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In a previous paper linking Simondon to biological and systems-theoretical discourses in autopoiesis and debates about contemporary technogenesis, I have argued that Simondon's ontology of individuation furnishes a basis to theorize the "agency" of the environment that comes to the fore as we humans enter, as we do increasingly today, into alliances with sophisticated, computational technologies.[1] In concert with researchers like Andy Clark and N. Katherine Hayles, I embrace the "technical distribution" of cognition and perception as a way of understanding the complex couplings between humans and machines that are typical in our contemporary world, but that have, in fact, been part of human technogenesis since the very origin of the human. On this model, which contrasts starkly with the concept of system that is central to systems-theoretical discourses from Varela to Luhmann, the technological elements of a system perform sophisticated cognitive tasks we can neither understand nor even account for; unlike the central tenet of systems-theoretical epistemology (the cut between system and environment), the technical distribution model eschews cognitive mastery in favor of a more hybrid—and arguably more "realistic"—model of action or enaction in the world. As I see it, the systems-theoretical cut attains cognitive and perceptual mastery for the system at a significant cost: the cost of cutting off the environment in any but the most trivial sense. Finding this cost too high, the technical distribution model gladly sacrifices mastery in order to enfranchise the environment as a source of enaction *that doesn't need to be—and indeed cannot be—channeled through the system*.

In his own take on this distinction, Bruno Latour suggests that the messiness of a distributed model corresponds more accurately than the tidiness of systems distinctions to the experiential realities of our hybrid lifeworlds: "Instead of the *surfaces* so typical of first modernities—the 'domains' of science, of economy, of society, the 'spheres' of politics, values, norms, the 'fields' of symbolic capital, the separate and interconnected 'systems' so familiar to readers of Luhmann, where homogeneity and control could be calmly considered—we are now faced with the rather

horrible melting pots so vividly described by historians and sociologists of science" (35-48). I have given the name "system-environment hybrids" to these messy couplings, and have tried to describe their onto-epistemological advantages using Simondon's theory of individuation. Specifically, I have sought to theorize environmental agency on the basis of Simondon's insistence that, following their initial individuation, individuals continue to be coupled energetically and informationally not simply to "associated milieus" but, both through and beyond them, to the metastable domain of the pre-individual. This means that individuation includes a two-tiered coupling between individual and environment: an *actual* coupling with the associated milieu and a *virtual* coupling with the pre-individual domain. As I see it, such a two-tiered coupling better captures the complex imbrication any individual enjoys with the environment, and it moves the conceptualization of the environment from something exclusively in the service of the individual to which it is coupled in actuality (including coupling to what is both exterior and interior to the individual's operation), to something that can embrace the quasi-independent cognitive and perceptual operation *of the environment itself*.

If this model describes a condition of the living human that is originary—*our originary environmental condition*—this condition itself has been brought into the open and made accessible through recent developments in technical distribution, which is also to say, in the technical infrastructure of the environment. So-called ubiquitous computing furnishes a perfect illustration: through the distribution of computation into the environment by means of now typical technologies including smart phones and RFID tags, space becomes animated with some agency of its own. One crucial feature of this animation is its occurrence largely outside—or beside—the focal attention of actants within smart environments. For this reason, the intelligent space of contemporary life offers a kind of affordance—an unperceived or directly sensed affordance—that differs fundamentally from affordances as they have been theorized, following upon the work by James Gibson, in relation to media.[2] When "we" act within such smart environments, our action is coupled with computational agents whose action is not only (at least in part) beyond our control, but also largely beyond our awareness. And while it is certainly possible for us to learn, either proleptically or after the fact, how exactly we are coupled to such smart environments, we can have absolutely no cognitive or perceptual access to the computational processes that inform them *at the moment of their occurrence*—a moment that I shall call their "operational present." This foreclosure of access comprises what I shall refer to as the "operational blindness" of human consciousness. Such operational blindness obtains in situations involving technical distribution of cognition and perception:

specifically, operational blindness names the ineliminable temporal gap separating the operation of a technically-distributed system-environment hybrid from any subsequent cognitive or perceptual account of its operation in consciousness.

In what follows, I want to flesh out how exactly Simondon's thinking of individuation contributes to the task of theorizing our originary environmental condition in its contemporary instantiation. Yet my aim here goes well beyond the scope of my initial theorization of the system-environment hybrid in the paper mentioned previously, in two respects. First, I want to focus here on the significance of the operational blindness of consciousness specifically as it is related to contemporary technologies and characterized by a unique temporal profile. What the distribution of sensibility into smart environments accomplishes is nothing less than a separation between operationality and awareness, such that the latter always comes after the fact, and is characterized by a distinctive temporal belatedness. If this belatedness betokens a certain demotion of consciousness within contemporary media networks, it also informs a strategy for the feeding forward of data concerning operationality, such that consciousness, though foreclosed from experiencing it directly, can nonetheless take it into account in its ongoing, future-directed activity.

While the explication of this feed-forward structure of contemporary, twenty-first-century media is a task for another occasion, the temporal disparateness at its heart is central for a second development that directly concerns Simondon's thinking of individuation. Thus, in the second half of this paper, I shall explore how the temporal dephasing of consciousness from its own operationality—its operational blindness—correlates with Simondon's crucial claim that a certain psychic *disindividualization* is requisite for transindividuation to be initiated. On this understanding, transindividuation is an operation that acts directly at the level of preperceptual operationality, and does so precisely to yield a new kind of individuation—one that is *transindividual* and not psychically-differentiated or -specified. We can thus conclude that there is at the very heart of Simondon's thinking a notion of psychic blindness, and, following Simondon's own correlation of transindividuation with technics, that this blindness correlates directly with the operationality of twenty-first-century media.

1. Psychic Disindividualization as Correlate of Technicity

For Simondon, there is no individuation without a milieu. This becomes clear in his discussion of the energetic foundations of individuation in the section of *L'Individuation á la lumière des notions de forme et d'information* devoted to physical individuation:

> The principle of individuation is not an isolated reality, localized in itself, pre-existing the individual as an already individualized germ of the individual. … the principle of individuation, in the strict sense of the term, is the complete system in which the genesis of the individual operates. … moreover, this system survives itself in the living individual, under the form of a milieu associated to the individual, in which individuation continues to operate. … life is thus a perpetual individuation, a continuous individuation across time, the prolongation of a singularity. (63)

For Simondon, the associated milieu is at once both an external *and* an internal milieu, and is not equivalent to a physical or external environment; more precisely, the associated milieu is that with which the individual enjoys relations of communication and of energetic exchange that give it, or rather the system to which it (together with the associated milieu) belongs, "internal resonance."

Indeed, Simondon insists that what makes it necessary to employ the term "system" is not the constraint imposed by an observer, as in the systems-theoretical account. "The limits of this system," he notes, "are not arbitrarily cut off by the knowledge that the subject acquires of them." Rather, the term system is necessary to "define the energetic condition, because there can only be potential energy in relation to the possible transformations of a definite system" (ibid.). What this means is that the "system" in Simondon's account does not coincide narrowly and exclusively with the individual supported by an environment, as it does in both Varela's and Luhmann's versions of systems theory; rather, it names the vaster operations involved in an individuation encompassing the specific relationality between an individual and an associated milieu. In this account, the environment does not act exclusively on the individual, but impacts the entire system of individuation—a system that includes the individual and its associated milieu and the pre-individual domain to which this coupling continues to be open. In sum: whereas in systems theory, the agency of the environment is trivialized (reduced to its meaning for the system), in Simondon's ontology of individuation, it retains its power "outside" the system (or "individual") it informs.

