The Problem of Method: Deleuze and Simondon

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Abstract
This paper examines the relationship between Simondon’s theory of individuation and Deleuze’s transcendental empiricism. Deleuze credits Simondon with inventing a new conception of the transcendental—a claim that might have taken Simondon by surprise, as this term does not play any significant role in his oeuvre. The aim of this paper is to show both that Simondon’s philosophy contributed to the construction of Deleuze’s transcendental philosophy in an essential way and that the nature of his own project is radically different from Deleuze’s. The most important divergence between the two thinkers lies arguably in their respective methods. What this difference brings to the fore is Deleuze’s adherence to the philosophical traditions of idealism and structuralism at this stage of his thought.

Keywords: Deleuze, Simondon, individuation, transcendental empiricism, analogy, dialectic of Ideas, structuralism

Deleuze held the philosophy of Gilbert Simondon in high esteem, as can be seen in his 1966 review of Simondon’s book *L’Individu et sa genèse physico-biologique*, where he claims that ‘few books can impress a reader as much as this one can’ (Deleuze 2004b: 89). Traces of Simondon’s thought can be found throughout Deleuze’s work, in particular in *Difference and Repetition* and *The Logic of Sense*, but also in his joint work with Félix Guattari where Simondon’s critique of hylomorphism is cited with approval.

Deleuze and Simondon have much in common: they both advocate a conception of pre-individual being that is freed from the shackles of
unity and identity, a science of the individual that no longer classifies it according to generic and specific differences but through spatio-temporal dynamisms, a primacy of difference or disparation, which is presupposed by all other states, and a notion of the problem endowed with an objective sense. However, according to Deleuze, the ‘special importance’ of Simondon’s book lies in its presentation of ‘a new conception of the transcendental’ (Deleuze 1990: 344, n.3) – a claim that might have taken Simondon by surprise, since the notion of the transcendental appears only once in his book, in the last chapter where he discusses the collective as a condition of signification.

What does Deleuze mean by this claim? How can Simondon’s philosophy have served as an inspiration for the transcendental empiricism that Deleuze develops in *Difference and Repetition*? This paper will show that Simondon himself could not have gone in the direction of constructing a new transcendental philosophy in the Deleuzian sense, due to his philosophical method and its implications. It is precisely in terms of method where the greatest divergence between the two thinkers is to be found. What this difference ultimately reveals is the nature of Deleuze’s adherence to structuralism and a dialectic of Ideas at this stage of his work.

I. Simondon’s Theory of Individuation

In his review ‘On Gilbert Simondon’ from 1966, Deleuze praises Simondon’s ‘profoundly original theory of individuation implying a whole philosophy’ (Deleuze 2004b: 86), and he claims that ‘the new concepts established by Simondon seem … extremely important; their wealth and originality are striking, when they’re not outright inspiring’ (Deleuze 2004b: 89). Simondon’s enquiry into the nature of individuation attempts to grasp the genesis of individuals through operations of individuation and not by presupposing some prior principle of individuation. According to Simondon, the very notion of a principle is already flawed: it tends to leave unexplained or mask the real operations of individuation. It presupposes what it is supposed to explain—for instance, the ancient theory of atomism explains the constituted individual as a compound of pre-existing individual atoms and thus fails to account for the genesis of individual atoms. Or, in the case of the Aristotelian model of hylomorphism, one divides the unity of the concrete individual (*synolon*) into its essential elements of composition, form and matter, but leaves obscure the actual processes involved in taking on form. The fundamental mistake in each case is
to start from the already constituted individual and to consider it as the final reality to be explained. Such an approach fails to provide a true account of ontogenesis (Simondon 2013a: 23), that is, of the ‘becoming of being’ (Simondon 2013a: 25). Simondon’s approach to this problem consists in studying particular cases of physical, biological and psychosocial individuation, discussed in the scientific literature. According to Deleuze, Simondon ‘demonstrates the extent to which a philosopher can both find his inspiration in contemporary science and at the same time connect with the major problems of classical philosophy’ (Deleuze 2004b: 89).

Simondon draws the basic material for his theory of individuation from chemistry (the study of the conditions of crystallisation) and the cybernetic theory of information (the study of the transmission of information through the modulation of electrical currents) (Simondon 2013b: 536). Crystallisation serves as a paradigm case of the resolution of a metastable system. A system of stable equilibrium is one that has attained the highest level of homogeneity and the lowest level of potential energy such that it can no longer transform itself. By contrast, a metastable equilibrium harbours potential energies that can be actualised under the condition of slight changes of the system’s parameters (for example, changes in temperature or pressure). Simondon looks at the particular case of introducing a seed into a supersaturated solution. He calls ‘internal resonance’ the resulting state of tension and forced communication between the supersaturated solution, charged with potential energies, and the seed as a singularity initiating an emergence of structure. The genesis of the individual crystal comes about through operations of successive structuring that occur at its surface whereby each completed layer of the crystal lattice serves as the organising base for the next one.

Simondon uses the term ‘transduction’ to describe the progressive expansion of structure within the system. He transfers this transductive operation, by means of analogy, to other domains as well. ‘By transduction we mean an operation—physical, biological, mental, social—by which an activity propagates itself from one element to the next, within a given domain’ (Simondon 2013a: 32). However, Simondon takes care to distinguish processes of transduction in the domain of the living from those concerning physical systems. There are chronological and topological differences as well as differences in the receptivity of information and the resolution of initial incompatibilities. In the case of the crystal, the transductive operation is carried out at the surface; only the crystal’s outer layer reacts with the solution.
As Simondon says, ‘it is the limit of the individual which is in the present’ (Simondon 2013a: 90). The crystal’s interior is the result of past activity; it remains closed upon itself and no longer plays any role in the operation of transduction. This is why Simondon states that ‘the words “interiority” and “exteriority” do not apply in their usual sense to this reality that is the crystal’ (Simondon 2013a: 95). By contrast, a living individual is entirely contemporaneous with itself; its interiority is in constant exchange with the exterior milieu through the permeable and polarised membrane.

