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# The Deleuzian Revolution: Ten Innovations in *Difference and Repetition*

Daniel W. Smith    Purdue University

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## Abstract

*Difference and Repetition* might be said to have brought about a Deleuzian Revolution in philosophy comparable to Kant's Copernican Revolution. Kant had denounced the three great terminal points of traditional metaphysics – self, world and God – as transcendent illusions, and Deleuze pushes Kant's revolution to its limit by positing a transcendental field that *excludes* the coherence of the self, world and God in favour of an immanent and differential plane of impersonal individuations and pre-individual singularities. In the process, he introduces numerous conceptual innovations into philosophy: the becoming of concepts; a transformation of the form of the question; an insistence that philosophy must start in the middle; an attempt to think in terms of multiplicities; the development of a new logic and a new metaphysics based on a concept of difference; a new conception of space as intensive rather than extensive; a conception of time as a pure and empty form; and an understanding of philosophy as a system in *heterogenesis* – that is, a system that entails a perpetual genesis of the heterogeneous, an incessant production of the new.

**Keywords:** concepts, becoming, multiplicity, singularity, the middle, difference, intensity, time, system, the new

What Deleuze said about Spinoza is also true of himself: alongside the systematic or conceptual reading of his work there is also an affective reading in which one is carried along by the text without necessarily comprehending its concepts. An affective reading, Deleuze suggests, is 'an encounter, a passion' that produces 'a set of affects, a

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kinetic determination, an impulse', but not necessarily a philosophical comprehension, which may come much later (Deleuze 2001: 129–30). This was certainly my experience in reading *Difference and Repetition*. In both style and content, the book was unlike any other philosophical text I had been reading. Although I was initially drawn in by themes such as difference, the overturning of Platonism, and the critique of the 'dogmatic' image of thought, many other concepts in the book remained opaque to me. Still, reading the book produced a powerful affect, a sense that the thinking contained on its pages was worth delving into, deeply, though I could not have said why, exactly. Now, years later, after reading and rereading *Difference and Repetition*, I have perhaps gained a better conceptual comprehension of the book, though with the inevitable caveat that it still holds many untapped riches.

If one could speak of a Deleuzian Revolution, in parallel with Kant's Copernican Revolution, it is a revolution that is resolutely post-Kantian. In the *Critique of Pure Reason*, Kant had critiqued the Ideas of the Soul, the World and God as the three great terminal points of traditional metaphysics: a single substantial self (Soul), a totality of things (World) and a first cause of this totality (God) are all denounced as transcendent illusions. Deleuze takes this rejection of traditional metaphysics seriously. Against the canonical post-Kantians, from Fichte to Hegel, who were quick to restore metaphysics, Deleuze instead posits a transcendental field that *excludes* the coherence of the self, world and God in favour of an immanent and differential plane of *impersonal individuations* and *pre-individual singularities*—though this will entail a new and quite different type of metaphysics (Deleuze 2004: 137). In elaborating this revolution, Deleuze at the same time introduces a number of profound innovations into philosophy. To mark the fiftieth anniversary of the book's publication, I would like to list ten such innovations that can be found in the pages of *Difference and Repetition*, though the list is inevitably idiosyncratic, compressed and incomplete.

## I. The Becoming of Concepts

*Difference and Repetition* exemplifies what it states: it develops a philosophy of difference, but the concepts it proposes to express this philosophy of difference are themselves differential. While the concepts have a *consistency* (endo- and exo-), they do not have an identity—or rather, their identity is a secondary *effect* (Deleuze and Guattari 1994: 19–20). There is nothing more foreign to Deleuze than adopting a 'position' on a given topic, since thought is always in movement.

Deleuze's concept of *intensity* is a case in point. In *Difference and Repetition*, the concept is developed in relation to the notion of depth. In *Logic of Sense*, the concept of intensity is retained, but it is instead linked to the notion of surface: same concept, new components. In *Anti-Oedipus*, the concept undergoes a third mutation: rising and falling intensities are now events that take place on a body without organs (Deleuze 2006: 65–6). All of Deleuze's concepts pass through similar 'becomings'. Deleuze and Guattari said that they 'never did understand the "body without organs" in quite the same way', which means that even a single concept has a different trajectory (it differs from itself) depending on whether it is traced through Deleuze's work or Guattari's work. The effect of working with Guattari, Deleuze said, was to produce 'a proliferation, an accumulation of bifurcations' (Deleuze 2006: 239). The same is true more broadly within the history of philosophy. Kant famously appropriated Plato's concept of the 'Idea' in the *Critique of Pure Reason* and gave it a new set of components, and Deleuze will do exactly the same in the fourth chapter of *Difference and Repetition*, taking the baton from Plato and Kant but turning the Idea into a concept that is immanent, differential and problematic.

