Living (with) Technical Time
From Media Surrogacy to Distributed Cognition

Mark B.N. Hansen

Abstract
This article proposes that time is not so much constituted by time-consciousness as given by technical inscriptions of time (including those performed by time-consciousness). The ‘digital gift’ of time that comprises one fundamental mode of this giving of time correlates with Aristotle’s conception of time as ‘the number of movement according to the before and after’; more specifically, it furnishes a minimal form of temporal difference – a minimal before-after structure – that proves useful for exploring how the experience of time has changed today. The article argues that we increasingly live time not, as philosopher Bernard Stiegler argues, through neo-Husserlian temporal objects like the cinema that model the flow of time through our consciousnesses (or our brains), but rather with the aid of artworks that eschew the objectal in favor of the processual. In works like Wolfgang Staehle’s Empire 2417, Pierre Huyghe’s L’Ellipse and Lynn Kirby’s Six Shooter, we confront open-ended digital structures that provide us with a technically-specific mediation of the minimal before-after structure and allow us to participate in more heterogeneous enframings of time that move beyond the temporal ratios of human perception. The article closes with a brief discussion of contemporary Chinese art that serves to broaden the proposed ‘digital aesthetic’ of time beyond the ‘digital’ construed narrowly as a concrete technical platform.

Key words
Aristotle ■ art ■ digital technics ■ Edmund Husserl ■ Pierre Huyghe ■ phenomenology ■ Wolfgang Staehle ■ Bernard Stiegler

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LET ME begin by stating a seemingly banal proposition: time has changed in the wake of the digital computational revolution. While familiar to most of us (if only as an unavoidable cliché of our global advertising and televisual culture), this idea has received relatively little serious attention, even by those scholars most directly concerned with overcoming the repression of technics in Western philosophy. In this article, I shall pursue some fundamental questions bound up with this idea. What, for instance, can it mean to assert that time has changed, given that time has been associated by Western thinkers with the very process of change itself? And what can it mean to say that this purported change in time is related to a revolution in the technico-material infrastructure of our world? Can we meaningfully speak of a ‘digital time’ or a ‘time of the digital’ as a distinct form of time concretely different from other, earlier forms of time? What, finally, might such a distinction teach us about time as such and about the historico-technical being of time in the world?

To make these questions salient, let me begin by invoking a recent work of media art that crystallizes what I shall later refer to as the ‘digital gift’ of time. The work is German artist Wolfgang Staehle’s *Empire 24/7*, the inaugural exercise in what has become a series of webcam projects that deliver to gallery visitors in specific locales and to online observers around the world ‘live’ video feeds of various global sites, including the Empire State Building, a monastery in Germany, the Radio-TV tower in Berlin, downtown Manhattan, and most recently assorted bucolic vistas of the Hudson Valley region in upstate New York. As its title indicates, *Empire 24/7* consists of nothing more than a ‘realtime’ web-cam feed of images of the Empire State Building that began at the moment Staehle set up a camera in the office he had rented for his online project, *The Thing*, and that would last until he lost the lease on the office and, with it, the camera’s vantage point onto the Empire State Building (see Figure 1). In an art historical context, Staehle’s project updates another, far more famous work, Andy Warhol’s eight hour exercise in probing the limits of spectatorial fatigue, simply called *Empire*. Indeed, it may well be that Staehle’s work owes to its divergence from this crucial precursor its capacity both to speak to the difference of digital time and to exemplify the digital gift of time.

Far from a simple imitation of Warhol’s film, Staehle’s work relates to its crucial precursor in the mode of technico-aesthetic confrontation. Whereas Warhol’s registration of the Empire State Building during a six hour period from dusk to night furnishes a limit experience of cinematic duration,¹ Staehle’s work signifies in a different ‘esthetic’ register altogether: that of the formal indifference of an iterative infinity (or perhaps more accurately, an open-ended, indeterminate finitude). *Empire 24/7* thus poses the question of whether the ‘cinematic temporal object’ (even one as protracted and problematic as Warhol’s *Empire*) can still lay claim to mediating temporal experience in a world permeated by digital computation. As a digital artfactualization of computational time that nonetheless appears within the thresholds of human perceptual experience, *Empire 24/7* asks
whether contemporary technical mediations of time are in fact *beyond aesthetics*, which is to say, operative at a level and with an autonomy that simply bypasses circuits linking technics and human beings, circuits that our culture conceptualizes under the name of ‘media’.

I shall discuss the concept of the technical temporal object at some length below. For now, let me try to state my claim concerning technics beyond media in the form of a simple thesis: *Empire 24/7* participates in an altogether different technical regime for the processing of time than that which informs the ‘technical temporal object’, as this has been theorized by contemporary philosopher Bernard Stiegler. (Following in the footsteps of phenomenologist Edmund Husserl, Stiegler has convincingly shown how consciousness must take a surrogate object, an object constituted out of the flux of time itself, in order to reflect on its own content, namely the flux of
time through the brain. Such an object is a temporal object. As we shall see, Stiegler proposes cinema as the exemplary contemporary temporal object.) Empire 24/7 is emphatically not a surrogate for the flux of consciousness, and is, for this reason, utterly unlike Warhol’s objectification of boredom, which remains a finite and determinate ‘cinematic temporal object’ despite its contestation of conventional cinematic temporality. Eschewing the logic of surrogacy as such, Staehle’s digital Empire inscribes time’s flux independently of any synthesis of consciousness and thus prior to the differentiation of lived and artifactual time. Exemplary of an ‘aesthetics’ that embraces the vast scale of contemporary technics, Staehle’s Empire is more a ‘diachronic thing’ than a temporal object: not only does its open-endedness cause it to diverge from recording media as commonly understood, but it presents a temporalization that by definition exceeds capture in the form of the temporal object. In Empire 24/7, technics does not provide a means to artifactualize experience as recorded memory, a necessary surrogate for a finite human capacity; quite to the contrary, technics here supports the operation of what we might well call ‘primary presencing’ or ‘asubjective retention’ – the production of a minimal form of temporal continuity that is, as philosopher Dominique Janicaud puts it, precursory to all forms of temporal experience, to aesthetics and to media (Janicaud, 1997).