The interior space of the living being plays an important role for the perpetuation of individuation: ‘all the content of the interior space is topologically in contact with all the content of the exterior space at the limits of the living being; there is, in fact, no distance in topology’ (Simondon 2013a: 226). According to Simondon, there is thus a specific chrono-topology associated with the living system. Moreover, one of the characteristics of the living being is the permanence of individuation: it constantly encounters problems that necessitate a solution, and it solves problems not merely by adapting itself to an outer milieu but by actively modifying the milieu and its own internal structures. The living individual ‘carries an inner problematic and can enter as an element into a problematic that is larger than its own being’ (Simondon 2013a: 29, emphasis in original). As Simondon points out, there is a moment of invention in the resolution of problems, a creative activity that relies on a sense of time, on past experiences and future anticipations.

In the case of the crystal, however, the event that triggers the individuation occurs only once, with the introduction of the seed into the supersaturated solution. In other words, information is received once and it marks the beginning of the transductive process: the internal resonance between the two different orders of magnitude, potential energy and structural seed, and the progressive propagation of structure. The crystal grows until the potential energy of the supersaturated solution is exhausted. It can continue its growth in a new supersaturated solution; however, new molecular layers always preserve the same characteristics. In other words, the periodic structure of the crystal is only iterated; there is no sign of creative activity or invention (Simondon 2013a: 95). Therefore, the notion of a problematic field does not really apply in the case of the crystal, as a crystal is not endowed with a capacity for invention or a sense of time.

From these examples we can see that Simondon’s notion of transduction is case-specific. Transductive operations are always singular; they are distinguished from one another with regard to the distinct chronological and spatial dynamisms that individuate a
system, the system’s sensitivity to information and the specific capacity for resolving internal incompatibilities. Yet Simondon confers on transduction the status of an epistemological and ontological principle: ‘it is therefore a notion that is both metaphysical and logical. It applies to ontogenesis, and is ontogenesis itself’ (Simondon 2013a: 33, emphasis in original). Transduction explains and indeed is the becoming of being or, in more scientific terms, the dephasing of being. ‘Transduction is the correlative appearance of dimensions and structures in a being of pre-individual tension, that is to say in a being that is more than unity and more than identity, and that has not yet dephased itself into multiple dimensions’ (Simondon 2013a: 33).

Simondon’s ontogenetic theory is a theory of the becoming of being, according to which there is a level of pre-individual being that precedes and gives rise to any individual, subject or object. This is never one: ‘unity and identity only apply to one of the phases of being, posterior to the operation of individuation’ (Simondon 2013a: 25–6). Simondon explains pre-individual being through the term ‘metastability’: ‘original being is not stable, it is metastable’ (Simondon 2013a: 316). Operations of individuation thus occur in a metastable field, endowed with tensions, incompatibilities or disparities. A concrete individual is not a being accomplished once and for all, but rather a relational being in a twofold sense: it is related to the pre-individual mode of being from which it emerges and to the milieu in which it lives and which harbours potentials for further individuation. Strictly speaking, the result of individuation is never an individual but rather the ‘pair individual–milieu’ (Simondon 2013a: 25). The mode of existence of individual beings can thus be characterised through its relationality.

For Simondon, all such relations have ‘the rank of being. The relation is a modality of being; it is simultaneous to the terms whose existence it establishes’ (Simondon 2013a: 32). Relations in Simondon’s sense are not external relations between already constituted individuals, nor are they mere accidents attributed to a substance. Rather, they are internal relations—tensions, incompatibilities or disparities; they concern a state of ‘disparation’ within dynamic systems. Simondon defines relation as ‘a constitutive, energetic and structural condition that prolongs itself in the existence of constituted beings’ (Simondon 2013a: 83, emphasis in original). However, as Muriel Combes points out,

we must avoid extracting a general statement from it (of the type: ‘Being is relation’), for this would undermine the central postulate wherein a theory of individuation always and necessarily proceeds from cases. . . . We may say, then, that relation constitutes the being of the physical individual, of the living
being, of the psychic subject, and so on, in a manner that is in each instance singular. There exists, however, a certain number of characteristics common to operations of individuation as a whole, without which there would be no sense in attempting a study of individuation of the sort Simondon undertakes. (Combes 2013: 19)

It is this interplay between the specificity of cases of individuation and the generality of the transductive operation that marks the essential tension of Simondon’s work, a tension that he arguably refrain from resolving in a single direction.

II. Traces of Simondonian Thought in Difference and Repetition

What is the appeal of Simondon’s theory of individuation for Deleuze? This section will focus on four main contributions that Simondon’s thought makes to Deleuze’s transcendental empiricism, some of which are more important than others: (1) a genetic method and the concept of disparation, (2) the notions of the problematic and of pre-individual singularities, (3) the conception of intensive fields of individuation, and (4) an aesthetics of intensities, that is, a physical art of signals and signs.

(1) As Deleuze says in his 1966 review, Simondon offers a principle that is ‘truly genetic, and not simply a principle of reflection’ (Deleuze 2004b: 86); in The Logic of Sense he adds that we find in Simondon’s philosophy a ‘new conception of the transcendental’ (Deleuze 1990: 344, n.3). Simondon himself is not concerned with the question of transcendental conditions—he takes them in the Kantian sense as synonymous with a priori structures that are imposed on an a posteriori matter of sensation: a model that just replicates the hylomorphic schema at the level of epistemology: ‘The distinction between a priori and a posteriori, an effect of the hylomorphic schema in the theory of knowledge, masks with its central obscure zone the veritable operation of individuation that is the centre of knowledge’ (Simondon 2013a: 30). Just as the model of hylomorphism obscures the individuation of concrete individuals at the level of ontology, it also obscures the individuation of knowledge and thought at the level of epistemology.