For this reason, Simondon's conception of individuation would seem to have more affinity with recent work in developmental systems theory than with both biological and systems-theoretical conceptions of autopoiesis. Developmental systems theory advances a conception of ontogenesis that correlates development and evolution, leveling all categorical divisions between organism and environment, and insisting on the equipotentiality of all factors in ontogenesis. According to Susan Oyama, a "developmental system" is defined as "a heterogeneous and causally complex mix of interacting entities and influences that produces the life

cycle of an organism. The system includes the changing organism itself, because an organism contributes to its own future, but it encompasses much else as well" (*Evolution's Eye*, 1). "A proper view of ontogeny," she continues, "requires that the idea of ontogenesis apply not only to bodies and minds, but to information, plans, and all the other cognitive-causal entities … that supposedly regulate their development. Developmental information, in other words, has a developmental history. It neither preexists its operation nor arises from random disorder" (*Ontogeny*, 3). As against autopoietic theory specifically, Oyama stresses the symmetry of interactions across boundaries that lies at the heart of developmental systems theory:

> In DST, causal interactions across a boundary are symmetrical. Insides and outsides define and 'specify' each other *as developmental interactants*, codetermining outcomes, so that responsibility for the result cannot be partitioned. No causally sufficient self-making here…; instead, we have mutually constructing relations of organisms and their developmental environments. ("Friends, Neighbors, and Boundaries," 149)

Elsewhere and most succinctly, Oyama pithily accuses autopoietic accounts of harboring an unreconstructed "internalist predilection" ("Locating Development," 185-208).

What distinguishes Simondon's conception of ontogenesis as individuation, even from the anti-internalist models of DST, is his two-tiered account of individual-environment coupling, which stems from his embedding of individuation in a theory of being as pre-individual metastability. Crucial to this distinction is a certain contestation, implicit in Simondon's usage, of the term "milieu." In his gloss on Simondon's conception of milieu, Jean-Yves Chateau argues that the "associated milieu" does not simply complement the individual, yielding an actualized excess that fuels further individuation; rather, by means of the very individuation that yields the individual-associated milieu coupling, it places the individual *in relation to the whole of being*:

> The notion of the milieu allows one simultaneously to think a separation and a linkage with the all of non-individuated being; it is precisely that which insures that the separation with the pre-individual all is far from being a total separation, in the sense that the milieu is not only what, in the pre-individual all, is found to form a metastable system of potential energies, in which the de-phasing of this individuation was able to occur, but also that with which, after individuation, the individual maintains a relation of resonance on the interior of the system that it forms with it.
>
> Through its associated milieu the individual is in relation with the all of being…, without the risk of ending up by confounding itself with this all of being or by dissolving into it: the regime of energetic relations and of recurrent causality with its milieu is what has made its individuation happen. … This is equally to say that the milieu, as a milieu associated to a given individual, does not have the same

> indetermination as the pre-individual in general, in the sense that the milieu is determined (while nonetheless forming part of the large pre-individual that is non-determined in itself). More precisely, it is sufficiently determined so that the individuation operated in relation to it would not be illusory but determined and consistent; however, it is not itself individual but system, and its determination is nothing other than being precisely the associated milieu of an individual *or, better, of an individuation*: a set of realities (potential energies) that have no other unity than that of the system formed with a given individual, in the cadre of a given individuation (meaning that all these realities could enter in other relations amongst themselves, as well as with others, to be the principle of an other individuation). (68-69, emphasis added)

For my purposes, what is most crucial in Chateau's account is his equivocation over whether the associated milieu is coupled to an individual or to an individuation. As I see it, this equivocation comes down to whether individuation yields an individual or a system (in Simondon's sense of the term)—that is, whether the environmental coupling it involves is entirely at the same order of being as it (which would make it a fully actualized coupling) or between disparate levels of being (which would make it virtual in some sense of the term).

This equivocation correlates to what I take to be a tension within Simondon's conception of individuation when, for example, he differentiates the individual from the "SYMBOLON" that is being itself:

> Instead of being the SYMBOLON, the individual "would be the result of a certain organizing event that happens in the heart of the SYMBOLON and distributes it into two complementary realities: the individual and the associated milieu after individuation. … The separated individual is a partial, incomplete being which can be adequately known only if one replaces it in the SYMBOLON from which it derives its origin. The model of being is either the SYMBOLON before the genesis of the individual, or else the individual-associated milieu couple after the genesis of the individual." (*L'Individuation*, 63)

This either/or, however, cannot designate a relation of equivalence, since it correlates two elements that do not operate at the same level of being.

That much becomes clear when Simondon goes on to characterize individuation "as a doubling, a resolution, a *non-symmetrical* distribution occurring in a totality, on the basis of a singularity" (ibid.).[1] As opposed to the individual-associated milieu couple, which comprises a relative stabilization of the metastability out of which it originated and which restricts metastable potentiality to the level of being of the individual, individuation entertains relations to multiple levels of reality, and thus belongs to the pre-individual in a much more expansive way than the associated milieu. Individuation, as Simondon understands it, "would only be one of the possible becomings of a system, and would be capable as well of existing at several levels and in a more or less complete manner" (ibid.). Though it yields the individual-associated milieu couple, individu-

ation "is an event and an operation at the heart of a reality more rich than the individual that results from it" and more rich, I would add, than the individual-associated milieu couple (ibid., 64). At the very least, what this means—in relation to the tension within Simondon's account—is that one must operate with a doubled conception of individuation, for this latter is at once the process that yields the individual-associated milieu coupling *and* the ongoing relation to the domain of the pre-individual that informs the potentiality of the larger system (of individuation itself).

Though we find a very similar conception of the genesis of the technical object in terms of its coupling with an associated milieu, in the case of technical objects, which result from a process of concretization (rather than individuation), things are a bit more complicated. There are several reasons for this, including the necessity of differentiating the associated milieu that conditions the concretization of the technical object from the geographical milieu against which it distinguishes itself, as well as the related necessity of differentiating the associated milieu from what Simondon calls the "technical milieu." The most significant factor contributing to this complexity, however, is the correlation of the "technicity" of the technical object not with its specific functioning *but with a larger human mode of relating to the world.* As Chateau puts it, not only is the "knowledge of technical objects not sufficient to know their 'technicity,'" but "there is no necessity that this latter be found in 'what they are in actuality'" (82). Part of the "virtuality" informing the concretization of technical objects, in other words, is due to their imbrication within human individuation—that is, due to their emergence from an act of technical invention. Thus Simondon can write: "it is not just technical objects that must be known at the level of what they are actually, but the technicity of these objects insofar as it comprises a mode of relation of the human to the world. … [only] the direct examination of technicity according to a genetic method" will discover its essence (*Du Mode*, 151-52).

We learn from section II of chapter II of *Du Mode d'existence des objets techniques* that this genetic method reveals a process of recurrent causality linking technical objects to the natural world, and ultimately to an act of invention. In effect, the associated milieu of the technical object is a mediator between the technical realm and the natural world: a "mediator of the relation between the fabricated technical elements and the natural elements at the heart of which the technical being operates" (57). More precisely, it falls to "a mode of thinking capable of prevision and creative imagination" to gather together the "elements that materially constitute the technical object and that are separated from one another, without an associated milieu," in virtue of a future organization. The organization of these separated elements in relation to an associated milieu-to-come

occurs through the schemas of creative imagination: "The unity of the future associated milieu in which are deployed the relations of causality that permit the functioning of the new technical object is *represented, performed* as a role can be performed in the absence of the actual person, by the schemas of creative imagination"[1] (ibid., 58). Indeed, if we follow Simondon's account literally, we find that there is a thorough-going parallelism between the process of technical concretization in virtue of a future associated milieu and the dynamic processes of thinking: "the mental schemas react on one another during invention in the same way that the diverse dynamisms of the technical object react on one another in material functioning" (ibid.)

