of perceiver/percept as pertaining to one structure of perceptibility/visibility enrolled within the materiality of the world.

What Hansen describes as technics or media bears necessarily traces of human cognition from which it originates. Even though technical structures have developed into a hyper-complex structure that transcends the simple user-device-relation, there is a correlation with subjectivity in a broad sense. Technology participates in the same structure that comprises also human cognition. There is no ontological gap between the time of the machines and our bodily (maybe shortcoming) temporal experience. If we think of the material world as a structure permeated by subjectivity then technic bears traces of this permeation. Shedding a perspective on the world opens up the subjective structure. In this process of opening up, objectivity co-emerges with subjectivity. Both ontological categories are intertwined and their constitution is a temporal process that never ceases (for a description of that process see Merleau-Ponty, 1945).

Other than to oppose technical and lived time a concept that comprises both is needed. Hansen has made a good start in doing so, still the gap between human and the machine seems to wide. In my view a philosophical concept of time needs to be compatible with theories of embodied and embedded cognition (as Andy Clark, Alva Noë and others are proposing). Especially the notion of cognition as embedded in an environment and the environment being constituted by cognizing agents represent the contemporary version of Merleau-Ponty notion of the flesh. A concept of time needs to integrate the intertwining or the mutual influence of subjective and objective structures and not reinforce their opposition. One proposal would be to extend Hansen use of the concept of affect and combine it with Merleau-Pontian concept of the flesh. This concept has the advantage to integrate both perceptual and ontological aspects of time. Furthermore, the concept of the flesh in relation with depth in Merleau-Ponty can also accommodate the notion of the tertiary past or non-lived memory as Stiegler presents it, because the material/perceptual intertwining of the flesh allows for memory as housed in the material.

4 Conclusion

The main problem to tackle here was how to develop an account of time-consciousness that can integrate embodied experience and the materiality it is embedded in. From this point of view perception of time and the formation of memory coincide. Both are mediated through a complex structure of bodily and technological relations. By going step by step through classic concepts of time of both the continental and the analytical tradition, I showed how the concepts gradually changed from purely subjective accounts (Kant, Husserl, McTaggart) to more and more materialist accounts (Mellor, Hansen, Stiegler). Still the experiential aspects of embodied cognition and memory formation play no central role. Therefore, I introduced Merleau-Ponty's concept of the *flesh of time* as a means to understand the generalized sensibility that is introduced by digital technology. This concept does not replace a differentiated account of time-consciousness and memory formation as Hansen presents it. It rather aims at bridging the gap between human experience and the material (technological) base. Thus, it can account for the fundamental changes in the construction of memory as we experience it in the digital age.

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