Deleuze’s engagement with Kant’s philosophy goes back to the early 1960s, and from the beginning questions precisely this conception of transcendental conditions as given a priori mental structures. In his essay ‘The Idea of Genesis in Kant’s Esthetics’ (1963), he indicates the way in which the Kantian model of simple conditioning has to be overcome,
and notes that ‘Post-Kantians, especially Maimon and Fichte, raised this fundamental objection: Kant neglected the demands of a genetic method’ (Deleuze 2004a: 61). In other words, transcendental conditioning has to be replaced by a ‘transcendental genesis’ (61).

As we know from his critique of Kant in *Difference and Repetition*, Deleuze maintains that transcendental conditions must not be conceived as mere concepts of reflection, abstracted from experience and arbitrarily projected as conditions of possibility of objective experience. Kant is guilty of ‘elevating a simple empirical figure to the status of a transcendental, at the risk of allowing the real structures of the transcendental to fall into the empirical’ (Deleuze 1994: 154). Deleuze searches for a transcendental principle that does not resemble what it conditions—a principle that can give a truly genetic account of real experience, a sufficient reason that would function as a groundless ground: ‘If sufficient reason or the ground has a “twist”, this is because it relates what it grounds to that which is truly groundless’ (Deleuze 1994: 154).³

We know that difference is the ultimate reason for Deleuze, or more precisely the perplication of Ideas that consist of differential relations and singular points. Arguably, a major influence in this respect was Salomon Maimon’s conception of differential ideas of the understanding that are endowed with a genetic power of production. Yet Maimon maintains the dominance of identity in the end: the identity of an infinite intellect, of which the human understanding is but a part. Simondon’s conception of pre-individual being, on the other hand, has renounced the presupposition of unity and identity: being is ‘more than unity and more than identity’ (Simondon 2013a: 31), a metastable system, characterised by a state of *disparation*. The genetic aspect that Deleuze finds in Simondon is traced to the priority of disparation: it entails two different levels of reality that, when forced into communication, produce a new state of the system, a new dimension of being. As Deleuze puts it in *Difference and Repetition*, the existence of ‘disparateness’ involves

at least two orders of magnitude or two scales of heterogeneous reality between which potentials are distributed. Such a pre-individual field nevertheless does not lack singularities: the distinctive or singular points are defined by the existence and distribution of potentials. An ‘objective’ problematic field thus appears, determined by the distance between two heterogeneous orders. Individuation emerges like the act of solving a problem, or—what amounts to the same thing—like the actualisation of a potential and the establishing of communication between disparates. (Deleuze 1994: 246)
(2) This brings us to the second point: the notions of the problematic and of pre-individual singularities. In his review of Simondon, Deleuze had pointed to the ‘tremendous importance’ that the category of the problem acquires in Simondon’s thought, ‘insofar as the category is endowed with an objective sense: it no longer designates a provisional state of knowledge, an undetermined subjective concept, but a moment of being, the first pre-individual moment’ (Deleuze 2004b: 88). Regarding the concept of singularities, Deleuze even credits Simondon with ‘the first thought-out theory of impersonal and pre-individual singularities. It proposes explicitly, beginning with these singularities, to work out the genesis of the living individual and the knowing subject. It is therefore a new conception of the transcendental’ (Deleuze 1990: 344, n.3). However, in Deleuze’s usage both conceptions seem to undergo a fundamental modification precisely insofar as they acquire a transcendental status, which is not present in Simondon.

The first thing to notice is that Deleuze universalises the notion of the problematic; the problem is no longer, as in Simondon, an incompatibility that a living being encounters within itself, or between its own internal structures and the associated milieu. While Simondon uses the notion of the problem with reference to the living being that perpetuates individuation through the resolution of problems, this reference to the domain of life is not essential for Deleuze. Instead, the problematic is the modality of Ideas that are virtual and objective structures. Ideas are not abstract universals; they stand ‘opposed to concepts of the understanding’ (Deleuze 1994: 173). Deleuze claims that ‘Ideas are concrete universals’ because they include a multiplicity in themselves and subsume the distribution of distinct and singular points (Deleuze 1994: 176). Hence what characterises Deleuze’s account of the problematic is its nature as transcendental Idea, structure and multiplicity, made up of differential relations and singularities that determine the cases of solution.

The notion of the transcendental Idea is obviously borrowed from the Kantian theory of Ideas in the Critique of Pure Reason. Kant defines Ideas as transcendent concepts that are ‘not arbitrarily invented, but given as problems by the nature of reason itself’ (Kant [1781/1788] 1998: A 327/B 384). Ideas of reason are problematic because no adequate object in experience can be found that corresponds to them; they transcend the limits of experience. As Kant puts it, an Idea ‘remains a problem without any solution’ (Kant 1998: A 328/B 384). Transcendental Ideas nevertheless have a practical, regulative function that consists in extending the self-consistent use of the understanding
all the way up to the unconditioned synthetic unity of all conditions in general. The understanding can never reach this unconditioned unity, which contains ‘a ground of synthesis for what is conditioned’ (Kant 1998: A 322/B 379); it is the faculty of reason that provides the Idea of this unconditioned unity or ground of synthesis as a necessary fiction. In Kant’s terms, the transcendental Idea serves as a focus imaginarius (Kant 1998: A 644/B 672), or focal point, in that it systematises the exercise of the understanding; it projects a systematic unity as if all possible cognitions of the understanding had a single supreme and sufficient ground. Although Kant is quite explicit that Ideas are not objective, constitutive structures, yet as transcendental principles they ‘have objective but indeterminate validity, and serve as a rule of possible experience’ (Kant 1998: A 663/B 691):

For the law of reason to seek unity is necessary, since without it we would have no reason, and without that, no coherent use of the understanding, and, lacking that, no sufficient mark of empirical truth; thus in regard to the latter we simply have to presuppose the systematic unity of nature as objectively valid and necessary. (Kant 1998: A 651/B 679)