This then is a first revolution: Deleuze introduces *time* into the form of concepts. Concepts are not eternal and timeless (true in all times and all places), but are created, invented, *produced* in response to shifting problematics. In a sense, Deleuze is incorporating into philosophy the transformation that occurred in geology with the discovery of 'deep time'. Mt. Everest, though it appears to be an 'object', is in fact the ongoing actualisation of a complex set of processes, which includes the folding of the earth's crust, the pressure of the Indian tectonic plate on the Eurasian plate, the erosion and glaciation of the Himalayan range, and so on. Deleuze's concepts have a similar status, which makes the reading of his corpus particularly demanding. It is never sufficient to 'define' a concept; one must consider its constitution, trace its movements, chart its trajectories, follow its becoming. 'There is nothing that does not lose its identity,' Deleuze writes, 'when the dynamic space and time of its actual constitution is discovered' (Deleuze 1994: 218–19).

## II. The Form of the Question (Problematics)

But concepts are never created willy-nilly: they are solutions to shifting problematics, responses to variable questions. Socrates set philosophy on a particular trajectory when he insisted on the priority of the question 'What is ...?', which presupposed a certain conception of essence.

Socrates famously ridiculed interlocutors who responded to the ‘What is ...?’ question by citing examples: one cannot answer the question ‘What is beauty?’ by noting *who* is beautiful (‘a young virgin’) just as one cannot answer the question ‘What is justice?’ by pointing *where* or *when* there is justice, and one cannot reach the essence of the dyad by explaining *how* ‘two’ is obtained, and so on. Plato wanted to oppose the question ‘What is ...?’ to all other forms of questioning—such as Who? Which one? How many? How? Where? When? In which case? From what point of view?—which were criticised as minor and vulgar questions of opinion that express confused ways of thinking. Yet it is not clear that the question ‘What is ...?’ is a legitimate and well-formulated question, even for discovering essence, and Deleuze’s second revolution is a profound critique of the ‘What is ...?’ question, and a reassessment of ‘the question-problem’ complex as a condition of thought.<sup>1</sup>

The philosopher, famously, is not a wise man but rather a friend or lover of wisdom (*philo-sophos*): wisdom is something to which he lays claim but does not actually possess. But who is it that actually seeks wisdom or searches for the truth? Is it the *friend*, exercising a voluntary desire for the truth, in dialogue with others, mutually exploring a ‘What is ...?’ question? Or is it not rather, as Proust suggested, something akin to a *jealous lover*, who is involuntarily compelled to confront a problem whose coordinates are discovered, not by posing the question ‘What is jealousy?’, but through precisely the types of minor questions that Plato rejected: What happened? When? Where? How? With whom? Why? (Deleuze 2000: 15–17). This shift in the form of questioning is an example of Deleuze’s more wide-ranging concern with the ontological status of *problems*. Problems are not subjective obstacles we need to overcome on our way to knowledge but objective realities that exist in the world. Deleuze will provide a rigorous analysis of problems in his study of differential equations, particularly in the case of problems *without* solution: the existence and distribution of singularities in a problem is of another nature than the forms of the integral curves in their neighbourhood (the solution) (Deleuze 2004: 87). But the import of his enquiry is far more generalisable. Deleuze once said he considered himself to be a ‘pure metaphysician’ (Villani 1999: 130). If metaphysics asks, ‘What is the nature of reality?’ Deleuze’s response is that reality has the structure of a *problem*. ‘Being qua being’ always presents itself under a *problematic* form, as a series of problematisations that are initially experienced as a kind of shock that does violence to thought. Philosophical concepts, scientific functions and even artistic productions are solutions to these problems, but it is the structure of the problem

that imposes the 'claws of necessity' on their production—a kind of imperative that is problematic rather than categorical.