What this parallelism shows is that the source of virtuality that operates to organize the separate technical elements into a technical object—that forms an associated milieu-to-come—is the living human inventor. There is an overlap or partial identity between the associated milieu of the living inventor and the associated milieu-to-come of the technical object: "It is [only] because the living is an individual being that carries with it its associated milieu that the living can invent; this capacity of self-conditioning itself is the basis of the capacity to produce objects that self-condition themselves" (ibid.). When Simondon subsequently excavates the correlation of "form" and "dynamic background" [*fond*], it becomes clear that the virtuality at issue here involves the double-tiered coupling of individual and environment that yields the specificity of the system operating on a multi-leveled multistability. More simply put, the virtuality that informs the genesis of the associated milieu-to-come of the technical object is one that informs the *entire individuation of the system*, and not simply the functioning of the living individual with its delimited and fully actualized associated milieu. While Gestalt psychology has

> ... attributed force to form, … a more profound analysis of the imaginative process would show without a doubt that what is determining and what plays an energetic role, is not the forms but what supports the forms, that is, the *fond*. Perpetually marginalized from the standpoint of attention, the *fond* is what contains the dynamisms; forms do not participate in forms but in the *fond*, which is the system of all the forms or rather *the common reservoir of the tendencies of the forms*, even before they exist separately in their own right and are constituted as an explicit system. (ibid.)

When Simondon correlates the form-*fond* coupling with the actual-virtual distinction, it becomes clear that the participation involved here emerges from the excess adherent to the system in individuation, and not just to the living individual-associated milieu coupling narrowly conceived. Participation, in short, is the result of invention as a double-tiered process:

> The relation of participation that connects the forms to the *fond* is a relation that steps over the present and diffuses an influence of the future on the present, of the virtual on the actual. [...] the *fond* is the system of virtualities, of potentials, of forces which lead, whereas the forms are the system of actuality. Invention is the taking in charge of the system of actuality by the system of virtualities, the creation of a unique system on the basis of these two systems. (ibid.)

And, while Simondon admits that we cannot know exactly how a system of forms can participate in a *fond* of virtualities, he insists that it does so *according to the same mode of recurrent causality* that organizes the structures of the technical object in virtue of the dynamism of an associated milieu-to-come.

Accordingly, wherever it occurs, recurrent causality correlates two levels of being which, because one is metastable (or virtual) in relation to the other, are somehow in tension, albeit creative tension. When Simondon defines the associated milieu-to-come of the technical object as the mediator between the natural world and the technical elements, it is precisely to emphasize this putting-into-recurrent-causal-relation. For what is at stake here is precisely a mediation between the metastability characteristic of the living—specifically, the tension between life and thinking, living individuation and psychic individualization—and what Simondon calls the "technical milieu." In this respect, the associated-milieu-to-come of technical invention would seem to be nothing more nor less than a directed application of the associated mental milieu that is synonymous with the virtualities of the *fond*. (Later we shall refer to this double-valenced recurrent causality as a proleptically-open and technically-enabled mobilization of the "real potentiality" for new actualizations, or, more precisely, for new actualizations within ongoing individuations.)

Focusing on the correlation of individuation and technical development at issue here, we cannot overlook an apparent tension in Simondon's thinking: how can the individualized or structured technical object be both *one term* in a relation of recurrent causality analogous to the recurrent causality between life and thinking, and at the same time, the *product of* this latter recurrent causality? At the end of this section on technical invention, Simondon's introduction of the extensive kinship between life and thinking seems aimed at situating technical invention (and technical concretization, or the genesis of technical objects) within the larger genesis of psychic life. More precisely, what Simondon accomplishes here is to establish a correlation between technical individualization and psychic individualization, and, more fundamentally, to expose the basis for this correlation in the associated mental milieu that is at once the "middle term between life and conscious thinking" and the "middle term between the natural world and the manufactured structures of the technical object."

The extensive kinship between life and thinking establishes that psychic individualization occurs on the basis of a metastability that is akin to, and builds upon, the tension generating life: just as "living material [blood, lymph nodes, conjunctive tissues, and so forth] creates an associated milieu for organs," and thus is the "*fond* of organs," so too are higher order elements of conscious thinking—representations, images, certain memories and certain perceptions—emergent from a "*fond* that lends them a direction and a homeostatic unity, and that carries from one to the other and from all to each an informed energy." The *fond*, Simondon notes, is an implicit axiomatic: without it, "there would be no thinking being, but only a series of discontinuous representations without any links between them" (ibid., 60).

If this means that psychic individualization emerges on the basis of a *fond* that must be qualified as living, or more precisely, as a specification of the individuation of the living, it also means that technical invention and the individualization of technical objects emerge as a further specification of the recurrent causality generative of psychic individualization. This, it seems to me, is precisely what is at stake in Simondon's insistence on the analogy between psychic individualization and technical invention: "We can," he states, "create technical beings because we have in ourselves a play of relations and a matter-form"—or better a *fond*-form—a "relation that is very analogous to what we institute in the technical object" (ibid.). Would we be remiss to point out that technical objects are, in fact, extensions and intensifications of the play of relations and the *fond*-form relation we have in ourselves? And isn't this equally to claim that they operate not autonomously, but always in correlation with our perceptual and cognitive experience? For when Simondon claims that "the individualized technical object is an object that has been invented, that is, produced by a play of recurrent causality between human life and thinking" (see his "Technical Individualization"), doesn't he in fact inscribe technical objects *within* this recurrent causality and thus implicitly suggest that they might themselves extend the creativity of living individuation?

In her recent book *Relationscapes*, Erin Manning argues that technologies, and in particular digital technologies, cannot partake of the virtual. If this is true in any sense, it is true only so long as technologies are narrowly considered in separation from the circuits melding them with humans and other living individuations. Yet to so conceive technology would seem to stack the deck unfairly, to overlook the fundamental dynamism of technics. Indeed, if we follow Simondon, who at one point in *L'Individuation* urges us to replace the term virtual with "metastable,"[3] we can never isolate technical machines from their coupling to human invention and enaction—from their constitutive "margin of indetermi-

nation." It is precisely such a margin of indetermination that informs Simondon's conception of "open machines" and that differentiates them from cybernetic automatons:

> The true perfecting of machines, the one that increases their degree of technicity, does not correspond to an increase of automatism, but on the contrary to the fact that the functioning of a machine possesses a certain margin of indetermination. It is this margin that permits the machine to be sensitive to external information. … The machine that is endowed with a high technicity is an open machine, and the set of open machines assumes the human as permanent organizer, as living interpreter of machines in their relations with one another. (*Du Mode*, 11)

In invoking technogenesis to characterize how technology participates in the recomposition of bodies, Manning would seem to endorse precisely such a conception of the open machine. Consider, for example, her invocation of the associated milieu as a means to characterize technology's role in ontogenesis: does this not put emphasis precisely on the coupling of machine with the complexity of human individuation? However we answer this question, it becomes clear that Manning's narrow focus on a certain aspect of this coupling —on how technical machines (or rather, technically-generated artworks) can bring what she calls movement's *pre-acceleration* into the scene of perception—jettisons precisely what is crucial for Simondon, namely the openiness or virtuality of the machine. What Manning's deployment leaves out is the crucial capacity of machines to function *beyond* or *outside of* the experiential domain occupied by humans, but nonetheless in a broader coupling with them.