When Deleuze in *Difference and Repetition* elaborates his account of Ideas as ‘genuine objectivities, made up of differential elements and relations and provided with a specific mode – namely, the “problematic”’ (Deleuze 1994: 267), he refers only to Kant, without mentioning Simondon. The latter is nonetheless in the background, as Kant himself does not exactly claim that problematic Ideas are objective but only that we must presuppose their objective validity, if a unified system of experience is to be possible at all. According to Deleuze,

Kant likes to say that problematic Ideas are both objective and undetermined. The undetermined is not a simple imperfection in our knowledge or a lack in the object: it is a perfectly positive, objective structure which acts as a focus or horizon within perception. (Deleuze 1994: 169)

Deleuze’s aim here is clearly to conceptualise problems in general as Ideas: ‘Kant never ceased to remind us that Ideas are essentially “problematic”. Conversely, problems are Ideas’ (Deleuze 1994: 168). The dialectic of Ideas that Deleuze conceives will end up diverging quite far from the work of Simondon, for whom problems occur locally in the actual historical world and have to be solved by living beings; they have no ‘ideal half submerged in the virtual and constituted on the one hand by differential relations and on the other by corresponding singularities’ (Deleuze 1994: 179–80).
Similarly, Simondon’s notion of singularity has an operative function solely within a concrete spatio-temporal dynamic system; he employs it with regard to the structural seed, which functions as a trigger for individuation in the physical system. Singularities are formative partial elements in a fortuitous material encounter; they are, in Simondon’s words, ‘historical and local’ (Simondon 2013a: 81). In Deleuze’s reading, singularities are part of the problem-element, which differs in kind from the solution-element; they determine the conditions of the problem (Deleuze 1994: 163). In his review of Simondon, when he is discussing the status of singularities distributed in pre-individual being, Deleuze asks: ‘Is this not the same as in the theory of differential equations, where the existence and the distribution of “singularities” are of another nature than the “individual” forms of the integral curves in their neighbourhood?’ (Deleuze 2004b: 87). This is arguably not the way that Simondon conceives the problematic field, its disparation and resolution.

The theory of singularities as lying on the side of the problem-element is certainly Deleuze’s own creation. Deleuze recasts Simondon’s pre-individual being as ‘a virtual-ideal field, made up of differential relations’ and corresponding singularities (Deleuze 1994: 246). While his concepts are certainly inspired by Simondon, he takes a further step here, not least by employing differential calculus as a way of modelling the sufficiency of the virtual-ideal field, which is characterised through the three figures of determinability, reciprocal determination and complete determination (Deleuze 1994: 176). The virtual problem-element is different in kind from the actual solution-element; there is a dissimilarity between them as well as a fundamental dissymmetry. In establishing this difference in kind between the dialectic of Ideas-problems and the concomitant cases of solution, Deleuze needs to explain the progressive determination that co-determines the virtual and the actual. At this point, Simondon’s theory of individuation provides what would otherwise be a missing link in Deleuze’s transcendental empiricism: the conception of intensive fields of individuation.

(3) By defining the Idea as a structure, ‘in other words, a system of multiple, non-localisable connections between differential elements which is incarnated in real relations and actual terms’ (Deleuze 1994: 183), Deleuze carries over an interpretation of structuralism into his theory of Ideas. He claims to have solved the difficulty that this interpretation gives rise to, namely that of reconciling structure and
genesis. Indeed, he remarks that “‘structuralism’ seems to us the only means by which a genetic method can achieve its ambitions’ (Deleuze 1994: 183). Both structure and genesis seem to be essential elements of his account of transcendental empiricism. In his essay ‘How Do We Recognize Structuralism?’ from 1967, Deleuze claims that ‘structuralism cannot be separated from a new transcendental philosophy, in which the sites prevail over whatever occupies them’ (Deleuze 2004c: 174), an exact parallel to the claim he made for Simondon’s work. However, we must avoid conceiving of structure as an invariant formal programme or code for production, or as a causal factor. If that were the case, Deleuze’s fundamental claim about the univocity of being could not be upheld; there would be a categorial distinction between virtual structure and actual instantiation. Deleuze needs to show that univocal being is said of all differences, and he will therefore claim that being is immediately related to individuating differences or intensities, to an intensive field of individuation that precedes and determines processes of actualisation (Deleuze 1994: 38).

Individuating differences are those second-degree differences that play the role of the ‘differenciator’, the ‘disparate’ or the ‘dark precursor’, also called ‘paradoxical element’, ‘aleatory point’ and ‘empty square’ in The Logic of Sense, where its structuralist resonances are emphasised much more (Deleuze 1994: 117, 120); their task is to put the first-degree differences in relation to one another. While the notion of the ‘dark precursor’ is very close to Lacan’s objet petit a, which perpetually displaces and disguises itself within the series of signifiers and signifieds, the notion of the ‘disparate’ refers to Simondon and what he describes as spatio-temporal dynamism within a system. There seems to be a degree of indecisiveness in Deleuze, whether to describe this relation of difference to difference by means of difference in terms of structuralism or in terms of Simondon’s energetics. In The Logic of Sense the structuralist moment is emphasised more, while Difference and Repetition concentrates on the account of individuating differences in terms of intensive spatio-temporal dynamisms. As Deleuze states in Difference and Repetition:

This state of affairs [i.e. the relation of difference qua difference, DV] is adequately expressed by certain physical concepts: coupling between heterogeneous series, from which is derived an internal resonance within the system, and from which in turn is derived a forced movement the amplitude of which exceeds that of the basic series themselves. (Deleuze 1994: 117, translation modified)
The interpretation in terms of physical concepts seems to be important because it situates the introduction of the notion of intensity, which Deleuze defines as a difference that refers to other differences, or a quantity that does not divide without changing in nature (and is constantly dividing). Intensity is a crucial element in Deleuze’s transcendental empiricism because intensity is the determinant in the process of actualisation. It is intensity that dramatises. It is intensity that is immediately expressed in the basic spatio-temporal dynamisms and determines an ‘indistinct’ differential relation in the Idea to incarnate itself in a distinct quality and a distinguished extensity. (Deleuze 1994: 245, translation modified)

Deleuze clearly distinguishes intensive relations from the differential relations of the Idea as two different types of relation (Deleuze 1994: 244); difference of intensity is said to ‘express’ differential relations and to determine them to be ‘incarnated’ in spatio-temporal dynamisms (Deleuze 1994: 251).