As artifactualized in Staehle’s work, technics does not befall time after time’s proper happening, but is fully integral to that happening; more than just the durable inscription of a fleeting event, the digital inscription of a minimal temporality supports the production of a primordial presencing on the basis of which (objective and subjective) events can take place.

Let me be clear that it is not my intention to suggest that the digital inscription of a minimal temporality – a ‘bare bones’ before-after – somehow manages to capture time in its basic structure. As I shall argue shortly, there simply is no time-in-itself (or time in its basic structure); time only comes to exist through the myriad temporalizations that generate its fundamental heterogeneity. What I do want to claim about the digital inscription of time is the following: (1) that it comprises the most fine-grained artifactualization of the irreducible delay (or thickness) that is constitutive of time in our world today, which is also to say, in the entirety of history up to the present moment; and (2) that, for this reason – and despite the fact that it differs only in degree from all other mediations of delay (including the ‘true’ second of the pendulum clock and the longue durée of cosmological inflation) – it should hold a certain privilege both in the concrete production of contemporary temporalizations and in the theorization of what time is and what role technics plays in its operation. I cannot, of course, claim that Staehle’s Empire 24/7 itself presents the digital inscription of time at the extremely fine-grained, sub-perceptual, computational scale at which it happens; indeed, no artwork could do this, since this scale is by definition beyond the grasp of media and aesthetics. But what Empire 24/7 does – and does exemplarily – is to aestheticize the digital inscription of minimal time: it furnishes a technical artifactualization of the minimal before-after structure
of time that is built upon and alludes to the fine-grained computational temporalizations underwriting contemporary technical regimes of time.

This is an element of the work that is perfectly captured in filmmaker Keith Sanborn’s description of its operative mechanism: ‘as a consequence of this continual transmission [of date-stamped updatings of the Empire State Building at an interval of about 20 seconds].’ Sanborn presciently observes, ‘no more than two frames of it need ever be recorded in order for it to “exist”’ (Sanborn, 2002, my emphasis). Empire 24/7, that is, presents an artificialization of the minimal before-after structure constitutive of time that, because of its embrace of technical obsolescence (Staehle purposefully uses outmoded surveillance technology which samples at a delay of 20 seconds), just so happens to remain within the bounds of human perception. Despite the fact that Empire 24/7’s sampling of the minimal before-after structure takes place at a level compatible with human experience (and with aesthetics and media time), its machinic articulation of two frames constitutes a minimal materialization of time that, coupled with an attendant speed, instances a purely technical temporal synthesis (or temporalization) unconnected to any act of presentification. The compatibility of this technical synthesis with human experience remains secondary in the sense that it comes after and builds upon a materialization of time that is independent of any synthesis of consciousness or operation of self-reference.

Staehle’s Empire 24/7 explicitly invokes a normative operation of techics as a ‘machine’ to artificialize time in our world today. That is why Empire 24/7 is an exemplary vehicle for assessing the ‘digital gift of time’: specifically, it helps us to take stock of the extensive work of temporalizing that is currently carried out by technical artifacts in our world today. By way of its constitutive hybridity – its capacity to present what is (normally) unrepresentable, 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 artificialization 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 techics. A situation in which the technical temporal object could serve as a surrogate for human time-consciousness has given way to one in which temporal processing has been technically-distributed, indeed, so radically technically-distributed that consciousness now finds itself the ‘optional variable’, as Friedrich Kittler doesn’t cease to remind us. What Empire 24/7 brings home to us, then, is nothing other than our temporal situation, in all its technical complexity: in today’s world, human beings temporalize in conjunction with and on the basis of largely-autonomous technical inscriptions of time by computational machines; and while these
inscriptions certainly function to support human actions, they cannot themselves be fully experienced or adequately understood by human cognizers, which is to say, as the content of (human) time-consciousness.

With the example of Staehle’s Empire 24/7 in mind, I want to suggest that time has always been imbricated with techics and that today’s situation is simply the latest stage in the technical artifactualization of time. Not only does such a position neutralize in advance arguments that view digitization as a simple if radical break with technical regimes of the past, but it also foregrounds the more complex disjunction of technical processes of temporalization from human time-consciousness as the specific impact of digitization, as the context in which digitization matters. Accordingly, to grasp what is concretely at stake in the proliferation of ‘new’ media throughout contemporary global society, we need to focus on how digital technology impacts our experience of time and, more exactly, on the shift in the artifactualization of time from ‘cinematic media objects’ to more fine-scaled digital inscriptions that refuse to be bound in objectal form.

The ‘essential’ correlation between time and techics which I invoke here finds exemplary expression in the argument that there is no time-in-itself, that there is time only through concrete processes of temporalization. Expressed in the myriad failures to name time as such that litter our Western philosophical literature, the notion that time is only accessible, and indeed only exists, as the ‘après-coup’ of a concrete temporalization connects directly to the claim, advanced by Aristotle, that time depends on measurement (time, he famously declares, is the number of movement).