### III. Philosophy Starts in the Middle, *Au Milieu*

The third revolution follows from this: philosophy always starts in the *middle*, and not at the beginning or at the end. It is striking how often it is presumed that philosophy is teleological: its purpose is to offer an end or a goal to work towards, an Ideal to strive for. Deleuze and Guattari published a book called *Capitalism and Schizophrenia*, wrote a 'Treatise on Nomadology' and proposed a concept of the virtual, and the response of some readers is to say, 'Deleuze and Guattari think we should all become virtual, or become nomads or schizophrenics.' Conversely, philosophers themselves often look for starting points rather than end points, such as the first principle or fundamental axiom from which everything else can be derived. Deleuze, by contrast, insists that philosophy must start neither at the beginning nor at the end, but rather in the middle. Philosophy has neither *arche* nor *telos*, neither principle nor finality, but is always *au milieu*.<sup>2</sup>

This approach to philosophy is perhaps most evident in Deleuze's reading of Spinoza (Deleuze 1990), which was published in 1968, the same year as *Difference and Repetition*. Spinoza's first principle is well known: a single substance (God or Nature) having an infinity of attributes. But there are also third, fourth and fifth principles: one Nature for all bodies, one Nature for all individuals, a Nature that is itself an individual varying in any infinite number of ways. What is at issue is no longer the theoretical affirmation of a single substance but the practical laying out of a single 'plane of immanence' in the midst of which all bodies, all minds and all individuals (finite modes) are situated (Deleuze 1988: 122). To be in the middle of Spinoza is to install oneself on this plane, which implies a way of living, a mode of life. Deleuze's interpretation of Spinoza thus begins in the middle in two ways. Exegetically, his analysis initially 'starts' with the third of the five books of the *Ethics*, which develops the theme of affectivity. Ontologically, it focuses on the analysis of finite modes, which are constituted by two axes of affectivity: the longitude of affections (*affectio*) and the latitude of affects (*affectus*), through which one can construct a kind of map of the body. Taken together, these longitudes and latitudes constitute Nature, the plane of immanence, which is always variable and is constantly being composed and decomposed by individuals and collectivities. Deleuze's approach to Spinoza is generalisable to all his works. We are so used to

thinking in terms of beginnings and endings, origins and finalities (Where are you coming from? Where are you going?) that we still find it difficult to think ‘in the middle’. This is the significance of Deleuze and Guattari’s concept of the *rhizome*, which has no beginning or end, but is always in the middle, between things, inter-being, *intermezzo* (Deleuze and Parnet 1987: 28–30).

#### IV. Thinking in Terms of Multiplicities

What then does one find in the middle? Deleuze’s response: multiplicities (or manifolds). Here again, a pertinent example of a multiplicity can be found in Deleuze’s analysis of Spinoza’s physics. In the *Ethics*, Spinoza attempts to determine what the ‘simplest body’ in physics might be, and Deleuze outlines three possible responses: the finite, the indefinite and the infinite. The first approach presumes that the analysis of matter is *finite*: one eventually reaches a limit where matter can no longer be divided, and this limit is the *atom* (*a-*, ‘not’ + *temnein*, ‘to cut’, that which can no longer be cut). The formula of the *indefinite* is that, no matter how far one pushes the analyses, the term one arrives at can always in turn be divided and analysed: the analysis never stops, and there is never a final or ultimate term (indefinite regress). But the viewpoint of *actual infinity* that Spinoza develops is neither finite nor indefinite. On the one hand, there are indeed ultimate or final terms that can no longer be divided *without changing their nature*—thus it is against the indefinite. On the other hand, however, these ultimate terms go to infinity—thus they are not atoms but rather ‘infinitely small terms’, or as Newton put it, ‘vanishing’ terms. In other words, the terms of an actual infinity are smaller than any given quantity, and therefore can never be treated numerically; they can only exist collectively (and not distributively) as infinite collections. Spinoza’s conclusion is extraordinary: there are no simple bodies; or rather, *the simplest bodies in Nature are actual infinities*.<sup>3</sup> In *Difference and Repetition*, Deleuze will develop his own vocabulary to describe multiplicities: differential relations, determinable elements, singularities, series, problematics, the virtual and so on.