This shows that the virtual structure of the Idea has no causal power of its own but has to be acted out through intensive individuation. The virtual structure is not the sole and autonomous source of heterogenesis; rather, intensity is the agent of a dramatising operation that accounts for the passage from internal to external differences, from an impassive structure to intensive systems, and finally from these intensive fields of individuation to the entropic and extensive world of representation (cf. Toscano 2006: 177). It is important to note that Deleuze also distinguishes intensive processes of individuation from actualisation or, as he calls it, differenciation (written with a ‘c’): ‘individuation precedes differenciation in principle’ (Deleuze 1994: 247). Intensive individuation must not be confused either with virtual differential structures or with the processes of differenciation, the result of which are actual entities (extensions and qualities, species and parts).7

Intensive fields of individuation are precisely the ‘third thing which determines the Idea to actualize itself, to incarnate itself in a particular way’ (Deleuze 2004d: 102). The Simondonian theory of individuation thus provides the conception of a mediating process that Deleuze needs to preclude the risk of positing an asymmetrical duality between virtual structure and actual instantiation that would undermine the notion of the univocity of being. As Deleuze puts it, ‘individuation ensures the embedding of the two dissimilar halves’ (Deleuze 1994: 280): the ‘virtual half’ and the ‘actual half’ of everything that is. In
fact, he compares the intensive processes of individuation, acted out through spatio-temporal dynamisms, with the Kantian schematism that mediates between sensibility and intelligibility as the two sources of human knowledge. However, there is an important difference: while the Kantian schemata are external to the concept, the spatio-temporal dynamism ‘is internal to Ideas—and, as such, a drama or dream ... Dynamism thus comprises its own power of determining space and time, since it immediately incarnates the differential relations, the singularities and the progressivities immanent in the Idea’ (Deleuze 1994: 218).

This apparent tension, that the virtual and the intensive must be held apart as two distinct types of relation—which seems to preclude putting one inside the other or ‘reconciling’ them to one side, the virtual being impassive, the intensive dynamic—and their simultaneous and immediate inter-relation at the level of Ideas themselves, lies at the heart of the difficulty in understanding the order of reasons and the full genetic process in Deleuze’s transcendental empiricism. In any case, dramatisation carries out the third aspect of the sufficient reason, that is, the potentiality of the Idea (Deleuze 1994: 221). The total notion of the logic that defines Deleuze’s transcendental empiricism is therefore that of ‘indi-drama-differentiation’ (Deleuze 1994: 246), or spelled out in the order of reasons it is: ‘differentiation-individuation-dramatisation-differentiation’ (Deleuze 1994: 251).

(4) Simondon’s theory of individuation also inspired Deleuze to elaborate an aesthetics of intensities, which overcomes the Kantian split between a theory of the sensible and a theory of the beautiful. According to Deleuze, ‘the two senses of the aesthetic become one, to the point where the being of the sensible reveals itself in the work of art, while at the same time the work of art appears as experimentation’ (Deleuze 1994: 68). For Deleuze, the being of the sensible is intensity: ‘difference, potential difference and difference in intensity as the reason behind qualitative diversity’ (Deleuze 1994: 57). From this world of intensities effects arise within what will now be called signal–sign systems as perceived by psychic systems.

Every phenomenon flashes in a signal-sign system. In so far as a system is constituted or bounded by at least two heterogeneous series, two disparate orders capable of entering into communication, we call it a signal. The phenomenon that flashes across this system, bringing about the communication between disparate series, is a sign. (Deleuze 1994: 222)
We can easily recognise Simondon’s influence in this description of the signal–sign system. Yet Deleuze goes a step further by extending the Simondonian energetics of physical systems into an aesthetics of intensities. In his transcendental empiricism, aesthetics becomes an ‘apodictic discipline’ (Deleuze 1994: 56).

The functioning of the signal–sign system is imperceptible from the point of view of consciousness or recognition; it produces a sense that cannot be explained within the logic of representation. It first arises within a sentiendum that gives rise, in turn, to the cogitandum in the transcendent exercise of the faculties. According to Deleuze’s logic of indi-drama-differentiation, the object of encounter is here an aesthetic Idea that is individuated through intensive dynamisms and that expresses itself in the sensible. In his early essay on Kant, ‘The Idea of Genesis in Kant’s Esthetics’, Deleuze still referred to the faculty of genius, capable of intuiting Ideas incarnated in the sensible and of expressing them in a work of art. In Difference and Repetition, Deleuze no longer refers to the intuition of genius, but to the transcendent exercise of the faculties.

The encounter with pure signs raises the faculties to a disjoint, transcendent exercise. By going to this extreme limit, sensibility, imagination and reason are able to grasp the world of implicated intensities, beyond or behind the entropic and extensive world of representation. What we discover beneath the qualities and extensities of the world of representation are pure signs: ‘then the most beautiful qualities will appear, the most brilliant colours, the most precious stone and the most vibrant extensions’ (Deleuze 1994: 244). The being of the sensible harbours a physical art of signals and signs, of intensities and forces. The artist is no longer the gifted genius that expresses an Idea in his artwork but rather the artist-technician who experiments with the materials and captures rhythms of intensity. As Anne Sauvagnargues writes: ‘The work of art is an experimentation with the sensible, on the sensible, because it brings about a creation of sense on the plane of the sensible, and because it compels thought’ (Sauvagnargues 2016: 68).