This is to say, equally, that time is ‘essentially’ technical, as French philosopher Dominique Janicaud astutely points out in his insightful study Chronos. According to Janicaud, time’s essential technicity cuts across all efforts to demarcate an authentic from an inauthentic, a real from a merely phenomenological time, an experienced or lived from a technical time. ‘There is time,’ Janicaud suggests,

only as measured; time is never ‘pure.’ Measurement makes time appear, but this emergence cannot be restricted to our ‘clocktime’... [C]lock time does not comprise, either empirically or conceptually, an absolutely homogenous unity: it has a history, a relativity that is under constant control and is ceaselessly brought to a halt... [T]he two senses [of measure] overlap... [T]here is no strict divide between ‘clocktime’ and lived duration. There is purity neither on the side of duration, nor on the side of the objectivity of leveled time. (Janicaud, 1997: 108–9)

This conception of time as essentially technical lies at the core of philosopher Bernard Stiegler’s recent effort to rehabilitate the Husserlian concept of the ‘temporal object’ to conceptualize our experience of time today. (Husserl proposed the melody as a temporal object, meaning an object that is not only in time but is constituted out of the flux of time; in this role, the melody comprises an object capable of mirroring the flux of time that
furnishes the content or ‘manifold’ of consciousness itself, and thus a vehicle for clarifying the structure of time-consciousness itself.) Stiegler has compellingly argued that ‘cinema’ (by which he means the entirety of contemporary global televsional media that have grown out of the institution of cinema) forms the exemplary contemporary temporal object for reflecting on time-consciousness. He argues that cinema furnishes the general technical support for our experience of time, and that, as a consequence, consciousness ‘has an essentially cinematographic structure’ (Stiegler, 1998: 68; see also Stiegler, 2001).

By this, Stiegler means that consciousness – or more exactly, time-consciousness – operates through a process of selection that is not only essentially similar to the process of cinematic editing, but that necessarily depends, in our world today, on the technical objectification afforded by cinematic temporal objects. By dubbing consciousness ‘essentially cinematographic’, Stiegler emphasizes the bidirectional selectional basis of consciousness: new experiences (new ‘primary retentions’) are produced as a result of the selectional activity of ‘secondary memory’ which itself increasingly has to rely on recorded technical memories (‘tertiary retention’) for its content. Just as each new scene in a film relates to what came before via a double temporality – it both temporarily culminates all the past scenes leading up to it and (potentially) occasions revisions in their meaning and interrelations – so too each new ‘now’ of consciousness is the result of selective pressure from the past but also the (potential) source for revisions in the meaning of the remembered past. Like the cinematic present, the living present of consciousness selectively draws on the past in the very process of selectively reordering that same past.

It is this structural homology between selection and (time-)consciousness that allows Stiegler to institute cinema as the successor to Husserl’s melody. At stake in this institution is much more than a mere updating, however, since the turn to cinema vastly extends the scope of the objectification of consciousness in the form of the temporal object. As exemplary technical temporal object, cinema facilitates a far more effective binding of the time of consciousness than does the melody (which by its very nature allows for the creation of extensive temporal complexity): it operates by capturing the time of consciousness as the free time of imagination. This power of cinema, explains Stiegler, results from the ‘conjunction of two coincidences’: first, the photo-phonographic coincidence of past and reality (Roland Barthes’ ‘that has been’, ‘ça a été’) and second, the coincidence between the film flux and the flux of consciousness of the film’s spectator. To these, Stiegler adds a crucial third coincidence: the so-called realtime flux of contemporary global television or the coincidence of the time of registration with the time of broadcast (Stiegler, 1998, 2001). In a series of recent books, Stiegler has explained how these coincidences support a standardization, what he calls the ‘hypersynchronization’, of the time of collective consciousness: by offering us standardized collective secondary memories that form the basis for selection of new presents and for the
projection of the future, the contemporary culture industries submit the process of time-consciousness to a powerful industrialization. Indeed, for Stiegler, the power of the culture industries arises from their capacity to control the selectional process through which time-consciousness functions: today’s culture industries have wrested control, not just over the content, but over the very mechanics of our temporalization. The result, as Stiegler depicts it, is unremittingly grim: ‘Today . . . the function of the culture industries and industries of programs is to take control of the process of constitution of secondary collective retentions, to substitute themselves for inherited preindividual sources, and to compel the adoption of retentional sources conceived according to the demands of marketing’ (Stiegler, 2003: 154, my emphasis).

Before simply assenting to this allegedly inexorable conclusion, it behooves us to interrogate some of the key assumptions that inform Stiegler’s approach. As I see it, Stiegler’s picture of the industrialization of consciousness acquires much of its critical force – and all of its neo-Frankfurt School grimness – from the notion that technical time operates by substituting itself for the content of consciousness. Behind this notion lies an unquestioned assumption that technical time operates as a content that is homologous to the ‘lived experience’ [Erlebnis] of consciousness as Husserl understands it. Notwithstanding the extent to which technical time undermines the fundamental Husserlian reduction of the natural attitude – since dependence on a surrogate technical temporal object can only be a dependence on an objectivity in the physical world – Stiegler’s project remains perfectly faithful, on a more general level, to the Husserlian motif of the primacy of consciousness. This fidelity, I would suggest, cripples the force of Stiegler’s opening of time-consciousness, and more generally, of the experience of temporality, to technics; specifically, it narrows what can count as a technical mediation of time to those technologies of temporal inscription – technical temporal objects – which respect, provide surrogates for, and generally remain homologous to the operations – and the time-scale – of human (time-) consciousness.5