One of the consequences of taking multiplicities as ‘the real minimum unit’ (Deleuze and Parnet 1987: 51) is that it implies a profound reorientation of the relation among the sciences. This can be seen clearly in the work of Raymond Ruyer, the philosopher of science who Deleuze cites frequently in *Difference and Repetition*. Ruyer had proposed his own term for multiplicities, *absolute forms*, and he sharply criticised the reductionist presumption that physical particles are the ‘building blocks’

of reality. This is an image derived from technical artefacts: we fashion complex buildings out of bricks, and we analogically presume that the universe must likewise be built out of simple building blocks, such as atoms or particles. As a result, there is an equally common assumption, which persisted from Descartes through Comte, that physics is the most fundamental of the sciences, with chemistry, biology, psychology and the human sciences following behind. Ruyer lamented that ‘we continue to believe in a poorly defined primacy of the molecular and the elementary’ (Ruyer 2016: 155), a primacy that is belied by the sciences themselves. Starting in the middle, with multiplicities (or absolute forms), entails a new distribution of the sciences. For Ruyer, absolute forms include molecules, viruses, cells, embryos and brains, and what he called ‘molar structures’ are statistical aggregates of these individual forms, such as clouds, gases, crowds or geological formations. The primary sciences will thus be those that deal with absolute forms (quantum physics, embryology), while the sciences that only study individuals from their molar or statistical side are necessarily relegated to a secondary status (classical physics, population biology). Deleuze was animated by a similar inspiration throughout his works, particularly in his appeals to biology and embryology in *Difference and Repetition*.

## V. Towards a New Concept of Logic

Deleuze speaks of logic throughout his works, and multiplicities inevitably require a new type of logic. If we think of the term ‘logic’ (*logos*) as referring broadly to a symbolism or ‘regime of signs’, it is evident that the concept of the *logos* is itself a multiplicity, with its own becomings. Modern chemistry, for instance, has developed a complex symbolisation to model molecules that bears little resemblance to traditional logic.<sup>4</sup> Musical notation is similarly a highly formal regime of signs.<sup>5</sup> For its part, propositional logic is a symbolism for analysing the relation between statements (arguments) and is a formalisation of natural language. Moreover, it is based on the principle of *identity* (A is A) and its two supplementary principles: the principle of non-contradiction (A is not non-A) and the principle of the excluded middle (either A or not-A). We presume, for example, that a variable *x* must remain identical to itself throughout all the operations that are performed on it. In a sense, we constantly violate the principle of identity when we say A is B (the sky is blue), which is why philosophy was forced to save the principle of identity by distinguishing between a substance and its attributes, or between a subject and its predicates (properties).

Yet it is not by chance that the ‘mathematisation’ of Nature, which lies at the heart of the so-called scientific revolution, took place with the development of an entirely new type of symbolism invented by Leibniz and Newton, namely, differential calculus. Today, ‘laws’ of Nature are almost always expressed in the form of differential equations. (Both Spinoza and Nietzsche hesitated to speak of laws of nature, since ‘law’ is a social and moral concept.)<sup>6</sup> Unlike propositional logic, which is a symbolism for the relation between statements, calculus is a symbolism for the exploration of existence. This is why, in the nineteenth century, philosophies of Nature from Maimon to Novalis often took the form of explorations into the metaphysics of the calculus. Deleuze is certainly a heritor of this tradition, and to some degree he uses the symbolism of calculus as a model for examining the ‘logic of multiplicities’, although he prefers to speak of a dialectic of the calculus rather than a metaphysics, following the work of Albert Lautman (Lautman 2011). Other domains of mathematics play a similar role in Deleuze’s attempt to conceptualise a logic of multiplicities, including group theory (Abel, Galois), topology and non-Euclidean manifolds (Riemann). The ‘group’ of an equation, for instance, captures the conditions of the problem, and they allowed Galois to show that certain equations (such as a general solution for the ‘quintic’) were *unsolvable*. What is significant is that the new type of logic Deleuze is attempting to develop in *Difference and Repetition* entails a movement from a principle of identity to a concept of difference.