It is arguably this aesthetics of intensities that Deleuze pursues in many subsequent works, in the book on Francis Bacon and the Cinema books as well as his collaborative work with Guattari. However, I would argue that in these subsequent books, intensity is to some extent ‘materialised’ or aligned with an enriched concept of matter. With the increasing emphasis on a kind of Spinozist materialism the notion of virtual singularities gives way to the notion of intensive haecceities, that is, singularities that are now defined kinetically and topologically (i.e. materially) instead of ideally. ‘Haecceities . . . consist entirely of
relations of movement and rest between molecules or particles, capacities to affect and be affected’ (Deleuze and Guattari 1988: 261). According to Jon Roffe, in Deleuze and Guattari’s later works such as Anti-Oedipus we can find ‘a fully actualist Deleuzian metaphysics, one . . . that links together the intensive and its qualified extension, but in a way that invokes neither the virtual nor any ideational element’ (Roffe 2017: 290). By contrast, in Difference and Repetition Deleuze is still committed to a transcendental metaphysics, according to which intensive quantity (or ‘energy in general’, Deleuze 1994: 240) is understood as a transcendental principle of individuation and virtual Ideas are understood as structural multiplicities.8 The notion of materiality does not play any significant role in Difference and Repetition; it seems to come down on the side of the actual and explicated world of representation, the Idea’s drama or dream in which intensive quantity is cancelled out or covered over by what it engenders: ‘qualities and extensities, forms and matters, species and parts are not primary’ (Deleuze 1994: 247).9

III. The Problem of Method

The previous sections have shed light on some divergences between Simondon and Deleuze in the understanding and use of certain concepts. The starkest difference between the two lies arguably in their respective methods. Simondon calls his theory of transduction-individuation ‘allagmatics’, by which he means a theory of operations. ‘Operation is that which makes a structure appear or which modifies a structure’ (Simondon 2013b: 529). As Simondon admits, it is difficult to specify an operation or structure, ‘if not by way of example’ (529). There is an abundance of examples in Simondon’s book: the moulding of a brick (Simondon 2013a: 39–45); crystallisation (85–97); particle physics (99–153); the reproduction of marine organisms such as coral reefs (167–89), and so on. And as we have seen, he uses crystallisation as the main paradigm for his theory of individuation. Yet by what right can a physical paradigm be transposed to other domains (the domains of life, the mind, the social etc.)? Simondon is fully aware of the implicit risk, namely that of reducing every domain to the purely physical: ‘we have tried to draw a paradigm from the physical sciences, thinking that it can be transposed to the domain of the living individual: . . . Presupposing that there are diverse degrees of individuation, we used the physical paradigm without effectuating a reduction of the vital to the physical’ (Simondon 2013a: 309).
Simondon explains his method as ‘a new type of analogical paradigmatism’ (Simondon 2013a: 33) and points to Plato’s Sophist as an illustration of this method: the analogical act in Plato’s Sophist consists in using a paradigm that is well known (e.g. fishing), in order to understand another particular structure that is unknown (the Sophist). But instead of examining particular structures and trying to determine their resemblance, what is actually compared are real operations: the activity of fishing and the recruiting of rich young people. According to Simondon, the analogical method implies an abstraction from the end terms of the relation (Simondon 2013b: 532); this is how it reveals an ‘identity of relations’ (Simondon 2013b: 533). The fundamental idea is to gain knowledge ‘by defining structures through the operations that determine them dynamically, instead of defining operations through the structures between which they obtain’ (Simondon 2013b: 532, emphasis in original). Simondon criticises pseudo-sciences that make use of ‘confused images’ based on resemblances. For instance, he looks critically at the attempt to identify living beings and self-regulated technical objects, as in the work of certain cyberneticians: ‘one must avoid the improper identification of the technical object with the natural object and more specifically with the living being. External analogies, or rather resemblances, must be rigorously banned: they have no signification and are only misleading’ (Simondon 2017: 50). True analogy only concerns ‘an operative and functional analogy between the original domain and the domain of application of the paradigm’ (Simondon 2013a: 309).

Simondon realises, however, that the analogical method requires an ontological postulate, otherwise it would just amount to ‘an association of ideas’ (Simondon 2013b: 532): ‘The analogy between two beings conceived by thought is only legitimate if thought itself sustains an analogical relation with the operative schemas of each of the represented beings’ (Simondon 2013b: 533). In other words, knowledge or thought itself has to be individuated, and this logical operation must be ‘modulated by the systematic ensemble of essential operations that constitute being’ (Simondon 2013b: 532). One can say that the foundation of knowledge is a dynamic analogy, or a ‘relation of isodynamics’ (Simondon 2017: 151) between real processes in being and in thought. Thought has to follow the genesis of beings (cf. Simondon 2017: 242) and it can only do so by individuating itself. As Simondon puts it succinctly:

Therefore it is neither immediate nor mediate knowledge that we can have of individuation, but a knowledge that is an operation that runs parallel
to the known operation. We cannot know individuation as it is commonly understood. We can only individuate, individuate ourselves, and individuate in us. This insight is, in the margins of what is properly called knowledge, an analogy between two operations, which is a certain mode of communication. (Simondon 2013a: 36)

As a consequence of this analogical method and its corresponding ontological postulate, Simondon’s theory of individuation retains a somewhat incomplete and hypothetical character. As Muriel Combes points out, ‘we cannot claim to study individuation in general. We are always dealing only with singular cases of individuation, which complicates the task of a global theory of individuation’ (Combes 2013: 12). The physical paradigm cannot reveal some ultimate universal logic of individuation; the paradigm has to be put to the test. The notion of transduction that Simondon elaborates on the basis of his case studies can only attain a comparative universality, one that is based on ‘a certain number of characteristics common to operations of individuation as a whole’ (Combes 2013: 19). Simondon’s analogical method can therefore only claim some legitimacy by invoking a generalised Bergsonian method of intuition that relies on the capacity of thought to accompany the individuation of beings by means of its own coming-into-being.