What if we began, instead, not by assimilating technics to the function of consciousness but by attending to the concrete processes of temporalization that characterize contemporary technics? As we can see from the example of Wolfgang Stachle’s ‘minimal’ inscription of time as before and after, digital, computational technologies would appear to inscribe or measure time in ways that are far more open and flexible than, say, the measure imposed by the 24-hour programming schedule of today’s cable television, and indeed for purposes vastly divergent from that of modeling the flux of time characteristic of human experience. Digital technologies inscribe time for a myriad of practical functions, from the microprocesses of computational networks to the super-powered measurements of atomic clocks and global positioning satellite systems that are now so ubiquitous in our world; more and more, as geographer Nigel Thrift has pointed out, these inscriptions form the infrastructure, the ‘technological unconscious’, for our daily activities in the world today (Thrift, 2004). Against the grimness of
Stiegler’s neo-Frankfurt School picture of media industrial control of consciousness, I thus want to suggest that this openness and flexibility allows digital technology to inscribe time in a way that remains open for divergent deployments, and that remains essentially unbound to any concrete temporalization. Digital inscription yields a time that is not constituted but given, a time that gives itself for myriad and potentially incomposable temporalizations. Precisely because of its minimalness, its inscription of nothing more than the simple before-after that is common to all concrete processes of temporalization, the digital inscription of time possesses and retains a certain generality, a commonness, an availability for divergent deployments that, I submit, differentiates it markedly from all narrowly mediatic subsumptions of time. In this sense, digital inscription is itself a process of temporalization, but one that is unlike any other: it does not bind time in a restrictive form, does not subordinate it to the ends of any concrete experience. And in particular, it does not bind time to the form of human time-consciousness, to the flux constitutive of lived experience.

It is this commonness of the ‘digital gift’ of time, its openness for divergent deployments of time, that explains the promise so many have invested in today’s myriad digital devices. Precisely because the use of these devices is not predetermined in near totalitarian fashion by the content they would channel and by a system of one-directional broadcasting, they broker a contact with time – the giving of an expanded field of temporalization – that is not already narrowly correlated with the temporal constraints of so-called realtime media or even with those of human sensory ratios. They thereby preserve an openness to the alterity of time, to time as the power of alterity, to speak with Emmanuel Levinas. The divergent practical affordances of contemporary digital devices offer access to the heterogeneity of time, or more exactly, to time as heterogeneity, as a virtual or preindividual source for divergent and potentially incomposable temporalizations. As inscriptions of a before/after structure that philosophers, from Aristotle on down, have identified as time’s most minimal (though to be sure, necessarily embodied) form, digital inscriptions would appear to support a far broader range of potential temporalizations than previous worldly mediations of time, from the earliest sun-dials to the so-called realtime flux of global television. This range not only extends beyond the restricted scope of ‘media time’ as conceptualized alternately yet homologously by Steigler and by the masterminds behind today’s culture industries; it also extends beyond the temporal thresholds characteristic of human sensory perception, which is to say, of time-consciousness itself.

It is precisely in order to move beyond figures of synchronization or surrogacy – together with the humanism such figures imply – that contemporary critics have turned to today’s myriad digital devices; as mediations of the digital inscription of time, such devices engage a different, far more open temporality than that of today’s culture industries. Indeed, these now totally commonplace devices engage with time independently of or ‘prior’ to its assimilation at the scale of human consciousness, as a minimal
inscription of before/after that is neutral in relation to any particular temporalization. Because they tap into the heterogeneity of time, these devices facilitate ‘hybrid’ temporalizations and instantiate processes of temporalizing that can only be accomplished through technically-distributed cognition.

The open-endedness of these devices as supports for temporalization helps to reveal just how central a role technical (i.e. digital) inscription of time plays in our world. These devices function by expanding human agency within highly complexified environments encompassing multiple, heterogeneous temporalities; as such, they are correlated or ‘calibrated’ to human bodies not directly but by way of the ‘commonality’ of minimal time inscription, at a level of temporalization that precedes (logically if not chronologically) later differentiations, which is to say all differentiations that specify particular ‘experiential’ regimes of temporalization, including those which distinguish human experience from the technological unconscious.

In his work on our contemporary clocktime regime, cultural critic Adrian MacKenzie has grasped the crucial role played by the technical inscription of time. Clocks, writes MacKenzie, ‘time bodies and machines, and mediate their linkages in diverse ways’ (MacKenzie, 2002: 89). Because clocktime supports the infrastructure of contemporary global culture – because ‘its measure is synchronized around the earth’ – clocks, rather than bodies, comprise the privileged mediator of time today. Clocks literally put humans into relation with the vast domain of sub-perceptual rhythms and flows that undergird our globalized world.

Despite how it sounds, to say that clocks mediate bodies and machines is not to impose an industrial standardization on their linkage(s). This is because, as MacKenzie argues, clocks materialize a historically-changing mediation of minimal delay. No matter how fine-scaled their operation, they capture the ‘instant’ as some minimal thickness of a passage from before to after. Accordingly, clocks (and this holds for any technical inscription of time) will never open onto some atomic structure of time in itself. ‘Clocktime as it moves between 1 oscillation and 9 billion oscillations per second can be seen as a temporal and topological ordering that continues to unfold from a metastability. The way in which clocktime incorporates new sources of variation, and restructures itself in the process, can be compared to the provisional resolution that a crystal represents for the metastable supersaturated solution’ (MacKenzie, 2002: 104).7 Never just an artifact of a purely technical history, clocktime comprises the technical capture, in the form of ‘the isochronic constraint necessary for autonomous time’, of the material and social rhythms constitutive of life at a given moment in history. Underneath the standardized, isochronic units of clocktime, there seethes a dynamic materiality not different in kind – though different in degree, to be sure – from the biological and social rhythms constitutive of human life. When he says that the clock – or better, the temporal inscription of time – mediates the linkages between bodies and machines, MacKenzie in effect introduces a concrete mechanism for the myriad concrete temporalizations
of technical machines to hook up to the temporalizations of human beings. In this way, he also introduces a crucial historical element to that linkage — a history of different technically-supported regimes of inscription of before-after — which can shed light on the contemporary functional coupling of humans and computational technologies.