## VI. Difference as a Pure Relation

If ‘logicism’ tried to reduce mathematics to logic, and thus to the principle of identity, *Difference and Repetition* moves in the opposite direction, developing a logic derived from a concept of difference. Bertrand Russell noted that, in contemporary science, the differential relation had replaced the old metaphysical ‘law of causality’, and the fourth chapter of *Difference and Repetition* can be read as an elaboration of Russell’s claim.<sup>7</sup> Deleuze does not critique the principle of identity as such, but rather argues that the relation of difference ( $dx/dy$ ) is prior to the relation of identity ( $x = x$ ), at least with regard to the exploration of the real. The differential relation, as it appears in calculus, can be distinguished from *fractional relations* and *algebraic relations*. Already in fractions, there appears a kind of independence of the relation from its terms, since in the fraction  $2/3$ , for example, there is no assignable whole number which, when multiplied by three, equals



two—even if we can decide, by convention, to treat fractions as numbers (subject to rules of addition, multiplication, etc.), and to treat numbers as fractions (we can write 2 as  $4/2$  or  $6/3$ ). In a fractional relation, the relation is nonetheless between two terms, and a *determinate* value must be assigned to the terms; that is, the terms must be given and specified (2 and 3). In algebraic equations, such as  $x^2 + y^2 - R^2 = 0$ , relations acquire a higher degree of independence from fractional relations, since a determinate value no longer needs to be assigned to the terms, which are *variables*. Nonetheless, although the relation is independent of any particular value of the terms, it is not independent of the *determinable* value of the variable.<sup>8</sup>

The differential relation constitutes the third step in this history of relations (Deleuze 2004: 176). In the differential relation  $dx/dy$ ,  $dy$  in relation to  $y$  is equal to zero and  $dx$  in relation to  $x$  is equal to zero—they are ‘infinitely small’ quantities (Leibniz) or ‘vanishing’ quantities (Newton).<sup>9</sup> It is thus possible to write, as was done frequently in the seventeenth century, that  $dx/dy = 0/0$ . Yet the relation  $0/0$  is not equal to zero; in the differential relation, *the relation subsists even when the terms disappear*. In this case, the terms between which the relation is established are neither determined, nor even determinable; the terms themselves have neither existence, nor value, nor signification (Deleuze 2004: 176). The only thing that is determined is the reciprocal relation between the ‘vanishing’ terms (Deleuze will ascribe them a new modal status: virtual terms), yet the relation between these vanishing quantities is not equal to zero, but refers to a third term that has a *finite* value:  $dx/dy = z$ . Applied to a circle, for example, the differential relation  $dx/dy$  tells us something about a third thing, a trigonometric tangent. We can say that  $z$  is the limit of the differential relation, or that the differential relation tends towards a limit. When the terms of the relation disappear, the relation subsists because it tends towards a limit,  $z$ . This is the basis of the differential calculus as it was interpreted in the seventeenth century—an interpretation that was identical to the comprehension of an actual infinity. Weierstrass and Russell would eventually give the calculus a *static and ordinal* interpretation, which liberated the calculus from any reference to infinitesimals and integrated it into a pure logic of relations.<sup>10</sup>

## VII. A New Metaphysics (of Difference)

Deleuze thus attempts to develop a new logic (of multiplicities) based on a concept of difference (the differential relation), which must be

understood as a pure relation. Taken together, these constitute the fundamental revolution brought about in *Difference and Repetition* in developing a philosophy of difference. 'We oppose  $\delta x$  to not-A,' Deleuze would write, 'the symbol of difference (*Differenzphilosophie*) to that of contradiction' (Deleuze 1994: 170). In attempting to think 'difference in itself' (the title of the book's first chapter), Deleuze is attempting to think a *pure* relation that is not subordinate to its terms, and that persists even when its terms disappear. Normally we think of difference as an empirical relation between two things that have a prior identity ('x is different from y'), but Deleuze takes the concept of difference to a properly transcendental level: the differential relation is not only *external* to its terms (Bertrand Russell's empiricist dictum), but it also *conditions* or determines its terms. In other words, the differential relation becomes *constitutive* of identity: difference becomes productive and genetic. If Plato found in Euclidean geometry a model of static and self-identical essences, Deleuze finds in the calculus a model of pure difference, and thus a transformation in the corresponding theory of Ideas.

