

INTRODUCTION TO GILLES DELEUZE'S COSMOLOGICAL SENSIBILITY

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The Deleuzian literature paid relatively little attention to the relationships between Deleuze and cosmology. Yet, Deleuze remains one of the few key contemporary philosophers who stayed connected to the cosmological tradition. The expression of this interest and the contribution to this domain can be found, for example, in his borrowing of James Joyce's neologism "chaosmos," admiration for Whitehead's essay on cosmology, or, following Artaud and Blanchot, in his appeal for an outside of any exteriority. This paper discusses Deleuze's original cosmological way of thinking and delineates Deleuze's own c(ha)osmological affectivity.

Keywords: Deleuze, Chaosmos, Outside, Earthliness, Ethics.

"He who does not know what the world is, does not know where he is. And he who does not know for what purpose the world exists, does not know who he is, nor what the world is."

- Marcus Aurelius

This article originates from two "astonishments," or, as it were, from a double *thaumazein*. First, contemporary continental philosophy has visibly lost connection with the cosmological tradition, which is as old as philosophy itself. Second, Gilles Deleuze remains one of the few major contemporary philosophers who integrated cosmological questioning in his thinking, to what the literature on Deleuze paid relatively little attention. The Deleuzian literature either proposed a fragmentary reading of Deleuze's take on cosmology [Sellars, 1999; Beaulieu, 2003] or suggested ways in which it can be applied to specific fields such as music [Bogue, 1991], theology [Harris, 2010], or politics [Sholtz, 2015].

Deleuze's sensitivity to the cosmological type of questioning deserves a closer reading, which will demonstrate how part of his conceptuality connects with the cosmological tradition and how it becomes more original with regard to the former ways of practicing cosmology as an art of self-transformation. Deleuze's cosmological sensibility is evocative in his admiration for Whitehead's book on cosmology, in his borrowing of James Joyce's neologism "chaosmos," in his appreciation of Artaud and Blanchot with their experience of "an outside which is farther away than any exteriority" and which forces one to think, in his faithfulness to Nietzsche's invitation "to remain earthly," and, lastly, in his potential influence on Guattari's science-fiction film project "In search of UIQ." In what follows, I will discuss these cosmological features of Deleuze's philosophy.

1. Whitehead

In *Difference and Repetition*, Deleuze considers Whitehead's *Process and Reality. An Essay in Cosmology* [Whitehead, 1960] to be "one of the greatest books of modern philosophy" [Deleuze, 1994: pp. 284-285]. Elsewhere, he writes that Whitehead "stands provisionally as the last great Anglo-American philosopher before Wittgenstein's disciples spread their misty confusion, sufficiency, and terror" [Deleuze, 1992: p. 76].

It is misleading to read *Process and Reality* as a traditional "essay in cosmology" (despite the subtitle of Whitehead's book). *Process and Reality* is not necessarily concerned with star formation, planetary movement, comets or extra-terrestrial life. As Whitehead mentions in the Preface, one of his main concerns is to develop a "philosophy of organism."¹ It seems that Deleuze understood *Process and Reality* in specifically this sense, especially if we consider the context in which he came to qualify the book as one of the greatest in modern philosophy. Indeed, Deleuze's praise of Whitehead in *Difference and Repetition* was preceded by his critique of evolutionism delivered in a purely Whiteheadian fashion [Deleuze, 1994: pp. 248-254]. Deleuze conceives matter in terms of differential modes of intensity and it seems it is precisely what had escaped Darwin who was instead interested in identifying lines of evolution of species. Both Whitehead's philosophy of organism and Deleuze's philosophy of nature are deeply anti-Darwinian as they argue in favor of a principle of autonomous creativity wherein no priority is granted to a particular line of becoming. Whitehead and Deleuze are less interested in identifying the taxonomic units (i.e., species) than in exploring differentiation per se.