Against this historical perspective, we can grasp what is properly new about the digital inscription of time: its liberation of the full heterogeneity of time. With the proliferation of digital temporalizing across the contemporary lifeworld — a proliferation that coincides with the massive spread of microprocessors into our environments — we cannot but recognize the extensive temporalizing power wielded by technical artifacts that function autonomously or quasi-autonomously in relation to narrowly human regimes of temporalization. And with the particular disjoining of worldly temporalization from human temporalization that is at issue in the digital gift of time, we are able to see how the minimal structure of succession that supports the being of time in our world today — a structure that is embodied in an extremely fine-scaled materialization of the before-after (the instant) — remains independent from any concrete capture of time by, among other temporalizers, human time-consciousness. The exposure of the minimal structure of succession by contemporary clocktime technology thus marks — from a site within the ontic world of our 'natural attitude' — the all-too-narrow scope of a time-constituting phenomenology like Husserl’s. This is a point made forcefully by philosopher Dominique Janicaud when he writes, without any concrete reference to contemporary technics, that this indispensable passage by succession (which implies that a kind of proto-numeration or elementary rhythm constitutes the consciousness of time as such ...) dethrones subjectivity from its substantially and sovereignly constituting role ... there is no temporality ... without this dimensional disjunction which is imposed ec-statically on consciousness and which we generically designate by the term “succession” (Janicaud, 1997: 152). What Janicaud does not quite manage to say, but could well have said, is that this passage by succession is overwhelmingly artificial, the production of technologies ‘directly’ — automatically — registering the incessant oscillation of before and after.

We could say then that the digital inscription of time supports the actual infrastructural activity of our world today, which to a very great extent takes place at temporal scales far finer than those of human perception. Indeed, adapting Thrift’s work (for Thrift’s concept of the ‘technological unconscious’ perfectly captures the computational infrastructure of contemporary global capitalism along with its defining imperceptibility to thematization), we could say that the technical expansion of temporalization beyond the scope of time-consciousness — an expansion carried out by the digital inscription of time — can only be properly conceptualized as a technical distribution of cognition, as a sharing of the labor of cognition with technologies that not only extends beyond the boundary of consciousness but that breaks with the analogics informing the operation of the temporal object as surrogate of time-consciousness. In the way that it is theorized by
contemporary cognitive scientists, technically-distributed cognition embodies the co-operation of computational and human agents in larger cognitive systems without imposing the requirement of synchronicity. Accordingly, in technically-distributed cognition, computational processes retain their definitive temporal specificity, and human agents work together with such processes even though they do not share its operational temporality and lack all direct access to it. In technically-distributed cognitive systems, in short, technical processes for inscribing time do not furnish surrogates for (time-) consciousness but, rather, themselves participate in larger processes of temporalization. As such, they vastly expand the domain in which temporalization occurs.

Having now sketched the theoretical trajectory from an experience of time mediated by the cinematic temporal object to an account of temporalization on the basis of a heterogeneous gift of time, I will turn my attention to aesthetic mediations of time which, pursuing a variety of approaches, make salient the experiential impact of this shift. If I begin this line of investigation by focusing on an artist whose work, though it encompasses the digital, in no way limits its own materiality, nor defines its aim, primarily in terms of digital technology, it is first and foremost to mark the deep cultural basis of the break that I am here aligning with the digital inscription of time. In Pierre Huyghe, we have an artist whose complex and highly diverse practice is devoted to plumbing the expressive potentialities of the shift in the mode of time’s givenness, and which can, for this reason, be held up for its success in articulating an aesthetics of time in the age of digital inscription. What motivates and gives substance to Huyghe’s various interventions into fixed, past-oriented media time is a recognition that time, which is to say, the contemporary being of time, is in no way tightly bound to human time-consciousness, but is rooted in a far more minimal and fine-grained structure of repetition that is, at some basic level, indifferent to the various temporalizations which mediate it for experiential regimes of all sorts (including the privileged regime of human time-consciousness). We could say that Huyghe’s aesthetic mission is to liberate the temporal heterogeneity that gets captured by media time.

This mission informs Huyghe’s work not by motivating a commitment to working with a specific technical form (e.g. digital media), but rather by opening up an imaginary space in which heterogeneous potentialities for temporalizing remain compossible. Huyghe’s practice can be described as an aesthetics of the digital then not on account of any selection of medium on his part but rather because of the crucial and productive role he attributes to the imagining of time’s ‘essential’ openness. As I see it, this imagining expresses a reality about the technical being of time, namely, that it operates at a more fine-grained level than does time-consciousness and those media forms that remain commensurate with it. Accordingly, far from being themselves cinematic or media temporal objects that mirror the temporal rhythms of consciousness, Huyghe’s artistic interventions defunctionalize media temporal objects in order to effectuate increasingly complex confrontations.
among disparate temporal registers that function to re-potentialize the temporalizing of time beyond its objectal capture and narrow subordination to human time-consciousness.

Viewed retrospectively, the trajectory of Huyghe’s career describes an increasingly more encompassing interrogation of the ways in which media objects function to capture human time and perceptual attention as well as the creative potentiality liberated by the interruption of such media objectification. From his early focused interventions into fixed media objects to his recent experimentations with community formation and exhibition experiences, Huyghe’s work consistently functions as a kind of *epoche* instituted to liberate what remains hidden beneath or excluded from the static frame of representation. By reframing representation *in relation to the present of the viewer*, Huyghe’s work transforms representation from a fixed sediment of a past event into a trigger for new action in a future-oriented present. The centrality of such transformation in all of Huyghe’s practice underscores his fundamentally *temporal* conceptualization of representation: before being and in order to be a fixed form, representation is a process *that takes time*. Fixed media images – like the urban billboards that Huyghe’s *Billboards* mirror (see Figure 2) or the film sequences that his ‘remakes’ rescenarize – are contractions of complex processes of temporalization, the (re)potentialization of which comprises the aim of Huyghe’s artistic interventions.