In this sense, a philosophy of difference is radically opposed to a philosophy of substance, since a substance is always a term, an identity. Deleuze said that he had little sympathy with the positivist and Heideggerian themes of the 'death' of metaphysics or the 'overcoming' of metaphysics.<sup>11</sup> Like Bergson, he conceived the task of philosophy as the creation of a metaphysics that was adequate to contemporary science and mathematics. If the old metaphysics was inadequate, then that is a problem that should generate a new metaphysics. The 'old' metaphysics might be captured in concepts such as substance, attribute, property, predicate, causality, universals, possibility, God, world, self and so forth. In Deleuze's 'new' metaphysics, these are replaced with an entirely new set of concepts: difference, singularity, series, divergence, problematic, multiplicity, virtuality, intensity and so on. Yet the demarcation is not strict, since there are numerous concepts Deleuze appropriates from the old metaphysics—such as Idea and essence—while assigning new components to them. In the end, if Deleuze appropriates concepts from domains such as mathematics and biology, it is not because he is a philosopher of mathematics or a philosopher of biology, but rather because he uses them to develop a properly *philosophical* concept of difference. This is what Deleuze means, in *Difference and Repetition*, when he says that relations such as identity, analogy, opposition and resemblance are all secondary *effects* of prior relations of difference. These four concepts mark the points of tension in Aristotle's conception of difference as summarised in Porphyry's tree, and they are derived from

a famous thesis that Aristotle held concerning difference: different things differentiate themselves *only through what they have in common*.<sup>12</sup> Deleuze in effect inverts Aristotle's formula: difference 'must relate the different to the different without any mediation whatsoever by the identical, the similar, the analogous or the opposed' (Deleuze 1994: 117).

### VIII. Intensity as a Pure *Spatium*

The eighth revolution concerns the notion of space, which *Difference and Repetition* presents as *intensive*. The concept of intensity is obviously directed against traditional characterisations of space as extensive, but it remains one of Deleuze's most complex concepts, touching on numerous domains, from biology and philosophy to mathematics and politics. In biology, an egg is an intensive field (a body *without* organs) defined solely by axes and vectors, gradients and thresholds, displacements and migrations, but it is this intensive field that gives rise to the extensive space of the organism, with its complex organisation of organs. The extensive finds its condition in the intensive, although Simondon noted that even the extended body has a topological structure that cannot be adequately represented in a Euclidean fashion. (The digestive tract, for instance, is an exterior milieu around which the body is folded) (Simondon 2005: 225–8). Moreover, our affective life, with its manic rises and depressive falls, similarly constitutes an intensive body that is coextensive with the extended organic body. In philosophy, it was Hermann Cohen who emphasised the role of intensive quantities in his reinterpretation of Kantianism, and on this score Deleuze was strongly influenced by Jules Vuillemin's reading of Cohen.<sup>13</sup> The empirical difference between extensive magnitudes and intensive magnitudes has often been emphasised. If I pour together two separate gallons of water that each have a temperature of fifty degrees, the volume of water will now be two gallons, but the temperature will remain the same. This is because extensive magnitudes are additive (a part-whole relation) whereas intensive magnitudes are not. What distinguishes two intensive quantities is the variable *distance* through which one comprehends their relation to zero intensity (a zero-unit relation), although these distances are non-decomposable. If the temperature of the initial gallons of water are forty and sixty degrees, that *difference* in temperature will be 'cancelled' when the gallons are mixed, producing a temperature of fifty degrees. Deleuze, following Cohen, gives a 'transcendental' status to intensity as the real condition

of extensive space: intensity implicates a depth or distance (difference of potential) that is explicated in extensive space, and as such intensity becomes a genuine principle of the genesis of space rather than merely an anticipation of perception, as in Kant. ‘There is a step-by-step, internal, dynamic construction of space which must precede the “representation” of the whole as a form of exteriority. The element of this internal genesis seems to us to consist of intensive quantity’ (Deleuze 1994: 26).