Surely, Whitehead's preface to *Process and Reality* presents the book as a "philosophy of organism" wherein each living organism is an event plunged into a creative flux of becoming. However, the same preface also calls for a "complete cosmology" [Whitehead, 1960: p. vi] that brings together "aesthetic, moral, and religious interests in relation with those concepts of the world which have their origin in natural science" [Whitehead, 1960: p. vi]. This "complete cosmology" establishes a connection between the autopoietic life and an idealistic element that culminates in the book's last section called "God and the World," where the divine power and the realm of natural organisms merge in creative processes. The metaphysical feeling of love becomes a supreme principle of association of the material world and God. As Whitehead puts it, "The love in the world passes in the love in heaven, and floods back into the world" [Whitehead, 1960: p. 532]. More precisely, Whitehead considers his "complete cosmology" as a fusion of two kinds of cosmologies: Plato's cosmology and the modern cosmology of the seventeenth century [Whitehead, 1960: p. ix]². That is to say, the integration of a cosmology that promotes an idealistic bond between all things and a cosmology that takes into account observation and empirical discoveries.

Deleuze is not particularly concerned with Whitehead's God and idealistic view over the intergalactic love. His fascination goes rather for Whitehead's astonishing conceptual creativity (a complex system of forty-five categories to explain reality), anti-

¹ One could consider, however, that the term "organisms" here does not only refer to earthly organisms.

² Recently, a parallel was made between the neutrino mass matrix and the perfect geometric solids used in Plato's cosmology [Ma, 2002], which might support Whitehead's specific attempt to combine old and modern cosmologies. I would like to thank Sean Soderman for this reference.

Darwinianism [Beaulieu, 2006], and conception of the event [Deleuze, 1992: chap. 6]. Was Deleuze looking for something similar to a “complete cosmology”? It is not likely, and this is where he takes his distance from Whitehead. Deleuze's philosophy is not so much about searching for a unified cosmology, but rather attempting to experience a “chaosmos” (a neologism borrowed by Deleuze from James Joyce) and this chaosmological experience can never be fully completed as it always takes place in the midst of things. But is Deleuze's chaosmology so much apart from some other features of Whitehead's cosmological intuition?

Whitehead's philosophy of the organism opens up to a cosmological model where all possible worlds or all possible systems of organization are realized. This is what Whitehead means by referring to “each actual world” [Whitehead, 1960: pp. 345 and 351]. In contrast with Leibniz, the realized worlds are no longer “impossible” (i.e., the most harmonious does not triumph over others). There is rather a compossibility in each actual world or each set of rules. Thus, the fact that there are two systems based on contradictory organizational rules does not prevent them from coexisting. For Deleuze, as for Whitehead, there are several realized worlds and each of them is ordered according to its particular organization and rationality. Each actual world has its own rules of organization that can contradict the order of some other worlds without calling into question the operational logic of the natural universe or destroying the particular type of organization of the whole. Thus, Whitehead and Deleuze may argue in favor of the non-uniqueness of the universe, i.e., both seem to intuitively support the hypothesis of the “multiverse” (although they do not use this term) — a multiverse located in the infinitely small entities no less than in the infinitely big.

2. Chaosmos

The notion of chaosmos, borrowed from James Joyce, points to another aspect of Deleuze's cosmological sensitivity. Joyce's neologism “chaosmos” expresses the fact that chaos and cosmos (disorder and order) are not opposites, but part of a larger continuum: “...every person, place and thing in the chaosmos of Alle anyway [are] connected...” [Joyce, 1999: chap. 8]. There is a symbiosis between order and disorder and their boundaries are somewhat undefined. In *What is Philosophy?*, Deleuze and Guattari seem to mark a clearer distinction between chaos and cosmos, as the plane of immanence (e.g., their expression of a philosophical conceptuality deprived of universal transcendences) is presented as an autonomous “section of chaos” [Deleuze, Guattari, 1996: p. 42]. The order on the plane of immanence pushes back the edge of chaos. In his own work, especially in *Chaosmosis* [Guattari, 2012], Guattari, who co-wrote a series of books with Deleuze, might show a greater affinity with Joyce's idea of an intimate symbiosis between chaos and cosmos. However, chaos is never fully conquered, as opposed to classical and ancient views such as Hesiod's *Theogony* or the biblical cosmological narrative of the Genesis where the cosmos takes shape once and for all after being separated from chaos. The first sentence of the conclusion of *What is Philosophy?* clearly refers to this non classical view, according to which one is never sheltered from chaos: “We require just a little order, write Deleuze and Guattari, to protect us from chaos” [Deleuze, Guattari, 1996: p. 201]. What is more, according to Deleuze and Guattari, this “little order” belongs to no more than the realm of opinion.