*Figure 2*  Pierre Huyghe, ‘Chantier-Barbes-Rochechouart’ (from *Billboards*, 1994). Courtesy of the artist
Huyghe’s ‘remakes’ of cinematic temporal objects exemplify the re-potentialization of time beyond its mediatic capture. Beginning with ‘Remake’ (1996), Huyghe’s shot-by-shot refilming of Hitchcock’s Rear Window using unprepared non-actors and a typical Parisian apartment, these remakes of cinematic temporal objects carry out – and demonstrate how to carry out – the shift from representation as storage of the past (of present experience that has become past) to representation as trigger, score, or format for a viewer-centered potentializing of the present. This shift gives us an entirely new perspective from which to examine and evaluate the media object. Far from being an object with agency of its own – agency to bind our attention and control the flux of our time – the media object becomes a prop in an entirely different drama: that of the viewer coming to grasp the fundamental openness of the complex and ongoing temporalization which is her life, the living source of her radical creativity.

Huyghe’s remakes transform cinematic objects into problematic temporal objects – or ‘diachronic things’ – which not only fail to bind the flux of the spectator’s time-consciousness but which resist temporal capture in objectal form and hence virtualize time beyond the confines of any objectification. Huyghe’s L’Ellipse (1993) perfectly exemplifies this transformation: a work literally comprised of the filling in, some 21 years after the fact, of an incidental jump cut from Wim Wenders’s 1977 film, The American Friend. L’Ellipse explodes the closed temporality of Wenders’s sequence by introjecting an alien temporalization into it. In 1998, Huyghe shot video of German actor Bruno Ganz, who played the role of Jonathan Zimmermann in Wenders’s film, performing a thoroughly mundane action understandably omitted from the film: walking across a bridge from the right to the left bank of the river Seine on his way to visit his doctor’s office and receive news of his life-threatening condition. Huyghe then inserted this shot in-between the two scenes from Wenders’s film, now transferred to video format, such that the entire sequence not only includes the action omitted by the original’s jump cut but interfaces two times, the time of Wenders’s original shooting and the time of Huyghe’s reshooting (see Figure 3). By introjecting into the film the temporality of Ganz’s own process of aging, Huyghe’s supplement literally trades out a cinematic technique of spatializing time for a non-discrete and gradual biographical temporalizing that cannot be contained within the highly constrained present of cinematic representation. Watching the abrupt shifts between the scenes of Huyghe’s work, it is as if we were brought into contact with the power of time itself, not as it has been reduced to serve the interests of representation, but as the force that underlies all experiences of continuity, personal and historical alike, no matter how discontinuous, how elided they may in fact be.

Huyghe’s explosion of the cinematic temporal object thus gives expression to what I want to call an aesthetics of the digital – an aesthetics rooted in the recognition of time’s essential unboundedness in relation to human experience (or any other concrete temporalization). Across a 15-year career, Huyghe’s practice demonstrates the limits of a strict identification
of technical time with temporal object and insistently pursues the aim of opening new possibilities for human engagement with technical time inscription. Yet, notwithstanding his centrality for my understanding of what comprises a digital aesthetics, Huyghe does not himself pursue the line of experimentation that leads from the technical object to technically-mediated cognition. It is this line of experimentation that is crucial to my interest here. To gauge its stakes, we need to turn to a contemporary American filmmaker, Lynn Marie Kirby, whose work embraces the digital in a way that expands the temporal scope of cinema to include not just the time it represents but the fine-scaled temporalizations that support its operation (and its breakdown). If Kirby’s work is able to give aesthetic form to the extensive sub-perceptual temporalizing performed by computational technologies in our world today, this is because her practice liberates repetition from the embedding in memory that constitutes ‘cinema’ as a technical medium. As a consequence, Kirby is able to deploy repetition beyond cinema as the technical basis of time’s temporalization.

Kirby’s practice is premised upon a certain concession of agency to the digital computer: she makes her editing a function of the behavior and the limitations of digital software, for example, by deciding to cut at points where her digital-editing system crashes. What is at stake in this concession of agency to the digital computer is precisely the liberation of repetition – of the technicity of repetition – from the standardized synchronization.
characteristic of contemporary media temporal objects. (By way of contrast to Stiegler, repetition here is specifically liberated from secondary memory, which is to say that technicity marks a break with, rather than a simple supplementation of, the operation of time-consciousness.)

In works like Six Shooter and In Search of the Baths of Constantine, Kirby deploys the constitutive limits of the computer to shatter such synchronization from within, which is to say, by means of the very technicity that would, in other potential deployments, support it (see Figure 4). These works involve Kirby’s manipulation of recorded material, but always with the aim of liberating time from the flux of the image track. Through a practice of live editing, literally ‘scratching’ the time line, Kirby creates ‘time holes’ at points where the hard drive simply can’t keep up with her movement. ‘Each live improvisation,’ she explains, ‘was with a “gesture in time” . . . laid down in the time line. Moving back and forth created time gaps and new time relationships, often not linear. These time/space relationships were not determined only by me, but by the hardware/software of the machine’ (Kirby, 2007: email to author). Works like Six Shooter and In Search of the Baths of Constantine elicit contingent moments within a digital ‘time gesture’ when digital technology fails; not only do these moments rupture the synchronicity that binds repetition to the flux of consciousness, but they open consciousness – including the artist’s own consciousness – to ‘time holes’ which materialize time’s alterity as a concrete technical artifact.