This is precisely the question that is posed by the technical distribution of (human) perception and cognition, and I want now to invoke the example of Etienne-Jules Marey (an example also crucial for Manning, though for different reasons) in order to show how technologies amplify perceptual and cognitive functioning but without culminating in an expansion *of the scene of human perception*. Such amplification involves the "operational blindness" of human consciousness, and we can now lend this a distinct Simondonian accent by renaming it the operational blindness *of psychic individualization*. Such operational blindness occurs when perception and cognition are technically distributed, and it designates the reality that *human* consciousness does not and cannot experience the functioning of the technically-distributed system to which it belongs *as a direct perception*—i.e. at the time that it is occurring. Moreover, the fact that any awareness that consciousness may gain of this systemic functioning must occur indirectly, and always only after the fact, will (as we shall see) inform the specificity of transindividuation as an individuation that bypasses the individual-associated milieu coupling and depends on the technical distribution of sensibility to do so.

Much has been made of Marey's shift from the "graphic method" to chronophotography. As we know from the work of Marta Braun and

others, this shift was occasioned by the necessity for less intrusive and more data-rich techniques of inscription; specifically, Marey could not explore the movement of bird flight when his instruments obstructed that very movement.[4] One unintended consequence of this shift, however, is that Marey's data-gathering acquired a pictorial status which is, in an important sense, supplementary: in addition to being a visualization of data concerning movement, Marey's chronophotographs also appear to be pictures of that movement itself. At the heart of Marey's work there is a crucial doubling whereby an aesthetic supplement is added to the technical operation of chronophotography; accordingly, in the wake of chronophotography, we acquire a properly aesthetic interface onto data defined as "objective" *precisely because of its inaccessiblity to direct (perceptual) experience*. Although this doubling intensifies our relation to chronophotography, the key point is that it does nothing to alter the temporal disjunction between its operationality and our (necessarily belated) perceptual access to it.

That is why it is absolutely crucial for us to properly understand the status of this pictorial supplement, or more exactly, the status of the aesthetic dimension it introduces. Whatever added experiential dimension the aesthetic supplements suggests, it does not and cannot comprise a direct access to the sensory basis of perception; it can only enhance our experience by offering some nonperceptual interface onto primordial sensibility. Marey's images do not give us a visual interface onto the imperceptible phases of movement—an interface that would expand the scope of our perception such that we could directly perceive perception's imperceptible incipience. Rather, they give us data—data that happens to be conveyed visually—about movement; but they also give us data *about our perceptual processes*. Yet, because it is temporally distanced from the operationality that the data measures, this data can never obtain the status of *lived experience*.

Of Marey's commentators, no one grasps this situation more clearly than photography historian Joel Snyder who states that "there is [in Marey] no question of substituting mechanical instruments for a fallible human mediator and of correcting thereby what might otherwise have been falsified. … *The graphic data show what otherwise cannot be found in the realm of events and processes detectable by human beings*" (380, emphasis added). Respecting this distinction, we can readily see that Marey's chronophotographic images, including his final work on the movement of air, do not—*and cannot*—depict the collapse of perception's imperceptible virtuality into perception itself, as Manning would have it.

Indeed, even if we were to grant that these images operate by stimulating a perceptual event in their viewers—via what I would want to call their supplementary aesthetic dimension—this event remains in the service of visualizing the imperceptible preconditions *of another, necessarily*

already past, perception. Because of the ineliminable temporal gap constitutive of perception, Marey's images simply cannot impact present perception *directly*, *at the time of its happening*, and can at most impact perception indirectly, by feeding information about our *past* experience (information that cannot be accessed through our *present* experience) forward into our *future* experience-to-come. And if we recall that the source of this information is machinic perception—that is, perception that can never actually be *our* perception, we can see how this ineliminable temporal gap constitutive of perception gets extended into what I am calling the operational blindness of psychic individualization. Or, to put it more precisely, we can see that the operational blindness of psychic individualization is the strict correlate of the technical distribution of perception and cognition.

Simondon's critics have recently underscored the absence of a meditation on asethetics in his work; for such critics, notably Ludovic Duhem, the aesthetic forms a crucial supplement to the ethical, and specifically comprises a dimension, supplementary to the ethical act, which doesn't get actualized.[5] Taking up art historian Georges Didi-Huberman, I now want to suggest that this non-actualized aesthetic supplement has a direct affinity with the virtual force of the environment that, as I have argued, eludes the coupling of individual and associated milieu that yields actualized individuation in Simondon. For Didi-Huberman, what is crucial about the aesthetic dimension of Marey's chronophotographs—which Didi-Huberman conceptualizes as a sensory power—is the way they open a perceptual interface onto the sensory microindividuations that, following Deleuze's conception of "transcendental sensibility," virtually precondition perception. Yet the point here—and the contrast with Manning could not be more stark—is not to bring these microindividuations into the perception they condition, but to let them shine forth in their own right. To put this in Simondonian terms, we might say that Marey's images expose the metastable state or tension between levels (quality, quantity and intensity) that precedes perception: they expose the "intensities in the relation of the world to the subject" *before these are resolved in an actualized perception*.

While Marey's images expose these intensities, these sensory microindividuations, to a different perception and hence catalyze a process of perceptual individualization, the crucial point for Didi-Huberman—and I wholly concur—is how they shift focus away from individual psychic perception and *to the environmental condition of sensibility from which it emerges*. I quote:

> If we look again at the extraordinary image of the flying seagull photographed by Marey in 1886, we understand that the "trail," on the image, is comprised on the basis of the complex relation that the *wing*

> maintains in time with the *air*. In a similar way, later on, the plumes of smoke are formed directly on the basis of a certain relation between the *obstacle* and the *air*. The *image-wake* [*image-sillage*] of the seagull appears precisely to be this "inherent difference" that we discovered thanks to Bergson: it is a *difference*, since it presupposes a dialectic, nearly a combat, and since it distances the seagull from its familiar appearance; it is an *inherence*, since the seagull itself creates, through its own movement, the alteration of its appearance in the air. The "inherent difference" must be understood on the model of a *wave* that springs up from the *ocean* but from which it is however never separated: a differentiated, conflictual form, but one that is inherent to its material milieu. … Here is precisely what can reorient our entire understanding of Mareysian images: they do not so much show us "some thing" whose form would be photographically, absolutely or instantaneously, restituted; rather they show us the *durational or momentary relation between a body in movement and a fluid milieu* in which this movement occurs. (249, emphasis in original)

To give a contemporary analogy, Marey's images function in a similar way to contemporary digital practices in sound art devoted to bringing microsounds into perception: the point of such work, like the point of Marey's chronophotography, is not to confront perception with the transcendental sensible content that comprises its virtual precondition; rather, it is to expose the sensory operation of these microsounds and to expose it as, in some sense, autonomous from perception, as "experience" that occurs, that has real sensory impact, without directly yielding any perception whatsoever.

We can conclude from this that chronophotography does not reproduce something *that we are already able to experience*, or indeed, something *that we can ever directly experience*. Rather, it supplements perception aesthetically, by coupling it to an open machine for recording, analyzing and visualizing the sensibility of the environment that forms a virtual source of our experience that need never—and can never—be perceptually actualized. And, insofar as it operates *within* the ineliminable temporal gap constitutive of perception, this open machine—like open machines generally—generates an operational blindness of perception or psychic individualization, a blindness which, we can now see, is simply the price to be paid for the technically-generated aesthetic exposure of environmental sensibility.