The universe, in and around the plane of immanence, is said to be filled with virtual forces of chaos. This virtual chaos has no substance. Deleuze and Guattari write: “chaos makes chaotic”³ [Deleuze, Guattari, 1996: p. 42], in the sense that chaos does not have a fixed identity made available to representation. Rather, the virtual chaos forces processes of differentiation/differentiation (with “c” and “t”) to happen. As explained in Chapter 6 of *What is Philosophy?*, chaos differentiates (with a “c”) itself as virtual forces appear and disappear in it. Then, chaos differentiates (with a “t”) itself as virtual forces actualize themselves in the state of affairs [Deleuze, 1994: pp. 208-214 and 279-280; Deleuze, Guattari, 1996: pp. 153-162], generating an intensification of physical entities. Virtual, chaotic, and non sensible forces actualize themselves in the state of affairs which in turn express this “event” through a counter-effectuation that produces new affective *potentia* (*puissances*) redirected in the virtual chaos. As the said counter-effectuation forms a conceptual expression, a conceptual plane takes shape of a “section of chaos.”

Although the notions of chaos, chaosmos, and forces appear to have a “cosmological” aspect, even a “non-terrestrial” dimension, Deleuze’s and Guattari’s discussion of the virtual chaos takes place in the context of the creation of concepts rather than the creation (or constant creation) of a multiverse. However, Deleuze’s discussion of the forces also takes place in the context of artistic creation [Deleuze, 2005; Deleuze, Guattari, 1987: chap. 11], as though artists possessed some kind of superior ability to grasp (or to be grasped by) virtual forces from the Outside and to express them; and by doing so, rendering sensible the non-terrestrial forces which are not sensible in themselves. It follows that there exists for Deleuze and Guattari a conceptual expression of the virtual chaos and an artistic expression of the non-terrestrial forces from the Outside (*Dehors*). Deleuze and Guattari [Deleuze, Guattari, 1987: chap. 11] maintain that modern artists have the capacity to create “new earths” and “new people,” literally “new worlds.” Thus, a series of world orders coexists with the virtual chaos, yielding a chaotic aspect to reality.

3. Outside

Deleuze (sometimes along with Guattari) often refers to the “Outside of the forces” linked to a good form of activity, as opposed to the secondary and less determining activity coming from an internal voluntarism, which is itself linked to the ontologies of consciousness from which Deleuze takes his distance. He repeats, like a refrain or a *ritournelle*: “An outside which is farther away than any exteriority.” The Outside accounts for involuntary encounters, vital intensities, desiring machines and deterritorialisation, etc., and thus plays a key role in the entirety of Deleuze’s thinking [Deleuze, 1994: p. 259; Deleuze, 1997: p. 113; Deleuze, Guattari, 1983: pp. 259 and 334; Deleuze, Guattari, 1987: pp. 23, 326, 342-344 and 376-377, 549; Deleuze, Parnet, 2007: p. 73].

In *What is Philosophy?*, Deleuze and Guattari link together the outside and the immanence: “It is the most intimate within thought and yet the absolute outside — an outside more distant than any external world because it is an inside deeper than any internal world: it is immanence” [Deleuze, Guattari, 1996: p. 59]. They continue by quoting Blanchot: “Intimacy as the Outside, the exterior becomes the instrument

³Throughout his work, Heidegger uses similar tautological expressions of de-substantification or de-essentialisation such as: “*das Nicht nichtet*,” “*die Welt weltet*” and “*die Zeit zeitet*.”

that stifles, and the reversal of both the one and the other" [Deleuze, Guattari, 1996: p. 59].

However, the most detailed account on the outside is to be found in Deleuze's book on Foucault. It is not surprising if we remember that this notion passes from Blanchot⁴ [Blanchot, 1992] to Foucault's essay "A thought of the outside" [Foucault, 2003]⁵, originally published in 1966. Deleuze writes: "We must distinguish between exteriority and the outside. Exteriority is still a form [...]" [Deleuze, 1988: p. 86]. Deleuze provides examples of seeing and speaking (one never speaks of what he sees and vice versa) and continues: "But the outside concerns force: if force is always in relation with other forces, forces necessarily refer to an irreducible outside which no longer has any form and is made up of distances that cannot be broken down through which one force acts upon another or is acted upon by another. It is always from the outside that a force confers on others or receives from others the variable position to be found only at a particular distance or in a particular relation." [Deleuze, 1988: p. 86].