Turning now to Deleuze, it seems that he follows a totally different approach: not only does he ban analogy as a method of representational thinking, he also objects to proceeding by means of paradigms. A transcendental philosophy in the sense that he intends to construct it cannot trace the transcendental from the empirical. Simondon’s theory of individuation is definitely borrowed from the scientific literature of his day and its empirical examples: in particular, physical chemistry and thermodynamics. While it is tempting to read Deleuze as if he too put forward intensity as an empirical principle, he is explicit in his statement that ‘intensive quantity is a transcendental principle, not a scientific concept’ (Deleuze 1994: 241). Intensive quantity does not govern any particular domain but first gives rise to different domains and assigns an empirical principle to them (241). This is also the reason why Deleuze can call the scientific principle of entropy an illusion:

Only transcendental inquiry can discover that intensity remains implicated in itself and continues to envelop difference at the very moment when it is reflected in the extensity and the quality that it creates, which implicate it only secondarily, just enough to ‘explicate it’. (Deleuze 1994: 240)

For Deleuze, intensive quantity remains implicated in the pure spatium or depth; it cannot be cancelled out and provides a constant source of
transformation or metamorphosis: ‘while the laws of nature govern the surface of the world, the eternal return ceaselessly rumbles in this other dimension of the transcendental or the volcanic spatium’ (Deleuze 1994: 241). Deleuze’s transcendental empiricism, in spite of the ‘empiricism’ in the phrase, follows a speculative and constructive method, which links it to an idealist tradition of philosophy. The logic of indi-drama-different/ciation gives an account of the dramatisation of virtual Ideas in the depth of an intensive spatium. This is why Deleuze can ultimately claim that ‘every body, every thing, thinks and is a thought to the extent that, reduced to its intensive reasons, it expresses an Idea the actualisation of which it determines’ (Deleuze 1994: 254).

Although Simondon’s approach also admits of speculative aspects, in particular his recourse to a generalised method of Bergsonian intuition (the ontological postulate), his scientific spirit prevents him from formulating a transcendental philosophy that would follow any particular logic. The logic of transduction depends on an ontological postulate, but even this postulate cannot guarantee the unity of one principle. Indeed, there cannot be one logic of transduction. According to Simondon, if we were ‘to institute a theory of being that is anterior to any form of logic’ and according to which ‘multiple types of individuation were to exist’, then ‘multiple logics would also have to exist, each corresponding to a specific type of individuation’ (Simondon 2013a: 36).

IV. Conclusion

The aim of this paper has been to show the impact of Simondon’s philosophy of individuation on Deleuze’s account of transcendental empiricism in Difference and Repetition, but also to detail the fundamental difference that makes their visions of ontogenesis diverge. This is a difference that, as I have suggested, is rich with implications for Deleuze’s later work (both alone and with Guattari), where Deleuze himself appears to diverge from this early, transcendental and ‘structuralist’ philosophy. Naturally, Deleuze’s doctoral thesis is marked by multiple sources of influence, among which the Simondonian traces are only one line of thought. Nonetheless, as this paper has argued, there are at least four important themes that Deleuze draws from Simondon and modifies in the process: first, a genetic method based on the concept of disparation; second, the notion of the problematic as a positive, objective structure, as well as the notion that pre-individual singularities play a crucial role in the process of individuation before the
advent of fully accomplished individuals, subjects and objects; third, the concept of intensive individuation understood as an intermediary process ensuring the actualisation of ideal, problematic structures; and fourth, an aesthetic theory of signs that act like intensive dynamic systems. These conceptual borrowings do not obscure the fact that Deleuze’s project of transcendental empiricism is fundamentally different from Simondon’s allagmatics (or theory of operations). The main distinction lies in their incompatibility in terms of method: Simondon starts off with a paradigm case taken from physical chemistry, the example of crystallisation; the concepts he draws from it are tentatively applied to other cases of individuation by means of analogical transfer; yet they remain, and this is perhaps the most important point, case-specific.

Certainly, Deleuze is also interested in science and its history (most notably, embryology and thermodynamics), yet his philosophical interests and purposes prevail. His project in *Difference and Repetition* is a transcendental metaphysics that clearly shows the influences of the philosophical traditions of idealism and structuralism. The dialectic of Ideas that he expounds plays the role of a principle of sufficient reason, although the sufficiency and univocity of difference is not to be conceived as a totality or Oneness but as the groundlessness of difference, the disparate, or the unequal in itself. Deleuze tackles the problem of structure and genesis, first formulated in his 1967 essay ‘How Do We Recognize Structuralism?’, and after having defined problematic Ideas as virtual differential structures he explains the genesis of actual entities (extensities and qualities, species and parts, as well as representation or consciousness) by inserting intensive individuation as a mediating, determining and dramatising operation. The principle of sufficient reason has thus to reach all the way down to the individual: to the ‘vital egg’ as a field of individuation, the embryo as a ‘pure individual’ (Deleuze 1994: 250), and the ‘universal individual’ of the thinker of eternal return (Deleuze 1994: 254).

It is well known that Deleuze later came to see *Difference and Repetition* as still too classical, still attempting a theory of the ‘depths’ and ‘heights’. In the author’s note to the Italian edition of *Logic of Sense*, Deleuze reflects that ‘*Difference and Repetition* still aspired . . . toward a sort of classical height and even toward an archaic depth. The theory of intensity which I was drafting was marked by depth, false or true; intensity was presented as stemming from the depths’ (Deleuze 2007: 65). While he still has a degree of affection for other pages of that book, Deleuze goes on to say that with *Logic of Sense*, ‘the novelty for me lay in the act of learning something about surfaces’ (Deleuze
2007: 65). This is already a shift in direction away from an originary depth that would be continued in the subsequent works with Guattari, with their emphasis on the composition and workings of a wide variety of machines and assemblages, each with their specific functionality. In light of the contrast drawn here with Simondon’s case-by-case theory of operations, we might rephrase Deleuze’s retrospective view of *Difference and Repetition* by saying not simply that it was still too classical, in searching for a single principle of sufficient reason, but also that it was not yet allagmatic enough.11

Notes

1. L’*Individu et sa genèse physico-biologique*, published in 1964, is the first part of Simondon’s doctoral thesis, which was completed in 1958; it contains an account of the individuation of physical and biological systems. The second part of his thesis, which deals with psychic and collective individuation, appeared only much later, in 1989, the year of Simondon’s death. In 2005, both parts were finally published together in one volume carrying the original title that Simondon had chosen for his main thesis: *L’Individuation à la lumière des notions de forme et d’information*.