I can imagine no better illustration of the ‘essential’ obsolescence, the inescapable artifactuality, of time: by using the computer’s failure to operate in ‘real-time’ – which is to say, the structural incapacity for its own microscalar time, the time of computer cycling, to coincide with ‘time itself’ – as a basic aesthetic principle, Kirby manages to correlate time, or rather the temporalization of time, with the ineliminable, though constantly shrinking, material delay of computational processes. And in the process she institutes a different model of human engagement with technical temporalization: far from providing surrogates for the flux of human time-consciousness, the technical inscriptions of time that Kirby’s practice aestheticizes are autonomous processes that technically distribute cognition beyond

*Figure 4*  Lynn Kirby, Six Shooter (2002). Courtesy of the artist
consciousness. While their role and their autonomy remain largely unconscious, as Thrift has shown, we can, and indeed must, engage with these processes in order to function in our highly computational environments. By focusing on moments of breakdown in this computational infrastructure, and by appropriating the technical logic of repetition they instantiate, Kirby’s practice exposes this ‘reality’ of contemporary life: our living of time today has increasingly become dependent on technical temporalizations that do not manifest as mediatizations of experience, as temporal objects, but rather generate technical processes which remain dissociated from, and ungraspable by, the experiences they inform and make possible. Given their peculiar exteriority in relation to the aesthetic experience they facilitate, we can call these artifactualizations of technical repetition ‘diachronic things’.

Above I suggested – following MacKenzie – that the central role of technical time inscription is to bind together bodies and machines. Understood in this perspective, Kirby’s work – and specifically, her aestheticization of our reliance on autonomous technical temporal inscriptions – perfectly expresses the shift in the economy of bodies and machines that is brought about by the digital gift of time. Instead of being mirrors for the flux of human time-consciousness and, more generally, extensions of the human nervous system, machines now operate with an autonomy that underwrites our need to rely on them without understanding them. Within such a scenario, fine-grained technical time inscriptions form the basis for complex distributions of cognition beyond consciousness, for human-machine couplings that involve heterogeneous temporalities which simply cannot be distilled into a single coherent temporal experience. That is why contemporary technical time inscription takes the form of diachronic thing rather than temporal object: functioning beyond the scope of any particular synthesis, temporalizations open up the ‘essential’ heterogeneity of time and remain excessive in relation to any particular experience.

To reiterate the crucial point that what I am here calling the ‘digital gift of time’ (the exposure of a minimal before-after at the heart of temporalization that is indifferent to the phenomenological-cosmological divide) is neither exclusively nor primarily a simple technical accomplishment, let me conclude with a brief consideration of the singular aestheticization of time’s technicity in two contemporary Chinese artists. Both Song Dong and Qiu Zhijie have made the inescapability of temporalization the very basis of their respective artistic practices and both have done so either without using digital technology at all, or by deploying it specifically to highlight the irreducible artifactuality of time in general. Their work thus attests to the excess of the digital aesthetic of time over and above any narrow technicist conception: just as Huyghe’s interventions into fixed media objects underscore the message that time cannot be captured by any particular technical temporalization, the work of Song and Qiu serves to demonstrate how the paradigm of technically-distributed temporalization – as a concrete model of the binding of bodies and machines – expresses a general cultural logic
of time that emerges out of, but in no way remains narrowly tied to, the
digital gift of time.

Both Song and Qiu develop practices which confront machine and
body – a technical inscription of before-after with the self-referential frame-
work of an embodied, present ‘now’ – following specific and singular
protocols. Song’s practice of keeping a diary written with water on stone, a
practice he began in 1995, exemplifies the way in which the cosmological
and the phenomenological domains of temporalization come together in the
Chinese perspective. By capturing his private thoughts in a durable form
that lasts only until the water evaporates, Song effectively makes his own
‘present’, his existence in a ‘now’, consubstantial with a physical process
whose variables are beyond his control and comprehension.

Song has subsequently deployed this physico-phenomenological
temporal artifactualization as a framework for materializing clocktime in
thoroughly concrete situations. In various works, he has written the time at
various global locations and has marked the beginning of the new millen-
nium by water-writing every second of the first hour of the year for each of
the global 24 time zones. In all of these instances, the measurement of time
through Song’s minimal embodied artifactualization supplements, comple-
ments and competes with its clocktime artifactualization. In this way, the
artist doesn’t so much contest the legitimacy of the technical inscription of
time as relativize the operation of artifactualization itself: not only can materi-
ally different artifactualizations measure the ‘same’ time, but measurement
– which is to say, temporalization – can be distributed across the divide separ-
ating human and natural worlds, phenomenology and cosmology. Indeed,
Song’s practice suggests that the experience of clocktime in our global tech-
nosphere, notwithstanding the fact that it embodies the most minimal delay
 technologically possible at any given historical moment, involves a confronta-
tion of necessarily heterogeneous temporal measures and scales.