The idea that space is not a ‘given’ but is subject to a plural genesis not only allows Deleuze to give an account of mathematical constructs such as topological spaces and n-dimensional manifolds (see Delanda 2001: 9–41). It also accounts for the plurality of spatial concepts he has developed in his own works, such as the distinction between optic, manual, tactile and haptic spaces in his analysis of painting in *Francis Bacon* (Deleuze 2003) or the famous distinction between smooth space and striated space in *A Thousand Plateaus* (Deleuze and Guattari 1987). One could likewise read *Capitalism and Schizophrenia* as an extension of this genetic conception of space into the socio-political sphere, since social formations are analysed by Deleuze and Guattari as *ways of constituting space*: states create a striated space as a mechanism of capture; nomadic war machines occupy a smooth space; cities create a polarised space of entries and exits; ecumenical organisations create an encompassing space that integrates heterogeneous formations; capitalism functions within circuits of an abstract space determined by labour and capital, and so on. All these spaces coexist within our current social multiplicity, and the concepts Deleuze and Guattari develop in *Capitalism and Schizophrenia* provide tools for distinguishing the lines and dimensions of the multiple spaces we now co-inhabit.

## IX. The Pure and Empty Form of Time

Deleuze brings about a similar transformation with regard to time. For the ancients, time was a measure of movement: a year measures the movement of the earth around the sun; a day measures the movement of the earth on its axis. The ancients were thus led to ask if there was some time immobile, or at least a most perfect movement, through which all other movements could be measured (the problem of calendars). Deleuze argues that, in Kant, time was for the first time liberated from movement, and became independent and autonomous. Time was transformed into what Deleuze calls a ‘pure and empty form’: a pure *variability* characterised by determinations that take shape and vanish at an infinite speed without any relation to each other (Deleuze and

Guattari 1994: 42). The form of time is not an eternal form, in a Platonic sense, but rather the pure form of what is *not* eternal, or pure change. What we call time—both objective and subjective time—is a synthetic operation that is able to *retain* the first determination when the second one appears (habit), since without this operation one could not even say ‘before’ and ‘after’, or ‘first’ and ‘second’, or that there has been a ‘repetition’—hence the status of matter as a *mens momentanea*, a momentary mind that ‘contracts’ these independent instants in order to exist (Deleuze 1994: 70). Before Kant, time had largely been defined by succession, space by coexistence, and eternity by permanence. In Kant, succession, simultaneity and permanence are all shown to be modes or relations within the form of time: succession is the rule of what is in different times; simultaneity is the rule of what is at the same time; and permanence is the rule of what is for all times. Chapter 2 of *Difference and Repetition*, entitled ‘Repetition for Itself’, analyses three synthetic operations (habit, memory, the new) that generate time within the pure and empty form, a profound transformation of the philosophy of time. The liberation of time from its subordination to movement is in turn the source of Deleuze’s conception of philosophy as the creation of concepts, although it was not until *What is Philosophy?* that Deleuze and Guattari would explicitly work out their own ‘analytic of concepts’. Philosophy, art and science, they argue, are all determinations of thought that take place within the pure form of time: from the infinite variability of time, philosophers extract *variations* that converge as the components of a consistent concept; scientists extract *variables* that enter into determinable relations in a function; and artists extract *varieties* (compounds of sensation) that enter into the composition of a work of art. Philosophy, science and art are all productions of the *new* within time, which leads to the final innovation that perhaps lies at the heart of Deleuze’s work.

## X. The Production of the New

Bergson wrote: ‘The more we study the nature of time, the more we shall comprehend that duration means invention, the creation of forms, the continual elaboration of the new’ (Bergson 1911: 14). Deleuze’s final innovation is to have realised that this Bergsonian problem—the conditions of the new—required the development of a philosophy of difference. It seems paradoxical to ask about the *conditions* of the new, since the new would already be given in its conditions. But in Deleuze’s ‘transcendental empiricism’, the conditions of *real* (as

opposed to merely possible) experience can be no larger than what they condition and must thus be differential through and through. This is why Deleuze replaces the traditional concept of possibility with the new modal concept of the *virtual*. We tend to think that the possible not only pre-exists the real but also resembles the real, and that the process of ‘realisation’ simply involves a limitation or exclusion by which certain possibilities are thwarted while others ‘pass’ into the real. The theological presuppositions here are evident: everything is already given, if only in infinite understanding of God (Leibniz). By contrast, the virtual, as Deleuze formulates it, is not subject to a process of realisation, but rather a process of *actualisation*, and the rules of actualisation are not resemblance and limitation, but rather *divergence* and *difference* – in other words, creation and novelty. A problem is a virtual multiplicity that is completely differentiated; yet the ‘essence’ of a virtual multiplicity is to actualise itself; but in being actualised, it differs from itself, it necessarily becomes differentiated – that is, it produces difference, it is the production of the new (the actual differs from the virtual). But the actualisation that has just taken place in turn modifies the virtual multiplicity, such that the actualisation of the virtual also *produces* the virtual. The actual and the virtual, in other words, are like the recto and verso of a single coin: the conditions and the conditioned are reciprocally determined at one and the same time in a continuous variability (the pure form of time).