2. All translations from Simondon’s *L’Individuation à la lumière des notions de forme et d’information*, including the supplement ‘Allagmatique’ (pp. 529–36), are mine, DV.

3. See also Deleuze 1994: 274–5: ‘In short, *sufficient reason or the ground is strangely bent*: on the one hand it leans towards what it grounds, towards the forms of representation; on the other hand, it turns and plunges into a groundlessness beyond the ground which resists all forms and cannot be represented.’

4. For instance, in *Difference and Repetition*, Deleuze considers ‘the Idea of an Island: geographical dramatisation differentiates it or divides the concept into two types, the original oceanic type which signals an eruption or raising above the sea, and the continental drift type which results from a disarticulation or fracture’ (Deleuze 1994: 219). Further examples are atomism as a physical Idea (184), the organism as a biological Idea (184–5), social Ideas in a Marxist sense (186), the linguistic Idea (203–4), the Idea of colour and the Idea of sound (206).

5. Andrea Bardin provides a superb synopsis of certain passages in which Simondon refers to the historical and local nature of singularities: ‘Simondon often expresses himself in this way: at the physical level, he speaks of “historical singularities carried by matter” (Simondon 2013a: 57); in the process of crystallisation, “there is thus a historical aspect of the advent of a structure in a substance, the structural germ must appear” (79), and “the individuation of an allotropic form begins from a singularity of a historical nature” (80); at the biological level “the individualisation of the living is its real historicity” (261); under the regime of transindividual individuation, “the collective truly exists only if an individuation institutes it. It is historical” (167); and in general the singularities are “historical and local” (81)’ (Bardin 2010: 202, n.24; my translation, DV).

6. Muriel Combes argues that Simondon also recognises a sort of heterogeneity between the problem-instance and the level of solution (Combes 2002: 33).
For instance, Simondon likes to refer to the problem of binocular vision (see Simondon 2013a: 207): the left and the right retinal images form a system, which is superior to its elements because it integrates them all into a new dimension, the dimension of depth. The three-dimensional image emerges not as a result of simplification or abstraction but through a process of integration that to some extent retains the disparateness of the retinal images. Thus, it seems that the problem persists in the resolution of three-dimensional vision; its conflictual nature is not sublated. However, Combes concedes that there is a decisive difference between Simondon’s and Deleuze’s conceptions of heterogeneity: ‘The essential difference is that Deleuze conceives heterogeneity as pertaining between two ontologically distinct levels, that of the virtual or “ideal connections” and that of the actual or “real relations”, and conceives of the preindividual field as an “ideal-virtual field”’ (Combes 2002: 34, n.1). Although I am trying to make a similar point here, to term the virtual and the actual ontologically distinct may be infelicitous, at least if this means that they are ontologically distinct regions of being. Deleuze’s univocal ontology requires being to be said in the same sense of all its differences (internal as well as external differences). A better way to specify the heterogeneity between problem and cases of solutions is to consider them in a Bergsonian way as two distinct tendencies that differ in kind, or as involving a real distinction that is not numerical (e.g. Spinoza).

7. For a detailed discussion in the Deleuze scholarship of how to understand the status of intensity in the wider context of the relationship between the virtual and the actual, see the special issue of *Deleuze Studies*, ‘The Virtual, the Actual and the Intensive’, 11:2, 2017, edited by Sean Bowden and Dale Clisby.

8. Alberto Toscano also argues that after *Difference and Repetition* the transcendental philosophy is left behind and intensities no longer serve as the determinant of transcendental Ideas. In the collaborative work with Guattari, intensities rather manifest themselves in terms of haecceities, intensive becomings, assemblages or compositions (Toscano 2006: 176, 178 and 233, n.81).

9. In *Difference and Repetition*, Deleuze criticises Kant’s conception of intensive magnitude, put forward in the *Critique of Pure Reason* in the section ‘Anticipations of perception’, precisely for its affinity with matter: ‘Kant’s mistake is to maintain a geometrical extension for it, and to reserve intensive quantity for the matter which fills a given extensity to some degree or other’ (Deleuze 1994: 231). For Deleuze, intensive quantity or the pure *spatium* is the transcendental principle or sufficient reason of a quadruple genesis: ‘that of the *extensio* in the form of schema, that of extensity in the form of extensive magnitude, that of *qualitas* in the form of matter occupying extensity, and that of the *quale* in the form of designation of an object’ (231).

10. In the discussion following his paper ‘Forme, information et potentiels’ that Simondon gave at the Société française de philosophie on 27 February 1960, he is asked by Gabriel Marcel about his ‘paradigmatism’ as philosophical method. Simondon replies: ‘There is somehow an identity between the method I use, which is an analogical method, and the ontology that I suppose, which is an ontology of the transductive operation of taking on form (*prise de forme*). If the transductive operation of taking on form does not exist, the analogy is an invalid logical process; it’s a postulate. The postulate is both ontological and methodological here’ (Simondon 1960: 180, my translation, DV). Available at: https://s3.archive-host.com/membres/up/784571560/GrandesConfPhiloSciences/philosc25_simondon_1960.pdf (accessed 7 August 2019).

11. My thanks to Max Lowdin for his helpful comments and criticisms on earlier versions of the paper.
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