He then adds his famous *ritournelle*: "It is an outside which is farther away that any external world and even any form of exteriority, which henceforth becomes infinitely closer" [Deleuze, 1988: p. 86]⁶.

Deleuze associates the forces of the outside with the experience of thinking. Here, he implicitly refers to Artaud who describes the "incapacity to think" (*impouvoir de la pensée*) [Blanchot, 2003; Deleuze, 1989: pp. 216-218] which Deleuze links with the difficulty to grasp (or to be grasped by) the forces. In his book on Foucault, Deleuze adds: "Thinking comes from the outside [...] Thinking does not depend on a beautiful interiority that would reunite the visible and the articulable elements, but is carried under the intrusion of an outside that eats into the interval and forces or dismembers the internal" [Deleuze, 1988: p. 87]. In other words, thinking corresponds to "a liberation of forces which comes from the outside" [Deleuze, 1988: p. 87]. It follows that thinking does not occur without the activity of outside forces which take the interiority away from its stable identity. Forces, then, force one to think.

Does the Deleuzean outside/forces/thinking interconnection have a cosmological resonance? The terminology that is used seems to point in this direction if we consider that the outside is located in a "non-identifiable place," that the forces have potentially the capacity to travel across galaxies, and that the thinking has an element of strangeness and non-familiarity at its core. However, it would be too simplistic perhaps to consider the experience of gazing at the night sky as leading

⁴ Deleuze and Guattari [1996: p. 221, note 15] discuss a passage from this text by Blanchot.

⁵ In this text, Foucault associates the "outside" to a process of desubjectivation. The association between outside/forces as well as the formulation "an outside which is farther away that any external world" seem to come from Deleuze.

⁶ Deleuze credits Foucault for the distinction between "exteriority" and "outside" [Deleuze, 1988: p. 143, note 24]. He refers to Foucault's essay on Magritte "This is not a Pipe" where Foucault supposedly opposes the outside of forces ("another space") to external forms. Indeed, Foucault presents this "other space" as being undetermined by the "form," but it does not primarily have the "cosmological" meaning attributed by Deleuze to the forces. Rather, Foucault seems to describe an aesthetic technique used by Magritte where representation and reference are relocated in an unseen or imaginary space. One could perhaps question the relevance of Deleuze's interpretation here. It might be that Foucault was closer to grasp the "outside of the cosmological forces" in his description of the "ship of fools" in the Renaissance or in his exploration of the topics of the "absence of an œuvre" in modern times [Foucault, 2006: pp. 8-21 and 535-538].

to the interconnection between the outside, forces, and thinking. Yet, the possibility of taking a line of flight while gazing at a night sky might not be excluded, even if it would be just one case among others, perhaps even the lowest one on the scale of deterritorialisation compared to the “earthly” and immanent movements of desubjectivation. The “outside, which is farther away than any external world” would then primarily and paradoxically refer to a geodynamic earthly experience, which takes those experiencing it away from the usual words and familiar things. This non-familiarity might become “infinitely closer” in the sense that it opens up the possibility of thinking and thus of connecting vividly with reality.

4. Earthliness

Deleuze’s chaomological amazement and wonder has more to do with the non-familiarity and strangeness that is happening “down here” than with the harmony “up there.” It is comparable with Nietzsche’s views over “what cosmology can do,” as I will argue.

As we know, Nietzsche’s work is filled with cosmological references. Chaos, infinity, earth, supraearth, forces and stars are part of Nietzsche’s casual and critical vocabulary, not to mention the famous quasi-mystic sentence: “one must still have chaos in oneself to give birth to a dancing star” [Nietzsche, 2009: Part I, Prologue, §5]. For Nietzsche, it is not primarily man who is in the world, but rather the world (and its chaotic aspect) that is in man. It is this world that Nietzsche explores through physical and metaphysical wandering. He attempts at (re)conquering a world that is lost in the hands of logocentric thinkers who believe in an ideal world beyond this one; and by doing so they annihilate life.