No doubt other readers attempting to catalogue the innovations of *Difference and Repetition* would produce quite different lists, precisely because the text itself embodies the nature of a problematic multiplicity. ‘I believe in philosophy as system’, Deleuze once wrote.

Today it is said that systems are bankrupt, but it is only the *concept* of system that has changed . . . For me, the system must not only be in perpetual heterogeneity, it must be a *heterogenesis* – something which, it seems to me, has never been attempted. (Martin 2010: 8; Deleuze and Guattari 1994: 9)

*Heterogenesis*: the perpetual genesis of the heterogeneous, an incessant production of the new, the differentiation of difference. There is perhaps no better characterisation of *Difference and Repetition* than this.

## Notes

1. See Deleuze 1994: 195: ‘It must be remembered to what extent modern thought and the renaissance of ontology is based upon the question-problem complex.’
2. Quine had proposed a similar need to start ‘in the middle’, although he was referring to scientific theories rather than manifolds or multiplicities. See

- Verhaegh 2018: 7: ‘As inquirers, we all have to start in the middle ... We can only improve, clarify, and understand the system “from within”.’
3. Leibniz similarly proposed a concept of the actual infinite that was opposed to the indefinite: ‘I am so in favor of the actual infinite that instead of admitting that Nature abhors it, as is commonly said, I hold that Nature makes use of it everywhere, in order to show more effectively the perfections of its Author. Thus I believe that there is no part of matter which is not, I do not say divisible, but actually divided; and consequently the least particle ought to be considered as a world full of an infinity of different creatures.’ Leibniz, Letter to Foucher, 16 March 1693 (Leibniz 1965: 416).
  4. Leroi-Gourhan, in *Gesture and Speech*, discusses several modes of symbolisation, such as the notation of chemistry, that have resisted the ‘linearisation’ introduced by phonetic writing (Leroi-Gourhan 1993: 193).
  5. See Goodman’s classic analyses of musical notation (Goodman 1976: 177–224); painting, by contrast, has no notation.
  6. ‘I take good care not to talk about chemical “laws”: that has a moral aftertaste ...’ (Nietzsche 2003: 24). ‘The less we understand the laws of nature, that is, the norms of life, the more we interpret them as orders and prohibitions – to the point where the philosopher must hesitate before using the word “law,” so much does it retain a moral aftertaste: it would be better to speak of “eternal truths”’ (Deleuze 1990: 268).
  7. Russell makes this claim in his famous essay ‘On the Notion of Cause’: ‘It is not in any sameness of causes and effects that the constancy of scientific law consists, but in sameness of relations. And even “sameness of relations” is too simple a phrase; “sameness of differential equations” is the only correct phrase’ (Russell 1910: 154).
  8. Whitehead notes that ‘the variable, though undetermined, sustains its identity throughout the arguments’ (Whitehead 1938: 106). Nietzsche poses the alternate possibility: ‘logic is bound to the condition: assume there are identical cases’; but ‘suppose there were no self-identical “A” such as is presupposed by every proposition of logic (and of mathematics) ...’ (Nietzsche 1967: §512, 227; §516, 279).
  9. For an elucidation of calculus in terms of algebra, see Leibniz’s classic article, ‘Justification of the Infinitesimal Calculus by That of Ordinary Algebra’ (Leibniz 1956: 545–6).
  10. For a brief summary of this history, Smith 2012: 290–4.
  11. Deleuze and Guattari 1994: 9: ‘The death of metaphysics or the overcoming of philosophy has never been a problem for us.’
  12. For Porphyry’s tree, see Smith 2012: 39.
  13. See Vuillemin 1954: 183: ‘Intensive magnitude appears immediately as the prior condition of the extensive.’

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