The technical object is the support for the collective re-individuation that yields what Simondon calls the "transindividual." To specify what this means concretely, I want now to correlate this claim with what I have just argued concerning technical distribution and the operational blindness it imposes on psychic individualization in the very act of expanding (and to the very extent that it does expand) bio-psychic individuation. More precisely, I want to claim that transindividuation, understood as a distinct individuation from the individuation of the living, is both *made*

necessary and made possible by the technical distribution of psychic individualization. In today's world, it is this technical distribution that operates the psychic disindividualization requisite for transindividuation to occur: this technical distribution produces the operational blindness of psychic individualization that expresses—in the form of an aesthetic supplement—the temporal disjunction of operationality and awareness, of individuation and perception. Beyond that, yet by means of it, technical distribution thus requires and makes possible an individuation that bypasses the individual-associated milieu coupling in favor of a direct, nonperceptual individuation rooted in environmental sensibility.

As a distinct form of individuation, transindividuation bypasses the psychic domain understood as the domain of perceptual self-presence or, equally in this context, of perceptual *différance*, in favor of a "psychism" rooted in the impersonal "experience" of environmental sensibility that I shall later call "intensity." Jean-Hugues Barthélémy seems to anticipate this situation:

> The transindividual in effect *realizes* what we have called the *second discontinuity* of the psychic in relation to the vital, of which the psychic was in effect the paradoxical discontinuous prolongation. It is for this reason that the transindividual merits, more so than the psychic, the name of "regime." But because this prolongation of the vital by the psychic also assures the prolongation of the vital by the transindividual, such a discontinuity is *of a new type: it is only because the transindividual can no longer be thought according to the notions of the individual and of the associated milieu that it comprises an entirely distinct regime of individuation*." (Barthélémy 2005, 210)

The key point here is that transindividuation—far more than the psychic individualization, whose dissolution is its correlate—requires the mobilization of the virtual domain. It is a "regime" precisely because its genesis requires more potentiality than any coupling to a (necessarily actualized) associated milieu can give.

As catalysts for transindividuation, technical objects are not simply "symbols" that "express" the pre-individual reality attached to the subject. Indeed, they can instigate transindividuations only *because they bypass the subject* (though, as we shall see, in favor of a dispersed subjectivity that emerges directly from sensibility). Technical objects transform the pre-individual reality associated with the living individual into an actualized source of energy which, as Simondon puts it, "*surpasses the individual while still prolonging it*: the transindividual is not exterior to the individual even though it detaches itself to some extent from the individual" (cited in Barthélémy 2005, 210). Technical objects not only make possible a surpassing of the individual, but they facilitate a surpassing of the "subject," understood, following Simondon, as the individual

cognizant of its pre-individual reality and thus "out-of-phase" with itself. More precisely still, technical objects mediate between the subject and the pre-individual reality it experiences as its unsupportable actuality. In so doing, however (and here our analysis must go beyond the scope of Simondon's account), they transform the very status of the "subject": they dissolve the subject as a centripetal agent in favor of a distributed subjectivity closely attuned to the sensory affordances of the environment. In Simondon's terms, we can say that technological objects transform the pre-individual reality that exceeds the individual into the basis for a new individuation, itself rooted in an actualizing of this excess in a subjective, but not subject-bound, experience.

2. Engineering the Pre-individual: Technics and the Transindividual

Having now clarified the correlations among technics, psychic disindividualization, and transindividuation, what remains for us to consider is the broader question of the coupling of human and technics. Within Simondon's theory, this question arises in relation to the nonequivalence of the transindividual and the pre-individual. Transindividuation is a specific individuation that operates by channeling pre-individual energy. How are we to understand this relation between transindividual individuation and pre-individual source, if not in terms of the very hylomorphic model Simondon so vociferously denounces?

This question broaches a crucial "theoretical tension" which, following Barthélémy's analysis, inhabits Simondon's account of transindividuation. This tension stems from Simondon's claim, in his major work on individuation, that the transindividual is "anterior to the individual" without, however, being in any sense identical to or potentially conflatable with the pre-individual. Admitting that Simondon's *L'Individuation* occasionally encourages confusions concerning the difference between transindividual and pre-individual, Barthélémy nonetheless ventures to differentiate them along the lines I've just suggested—namely, by specifying how the operation of transindividuation is, properly speaking, an individuation, and thus distinct, in some crucial sense, from the pre-individual *qua* source for all individuation: "transindividual *individuation*—since it is indeed an individuation—constructs the radical individuality beyond the individual itself, because it is the 'subject' as individual-pre-individual ensemble that individuates/is individuated [*s'individue*]" (Barthélémy , "Du Mort," 85). The distinction of the subject from the individual, and its status as the individual-pre-individual ensemble—as a process at once actual and virtual—is, for Barthélémy, what makes Simondon's conception of transindividual individuation "difficultly thinkable."

What remains to be addressed is the role technics plays in this individuation and how, specifically, transindividuation can be said to depend on a certain relation with technical artifacts. Addressing this conjunction of transindividuation and technics will require us to explore exactly how the genesis of the transindividual both supports and refutes Bernard Stiegler's thesis concerning *epiphylogenesis*, the evolution of life by means other than life. As the actualization of pre-individual potential in the form of mediation, technical objects furnish the support for transindividuation, and in so doing actualize the *epiphylogenetic* dimension of human evolution (Stiegler, 143). Technical objects thus convert the pre-individual excess associated with the living individual into a transindividual excess associated with that dimension of the human which is exterior to its biological or zoological individuation. As Barthélémy puts it,

> The technical object that receives the pre-individual part of the "subject" is also and reciprocally that which makes this "subject" undergo transindividual individuation in its *distinction* from the pre-individual. The technical object simply is this mediation by which the transindividual is constituted in its incomprehensible psycho-social indissociability, … *it furnishes the place where "the exterior is interiorized" and "the interior is exteriorized."* (2005, 228)

However, as Barthélémy also points out (namely, in his paper in the present volume), this exteriority is not and cannot be radical, on account of the anteriority of the living to the technical. The specific genesis of the transindividual I have sketched here thus parts company with Stiegler in that it locates psychosocial commonality not in the direct technical mediation of memory (tertiary memories, whether industrialized or personalized), but rather in the more indirect technical mediation of an environmental sensibility shared by living beings prior to and independently of their subsequent psychic individualizations as perceivers, subjects, or consciousnesses.

To gain a proper appreciation for the difference at issue here, we will have to explore more deeply the way that technics, in the very process of supporting transindividuation, opens a new non-individual subjective dimension of experience. To that end, let me cite an important passage from Simondon's *L'Individuation* which, according to Barthélémy, underwrites his above specification of the theoretical tension in Simondon's work; the passage is dedicated to the "problematic of the reflexivity in individuation" and concerns the relation of the transindividual to immanence and transcendence:

> …neither the idea of immanence nor the idea of transcendence can completely account for the characteristics of the transindividual in relation to the psychological individual. Transcendence and immanence are in effect defined and fixed before the moment when the individual becomes one of the terms of the relation in which it is integrated, but

> whose other term was already given. Indeed, if one admits that the transindividual is self-constitutive, one will see that the schema of transcendence and the schema of immanence can account for this self-constitution only through their simultaneity and reciprocity. At each instant of self-constitution, the relation between the individual and the transindividual is effectively defined as what EXCEEDS THE INDIVIDUAL WHILE PROLONGING IT: the transindividual is not exterior to the individual and yet it is in a certain sense detached from it. (Simondon, cited in Barthélémy 2009, 83-84)

This clarification of the transindividual's relation to the individual—detachment without exteriority, interiorized or internalized otherness—helps us resolve two problems associated with this "theoretical tension" at the heart of Simondon's mediation of individuation and technics. First, it lets us pinpoint the crucial role that technical objects play in Simondon's account of transindividuation: technical objects are what facilitates a form of relationality with preindividual environmental sensibility that is subjective without being subject-bound. Second, it reveals the extent to which Simondon's turn to technics occurs within the framework of the larger account of human-implicating individuation and of transindividuation *as an element within it*.