There can be no better exemplification of this complex experience than
Song’s Writing the Time with Water for Over an Hour (1997), a work that
involves him water-writing on two patches of soil, one from the mainland,
the other from Hong Kong, while conventional media images documenting
the handover of Hong Kong to China are broadcast on the television monitor
below (see Figure 5). Here, Song’s minimal inscription of time serves to
multiply the myriad, heterogeneous timescales – embodied time, media
time, historical time, the time of political events, the time of the longue
durée, physical time, cosmic time – that converge together in this so-called
historic event and that explode all efforts to contain it within the synchronic
temporalization of programmed news media. In this way, Song deploys
the lesson of the digital gift of time in order to fracture and to complexify the
temporal ‘being’ of a global geopolitical event: far from being ‘capturable’
by any single temporal institution, the experience of this event requires a
multiplication of temporal registers that necessarily calls upon humans to
rely on technical inscriptions which do something other than model their
own internal temporal fluxes.
In his light-writing or ‘calli-photo-graphy’, Qiu Zhijie approaches the minimal iterative structure of time from yet another direction – one that combines, in a single gesture, digital inscription technology and analog manifestation of the flux of time. For the last several years, Qiu has been photographing himself writing Chinese characters with a flashlight; the long-exposure takes – typically lasting a whole minute – capture static images of a dynamic, precarious, and physically arduous process through which the artist performs the luminous inscription of a character or set of characters in reverse stroke order. In a recent work called 607 Now, Qiu deploys this process to explore the question: what and where is the ‘now’? For a period of 24 hours – a period selected for its instancing of the ‘daily cycle of repetition and banality’ – the artist wrote with a flashlight the Chinese word xianzai (meaning ‘now’) against the backdrop of a sound stage at the Beijing Film Studio. A preprogrammed camera took images periodically, with an exposure time of one minute, and sent the images directly to a digital projector. Only those images that captured the fully-realized word xianzai – which is to say, only those images that were taken at ‘moments’ when Qiu was finished with his gestural inscription of the characters for xianzai – were preserved as image-captures of the ‘now’. From the non-synchronous coupling of performing body and technical recording emerge 607 ‘captures’ which measure a time that is literally heterogeneous: a time caught between human and physical, phenomenological and cosmological orders (see Figure 6).
Like his compatriot, Qiu multiplies and complexifies the reference frame of the now not in order to discover some true minimal unit of time, but to relativize the experience of presencing across the human-nonhuman divide and to expose its necessary correlation to a concrete technical artifactualization, which in this case means to a specific scale of technical inscription and to utterly singular, if almost identical, physical or cosmological processes. As such, *607 Now* is a testament not simply to the heterogeneity of time, but to its necessary, multiple and variable coupling to hybrid, human-nonhuman systems of artifactualization.

What the work of Song Dong and Qiu Zhijie has in common with the work of Pierre Huyghe and Lynn Kirby is a certain investment in the power of repetition as a structure of before and after that is indifferent to the phenomenological-cosmological divide. Though repetition may be tied to bodily activity in the work of these exemplary Chinese artists, it is not made to function as a support for the cinematographic editing of consciousness and the operation of temporal synchronization. Rather, because of its coupling with worldly inscription technologies (water and digital photography respectively) that necessarily complexify the experience of temporalization across the human-nonhuman divide, repetition here becomes the basis for a technical distribution of cognition in which the lived experience of consciousness is only one, non-privileged element among others. What differentiates the ‘cinematic media object’ and ‘digital temporal inscription’ is not – emphatically not – a simple technical difference (analog versus digital), but rather the way in which repetition as difference is technically-supported: repetition in cinematic media – repetition as editing – remains the prerogative of human agents, of human time-consciousness; in ‘digital’ mediation (which, as we’ve now seen, need not involve digital technology directly or materially), repetition coincides with a minimal technical singularity, a minimal artifactualization of before and after, that cuts against the
grain of human temporal ratios. Whether in the form of a computer malfunction or the inexorable disappearance of an aqueous trace, inscriptions of this minimal temporal repetition only enter human time-consciousness from the outside, as extrinsic accidents, as necessarily partial encounters with the ‘diachronic things’ that they ultimately are.

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Notes

1. The film lasts eight hours, even though the period documented is only six hours, because it is projected at silent speed (namely 16 fps). This serves to heighten the sense of unchanging stasis that the work conveys.

2. This is precisely the point of differentiation that Sanborn emphasizes in his contrast of Staehle’s and Warhol’s respective Empires: ‘Staehle’s Empire works differently [than Warhol’s], but actually manages, using both the architectural icon and the film historical one, to exceed Warhol in an evocation of scale reflecting a new historical paradigm in the reception and digital transmission of information’ (Sanborn, 2001: 4).

3. One central aim of my forthcoming book is to lay out the operation of such primary presencing. This takes me back to Husserl’s reexamination of his own exploration of time and time-consciousness in the C-Manuscripts of the late 1920s and early 1930s, where Husserl intuitively feels his emphasis on constitution without being able to move forward. It is, I suggest, by carrying this self-critical project through to its culmination that we can reorient the exploration of time beyond the narrow problematic of time-consciousness. This is a project initiated by Gert Brand and Klaus Held and assumed by the Czech phenomenologist Jan Patočka.

4. Aristotle, Physics IV. I discuss this argument at great length in my forthcoming book on time.

5. I develop this criticism of Stiegler in great detail in my forthcoming book.

6. See Levinas (1998: 9, 33–4), where he criticizes Husserl’s conception of time-consciousness for its domestication of the heterogeneity, the fundamental divergence of time. Retention ‘captures’ time and elides the self-differing of the primal impression that, on Levinas’s reading, precedes the operation of consciousness.

7. Mackenzie borrows the term ‘metastability’ and the example of the crystal from philosopher Gilbert Simondon (L’Individu et sa genèse physico-biologique, reprinted as part of Simondon, 2005). Metastability refers to a domain of preindividual potentiality out of which emerges a stable state of actual existence. Crystallization is Simondon’s example of the process of individuation: individuation yields an individual, the crystal, that, despite its stability and static form, remains correlated with a preindividual potentiality. The point here is that clocktime is like the crystal: at
any moment it is a stable state of a process of individuation, a technically-fixed regime of time, but because of its basis in a broader, ongoing, and always still potential (that is, metastable) material evolution, it is open for further (re)individualizations.

References

Mark B.N. Hansen is a media and cultural theorist and Professor of Literature and ISIS (Information Science+Information Studies) at Duke University. He is author of three books: *Embodying Techness: Technology Beyond Writing* (2000); *New Philosophy for New Media* (2004); and *Bodies in Code: Interfaces with Digital Culture* (2006). He is also co-editor of three volumes: *The Cambridge Companion to Merleau-Ponty* (2004); *Emergence and Embodiment: New Essays in 2nd Order Cybernetics* (forthcoming); and *Critical Terms for Media Studies* (forthcoming). His current work focuses on the role of techics and media in the asubjective phenomenology of time. [email: mbhansen@princeton.edu]