Nothing less is at stake in a crucial passage from *Du Mode d'existence des objets techniques* where Simondon specifies how technics mediates the pre-individual for transindividuation:

> Through the mediation of the technical object an interhuman relation is created that forms the model of *transindividuality*. By transindividual, we mean a relation that does not put individuals in relation through the means of their already constituted individuality that separates them one from the others, nor through the means of what is identical in all human subjects, for example *a priori* forms of sensibility, but rather by means of this charge of pre-individual reality, this charge of nature that is conserved with each individual being, and which contains potentials and virtuality.(247-48)

Given the participation of transindividuation within a broader, human-implicating individuation, the relation of internalized otherness—detachment without exteriority—that characterizes transindividuation cannot but constrain us in our efforts to theorize the technical object. In this respect, Simondon's account of the technical object goes in a very different direction than that of Stiegler. For Simondon, the technical object is emphatically not a quasi-transcendental condition for transindividuation as such (as if it could be separated from the larger, human-implicating individuation in which, ultimately, it must be said to participate). Rather, it is *a form of mediation between the pre-individual and the transindividual*, or more precisely, a mediation between the pre-individual dimension of the subject and the latter's transindividual individuation as dispersed subjectivity.[6]

We can now fully appreciate how Simondon's analysis of technics in *Du Mode d'existence des objets techniques* addresses the tension bequeathed us by *L'Individuation*. The seeming paradox of a transindividual anterior to the individual yet nonetheless distinct from the pre-individual predetermines how we must read Simondon's definition of the technical object as "the support and the symbol of this relation that we want to name *transindividual*" (*Du Mode*, 247). Bluntly put: the technical object is what transforms—and what is necessary to transform—the pre-individual charge into the source for transindividual individuation of dispersed subjectivity. This transformation forms a strict counterpart to the psychic disindividualization which, as I have argued, is requisite to prepare for the transindividual re-individuation (and dispersal) of the subject. In this respect, the operation of the technical object in transindividuation introduces a certain asymmetry between the technical object as "symbol," on one hand, and as "support," on the other. For whereas the symbolic dimension of the technical object correlates with its operation in bio-psychic individuation—it expresses the pre-individual charge in a static form (as the subject)—its function as support for transindividuation is dynamic in the sense that it reindividuates the larger human-implicating individuation. That is why Barthélémy can argue that "to pass from the idea of the technical object as 'symbol' to that of the technical object as 'support' is to conceive that the technical object, insofar as it receives the pre-individual share of the 'subject,' is also and reciprocally what lets the 'subject' attain transindividual individuation in its *distinction* from the pre-individual" (2009, 85). On this reading, the technical object supports the operation of transindividuation specifically by deploying its own symbolic content—its expression of the pre-individual share attached to the subject—in the service of a new individuation which, as I have suggested, disperses that share into a non-subjective subjectivity.

At several points in my discussion thus far, I have hinted at certain updatings necessary to bring Simondon's account into line with the reality of contemporary media culture. Let me now consider directly how Simondon's account of transindividuation, insofar as it depends on a certain correlation with technics, can help us appreciate the experiential situation presented by contemporary developments in computational technics which, as I have argued elsewhere, have occasioned a paradigm shift in how media impact human experience. Most crucial for Simondon's relevance here is the conjunction of psychic disindividualization and transindividuation in the figure of the technical object: because he locates technics within a human-implicating (though, to be sure, not necessarily a human-centered) individuation, Simondon's account is uniquely capable of accounting for both the technical transformation at issue in the compu-

tational revolution and for the experiential situation that is inseparable from it. To put this even more bluntly, in Simondon's ontology of individuation, the very same operation—technical distribution—generates both psychic disindividualization (at the level of bio-psychic individuation) and transindividuation proper. This is why I have stated more than once that technics not only facilitates transindividuation, but in fact *it makes it necessary*: transindividuation is a dimension of human-implicating individuation that correlates with the contemporary phase of technical development characterized by the technical distribution of sensibility.

To address the specificity of twenty-first-century media, and, in particular, the increasingly prominent operation of media at levels of experience that remain inaccessible to perceptual consciousness, we must reconceptualize the coupling of human and technics beyond the figure of the "technical object." In the wake of computational technologies that distribute sensibility beyond consciousness, the correlation between human-implicating individuation and technics has moved beyond what we might think of as its objective stage—a stage which, as I have argued elsewhere and in relation specifically to Stiegler's work, is characterized by a temporal synchronization between consciousness and technical object—and has entered a properly processual stage in which technics directly intensifies sub-perceptual dimensions of human experience and thus comes to mediate forms of transindividuation which, by maximizing the potential of the pre-individual, transform the very being of the human.

By specifying that technics (rather than the technical object) functions as the support for psychic disindividualization, I mean quite literally that technics intensifies human individuation by opening it up to elements of sensory experience—or, better, of worldly sensibility—that remain inaccessible to higher-order, object-centered sense perception and conscious experience. This argument lies at the heart of my current work on twenty-first-century media, in which I deploy a broadly Whiteheadian ontology to describe the technical intensification of experience underway in our world today. Rather than rehearsing this general argument here, let me simply try to pinpoint the crucial contribution that Simondon's ontology makes to it, or more specifically, how Simondon's double-valenced account of human-implicating individuation—as correlated simultaneously with an actualized, associated milieu and with a pre-individual domain of potentiality, and as a conjunction of bio-psychic individuation and transindividuation—can help us understand something that is also at work in Whitehead, though perhaps in less explicit terms. This is the capacity of human-implicating individuation to encompass both sub-perceptual, "microscale" experience of worldly sensibility and, at the same time, properly perceptual, "macroscale" experience, without

either reducing the former to the latter or, alternatively, dismissing the latter as merely epiphenomenal. More clearly than Whitehead's ontology of actual entitites (at least on its orthodox reading), Simondon's ontology of individuation embraces the seeming paradox of a process of individuation encompassing both bio-psychical individuation and transindividual individuation—which is to say, two distinct forms of individuation, one of which is centered on the bio-psychical individual and its actualized coupling to an associated milieu, and another that emerges from the sub-individual, technically-supported impact of worldly sensibility operating as "pure potentiality" for collective individuations rooted in some shared element of pre-individual reality.

Beyond its crucial role in introducing technics into the discussion of individuation, Simondon's ontology helps to clarify the crucial role potentiality plays in the paradigm of twenty-first-century media beyond, and to some extent against, Whitehead's account. This clarifying function stems directly from Simondon's critical stance on actualism and his consequent—and unequivocal—embrace of potentiality. As philosopher Miguel de Beistegui explains, this stance allows Simondon "to privilege the *relationality* of being, as opposed to its identity, and its *potentiality*, as opposed to its actuality" (118). The crux of Simondon's position, as de Beistegui properly characterizes it, concerns the ongoing role potentiality plays in individuation—or, put another way, the longterm coupling between pre-individual potentiality and individuated actuality in the unfolding of any individuation. Simondon, de Beistegui continues,

> envisages the individual on the basis of a horizon of problematicity, and as a solution to a pre-individual problem: it is a "mode of resolving an initial incompatibility that is rich in potentials" and the last phase of a "tense, oversaturated phenomenon, above the level of unity." The pre-individual horizon or stratum is thus defined in terms of an incompatibility, an imbalance between potentials of energy, from which the constitution of an individual emerges progressively. The individuated individual emerges as the solution to a problem that is itself of a different nature. Let me emphasize that the individual always retains its pre-individual reality, even when fully individuated, and that its individuation does not exhaust all of its potentials at once. (119)

De Beistegui here pinpoints what is most significant about Simondon's account of individuation: namely, that it is a solution to a problem at a different level, a resolution of a metastability, that does not simply close off that level or source of metastability, but that preserves an open and ongoing connection with it. In this respect, every individuation is a balancing act of sorts between a pre-individual, worldly potentiality that exceeds any specific individuation it may energize and a continuously reiterated process through which that potentiality is channeled and actualized.

As I see it, this formulation of the double-valenced operationality of individuation captures more clearly than does Whitehead's ontology of actual entities (at least as understood by his critical orthodoxy) something about the way we experience twenty-first-century media which—and this is the key point—exerts its impact in large part *by affecting the domain of potentiality directly*, prior to and in some important sense autonomously from any actualization of that potentiality. The crucial point here is that media impacts human experience *indirectly*, through its contribution to the contrastive potentiality of the settled world of attained actualities that constitutes the "real potentiality" for future concrescences or subjective becomings.[7]

One important consequence of this understanding concerns the status of subjectivity in relation to media, and what Whitehead helps to show, aided by some key interpreters, is that media, by impacting the contrastive potentiality of the world, informs the operation of intensity which is, for philosopher Judith Jones (and I wholeheartedly concur) simply equivalent with—which simply *is*—the subject, though not the subject *qua* substance. "Intensive achievement," Jones concludes, "is the formed agency of contrastive feeling. … The agency of contrast *is* the subject, the subject *is* the agency of contrast. To be a subject is to be a provoked instance of the agency of contrast, and that is all it is" (Jones, 130-31). What is crucial about this operation of intensity—of the subject as agency of contrast—is that it gives rise to a form of actuality which, unlike Whitehead's canonical account of the concrescence (or subjective becoming) of actual entities, does not adhere to the narrow understanding of actuality as self-creating and thus does not stand in opposition to potentiality. Intensity, rather, is a form of actuality that emerges directly from potentiality in a manner not dissimilar to the emergence of individuation as the resolution of a pre-individual metastability.

On this front, we would have to question—or at least to temper—the conclusions to which Didier Debaise comes in his account of Whitehead's differences from Simondon. Specifically, the operation of intensity must be understood as contributing to the domain of potentiality; as Jones puts it, "wherever the contrasts achieved by an individual are reiterated in another individual, the original individual *is* there in the agentive sense"[8] As such, intensity institutes a certain continuity, a vibratory coupling, between potentiality and actuality. On the basis of this continuity, we can posit a convergence where Debaise sees only stark difference. To see why, let us consider Debaise's conclusion:

> Whitehead does not have, as Simondon does, any desire to "go beyond" the individual towards nature. Nature is not, in *Process and Reality*, what explains, this source of the possible, but what must be explained; it is

> not "pre-individual," but manufactured, constructed, on the basis of a multiplicity of individual beings [*êtres-individuels*]. One could say that Whitehead tries to recover a thinking of individuation that, in its refusal of the classical notion of the individual, is quite close in its intention to that of Simondon, but that is however organized entirely around an overhaul of the concept of the individual. His ambition is to construct a veritable thinking of individuation that, however, would no longer be rooted in a reality … that would possess a chronological or ontological anteriority in relation to the individual and to which this latter could be reduced. (65)

I cite this passage from Debaise not only to contextualize my claim concerning intensity, but because it helps us to grasp how Whitehead and Simondon mutually illuminate one another.

Thus, under the pressure of Debaise's indictment of Simondon for reducing the individual to nature *qua* abstract anterior reality, we are emboldened to consider how the "promiscuity" of intensity—its continued operation in subsequent individuations—lends a concreteness or measure of determination to the pre-individual domain of potentiality. In a manner that is analogous to how eternal objects must be coupled with actualizations, and thus come to determine a "real" (as opposed to a "pure") potentiality in Whitehead, the pre-individual is thus qualified by the very individuations it energizes and that contribute to the way that its (pre-individual) potentiality can inform future individuations. Such qualification allows us to historicize the pre-individual domain, and, at the limit, to correlate its contemporary operation with technical processes that qualify how the pre-individual (or nature) informs actual experience.

And, on the flipside, Simondon's account of potentiality poses a challenge to Whitehead—a challenge that becomes unavoidable once we introduce intensity and move beyond any stark opposition between the actual and the potential. This challenge forces us to take seriously the way that the attained actualities composing Whitehead's "real potentiality" operate as a pre-individual domain motivating subsequent actualizations. In the wake of those revisionary readings of Whitehead (most notably the readings of Jones and of Jorge Luis Nobo) that emphasize the ontological power of attained actualities, we can no longer lend near-exclusive privilege to the concrescent phase that produces new actual entities (or actualities in attainment), as Whitehead and the vast majority of his interpreters do.

Rather, what the revisonary position entails, as I have already suggested, is a radically environmental perspective on becoming, one in which the power of superjects (former concrescent actualities that have become part of the settled world) operates *alongside* the power of subjective concrescences, and indeed, forms something like a source of potentiality for the latter.[9] The key point here is that the settled world of

attained actualities—the world of actualities that have been concretely determined by eternal objects (which have themselves become actual in some sense)—comprises a universe whose total causal efficacy exceeds any particular actualization that might arise on its basis. This is the domain of "real potentiality" and it functions, or so I want to suggest, as a pre-individual or metastable domain for future actualizations; indeed, like Simondon's pre-individual metastability, this total causal efficacy harbors forces that are in tension and that can only be resolved through new actualities which, following their genesis, are added back into the total causal nexus of metastable attained actualities.

Full exploration of the resonance between Simondon's and Whitehead's ontologies would require us to consider the function of nexuses and societies—groupings of actual entities that endure as groupings. It is these *experiential* entities (and not actual entities in themselves) that most closely approximate Simondonian individuations: insofar as they remain open to the broader domain of causal efficacy despite their common causal heritage, such enduring experiential entities are, like Simondonian individuations, energized by the power of potentiality—the real potentiality of attained actualities operating as a pre-individual metastability. Yet because Simondon postulates a double-valenced relationality, according to which a given individuation remains open to and draws upon two distinct sources of potentiality—an actualized "associated milieu" *and* the metastable pre-individual domain itself—his conception of individuation is able to encompass an entire realm of experience for which Whitehead's ontology seemingly makes no provision: namely, the causal interaction between relatively-integrated and more diffuse elements of an ongoing individuation. Put another way, Simondon's theory, precisely because it locates the individual within—and thus foregrounds its incompleteness in relation to—distinct domains of potentiality, is able to grant the individual the status of a complexly enduring entity without rendering it a substance or closing off its openness to a pre-individual source of potentiality that it cannot be said to "manufacture" or to "construct" (as Debaise, here following Isabelle Stengers, would have it[10]).

To capitalize fully on this theoretical advantage, we must modify Simondon's account of transindividuation in a way that I have already mentioned more than once, and that parallels our above updating of his understanding of technics. Thus, just as the technical object had to make way for technical processes that operate through far more complex imbrications with human activity, so too must the element of individuation that is liberated by psychic disindividualization—what Simondon simply, if problematically, calls the "subject"—be made to assume the full extent of its imbrication within the domain of potentiality. The crucial point

at issue here concerns the "source" for transindividuation: accordingly, while transindividuation is instigated by technical distribution, it occurs in virtue of —and to the benefit of—a subjectivity that cannot be tied narrowly to the figure of the subject (or any other element of an already partially realized bio-psychical individuation), but arises from multiple sources of potentiality at various levels of the virtual-actual continuum. Thus, transindividuation befalls individuation—and modifies concrete bio-psychic individuations—from the worldly outside: it results when an already-underway, yet fundamentally incomplete and thus open bio-psychic individuation encounters a less integrated and less centripetally-unified subjectivity emanating directly from the contrasts or tensions within worldly sensibility. Thus, not only is the "subject" resolutely not a faculty *of the individual* (indeed, for Simondon, it is precisely what acts in the place of the individual), it is *not a faculty at all*. It is, rather, a power—the power of intensity or the agency of contrast—that is manifest wherever the domain of potentiality impinges on the future-oriented present. Transindividuation results from this subjective power insofar as it is infused directly into the real potentiality for becoming: it is produced by a force—the force of intensity—that emerges, as a resolution of sorts, directly out of encounters among elements of worldly sensibility.

If twenty-first-century media harbors an affinity with transindividuation, it is not simply because of its predominant social dimension, the potential for collective organization and sharing that has caused it to be dubbed, in one of its avatars, "social media." More fundamentally, it is because today's media are able to access—and routinely operate by accessing—dimensions of our experience, of our open and ongoing individuation, that lie beneath the personal or individual level. This fact is absolutely crucial for appreciating the specificity of twenty-first-century media. Rather than furnishing a recorded surrogate for that experience, as nineteenth- and twentieth-century recording media certainly did, twenty-first-century media exercises its force by influencing *how experience occurs*. Rather than intervening at the level of memory itself, twenty-first-century media impacts the distinct and quasi-autonomous microagencies that underlie memory's integrated function, as well as other environmental dimensions that bear on that function. In a world increasingly *supported* by twenty-first-century media, the direct impact of media on human experience is thus massively overshadowed by its indirect impact; accordingly, instead of furnishing prostheses that expand experiential capacities beyond the various inbuilt limits of our sense organs and memory, today's media directly impact the very sensible continuum, the source of potentiality, from which delimited, agent- or faculty- centered, higher-order experience springs.

What I am calling twenty-first-century media—the host of contemporary technologies that record and analyze data beyond the reach of our human sensory apparatus—can best be characterized by way of the fundamental shift in their address to experience. Put bluntly, today's media no longer target human subjectivity as such (perceptual consciousness) but rather aim directly to target the non-subjective subjectivity at issue in worldly microsensibility. This shift in the address of media's targeting is precisely why media's determination of the pre-individual domain is such a crucial political issue for us today. For if it is the case that the pre-individual is not some abstract domain of nature, but is a source of "real potentiality" that is continuously being informed and reshaped by the actualizations or individuations to which it gives rise, then the question of its determination by media is nothing less than the question of the determination of the future.

In this respect, Stiegler is absolutely right to claim that the pre-individual is a thoroughly technical domain, even if he is mistaken in characterizing it in terms of the category of "tertiary memory."[11] (Tertiary memories are industrially-produced experiences which, though never lived by consciousness, *could have been* lived by consciousness; insofar as they form the predominant source of secondary memory in our world today, vastly eclipsing personal experience, as Stiegler suggests they do, they also form the basis for—and severely constrain—the anticipation of the future.) Against this characterization, but in line with Stiegler's fundamental insight concerning the technicity of the pre-individual, I would suggest that twenty-first-century media directly *engineers the potentiality of the pre-individual*, and thus comes to impact ongoing and future individuations not as a repository of content to be drawn on as an immediate source for consciousness's imagining of a viable future, but rather as a far more diffuse, multi-scalar and heterogeneous subjective power—intensity—that operates across all dimensions of the total causal situation and predetermines the future (where "predetermines" has the positive sense of enabling or facilitating) not just through the imaginings of a phenomenological subject, but in a whole host of materially-consequential, causally efficacious, and non-subjectively subjective ways.

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Notes

1. Mark Hansen, "System-Environment Hybrids," in Bruce Clarke and Mark Hansen, *Emergence and Embodiment: New Essays on Second Order Cybernetics* (Durham: Duke UP, 2009).
2. For example, in the work of Donald Norman. In particular, see Norman, *The Invisible Computer* (Cambridge: MIT Press, 1998), 123-6.

3. "In order for the relation of being to being to be possible, an individuation is necessary that envelops the beings between which the relation exists: that assumes that there exists in individuated beings a certain indeterminate charge, which is to say a charge of pre-individual reality that has passed across the operation of individuation without being effectively individuated. One can call this indeterminate charge nature. We must not conceive it as pure virtuality (which would be an abstract notion stemming in a certain sense from the hylemorphic schema), but as true reality charged with potentials that are actually existing as potentials, which is to say, as energy of a metastable system. The notion of virtuality must be replaced by that of metastability of a system." (*L'Individuation*, 313)
4. Marta Braun, *Picturing Time: the Work of Etienne-Jules Marey (1830-1904)* (Chicago: University of Chicago Press, 1995).
5. The question of this absence of the aesthetic in Simondon was the topic of Duhem's talk at the Conference on Gilbert Simondon, held at the American University in Paris, May 2010. See also Ludovic Duhem, "La tache aveugle et le point seutre (Sur le double 'faux départ' de l'esthétique de Simondon)," in *Cahiers Simondon*, Numéro 1 (Paris: Maison des Sciences de l'Homme de Paris-Nord, 2009), 115-34.
6. Barthélémy argues that Stiegler "*radicalizes and definitely modifies* one of the major theses by means of which Simondon became famous as a thinker of technics. In effect, whereas Simondon made the technical object the 'support' of a human relation which was a 'model of transindividuality,' Stiegler claims that the *artifact in general* is the *foundation* of *all* transindividuality. In other words, no transindividual regime of individuation without a world of artifacts…" ("Penser après Simondon et par-delà Deleuze," *Cahiers Simondon*, Numèro 2 [Paris: Maison des Sciences de l'Homme de Paris-Nord, 2010], 135.
7. My current work explores how Whitehead's conception of the extensive continuum as a primordially sensible or vibratory continuum furnishes the basis for conceptualizing the impact of twenty-first century media on and through potentiality.
8. "The pattern involved in an intense contrast is more than a mere arrangement of eternal objects. It is the feeling of the dynamic presence of the (other) individuals felt into the unity of a subject's intensity. This is the only way to understand Whitehead's repeated assertion of the vibratory character of actuality. No vibratory character has only one cycle *qua that vibratory character* – to be a vibratory character is to be an intensive imposition on all subsequent process, and, on the other end, to have emerged from the enduring vibrations of other insistent agencies of contrast. I see no other way of understanding why provision for fuure intensity is included in the category respecting 'subjective' concrescence" (Jones, 130-1).
9. This is the position of Nobo who argues for a "dative phase" in which former actualities which are now part of the settled world (what he, following Whitehead, calls attained actualities) are given for a new concrescence that, at this stage in the game, *is still to come*. See, Jorge Luis Nobo. *Whitehead's Metaphysics of Extension and Solidarity* (Albany, NY: State University of New York Press 1986).
10 See Debaise, 65; this constructive account of Whitehead informs Stengers' encyclopedic study of Whitehead, *Penser avec Whitehead : Une libre et sauvage création de concept*s (Paris: Seuil, 2002).
11. Stiegler develops his reading of Simondon, which he acknowledges to be a strong reading in Harold Bloom's sense, in the third volume of *Technics and Time* (2001). The crucial argument of this reading – and the one to which I object – is the treatment of the preinvidividual as the repository of tertiary memories. As I see it, whatever the merits of Stiegler's move here, and one is, as mentioned, the revelation that the pre-individual is technical, this identification jettisons the general energetics of Simondon's work and the ways in which the pre-individual is a metastable potentiality, a potentiality involving tensions between levels of being.

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