Nietzsche does not provide a representation of the universe as most traditional philo-cosmologists did (starting with Plato [Plato, 2008] and Aristotle [Aristotle, 1937]). He does not offer an explanation of the unity of the cosmos (in which he does not believe at any rate) neither does he promote advanced mathematics to understand the origin and destiny of the whole universe. Instead, Nietzsche understands the cosmological task in a traditional way, as a spiritual exercise of self-transformation, which leads him to modestly invite us “to remain earthly.” And Deleuze kindly accepts Nietzsche’s invitation. In *Thus Spoke Zarathustra*, Nietzsche writes: “The Superman shall be the meaning of the earth! I conjure you, remain true to the earth, and believe not those who speak unto you of supraearthly hopes! Poisoners are they, whether they know it or not. [...] Once blasphemy against God was the greatest blasphemy. [...] To blaspheme the earth is now the dreadfulest sin. [...] I love those who do not first seek a reason beyond the stars for going down and being sacrifices, but sacrifice themselves to the earth, that the earth of the Superman may hereafter arrive.” [Nietzsche, 2009: Part I, Sections 3 and 4].

In an aphorism taken from one of his notebooks, contemporary to *Zarathustra* (1885), Nietzsche seems to go beyond his call to remain earthly by presenting a general portrait of the universe, even though his description still concerns the earthly world: “And do you know what ‘the world’ is to me? [...] This world: a monster of energy, without beginning, without end... as force throughout, as a play of forces and waves of forces...a sea of forces flowing and rushing together, eternally changing and eternally flooding back with tremendous years of recurrence... [...] this my *Dionysian* world of the eternally self-creating, the eternally self-destroying, this mysteryworld

of the two-fold voluptuous delight, my 'beyond good and evil,' without goal, unless the joy of the circle is itself a goal... *This world is the will to power.*" [Nietzsche, 1967-1980: Aphorism 1067 in KSA XVI, p. 401 sq].

Deleuze (along with Guattari) understood Nietzsche's call to remain earthly, as shown namely by the quest of immanence and their borrowing of Nietzsche's notion of forces. This led to the exploration of a series of becomings (becoming-animal, -plant, -women, etc.) that take place in a new philosophy of nature. However, Deleuze does not follow Nietzsche's depiction of a chaotic world, as for Deleuze the laying down of the plane of immanence involves chaotic effects, which do not however extend all over. Similarly, in his book on Francis Bacon [Deleuze, 2005], Deleuze postulates that the challenge of figural arts is to avoid pure abstraction and the infinite proliferation of chaos by mastering the diagram. Thus, Deleuze resists some of Nietzsche's formulations, such as "*Chaos sive natura*" [Nietzsche, 1967-1980: Aphorism 11/197 in KSA IX] and "The general character of the world [...] is to all eternity chaos" [Nietzsche, 2001: §109].

In *A Thousand Plateaus*, Deleuze and Guattari demonstrate their attachment to the earth affected by chaotic forces, which is very distinct from a perfectly organized hylemorphic earth with a planetary nervous system harmoniously connecting all parts⁷. They write: "The Earth [...] is a body without organs. This body without organs is permeated by unformed, unstable matters, by flows in all directions, by free intensities or nomadic singularities, by mad or transitory particles" [Deleuze, Guattari, 1987: p. 40]. The earth can be represented as a series of territories juxtaposed to each other, but the earth most of all is geodynamic as it allows to experience lines of flight that create unknown spaces where the edges of territories become uncertain. The interface between an un-hylemorphic earth and deterritorialization movements is where thinking takes place. This is what Deleuze and Guattari write in the chapter "Geophilosophy" of *What is Philosophy?*: "Thinking takes place in the relationship of territory and the earth [...] the earth constantly carries out a movement of deterritorialization on the spot, by which it goes beyond any territory" [Deleuze, Guattari, 1996: p. 85].

Either on planet X or on earth, the same logic of geo-thinking might apply since "the same ultimate elements and the same withdrawn force (*force en retrait*), write Deleuze and Guattari, constitute a single plane of composition bearing all the varieties of the universe" [Deleuze, Guattari, 1996: p. 213]. In other words, it might be an interesting scientific experiment to see how long humans can survive in the hostile environment such as planet Mars, but ultimately the deterritorializing and desubjectivizing forces will not be different from the ones which affect planet earth. The forces are homogeneously present everywhere.

5. Guattari

The experience of the non-familiarity of this world finds a peculiar expression in Guattari's movie project called "*Un amour d'UIQ*" (translated in English as "In search of UIQ") where UIQ stands for "*univers infra-quark*," also an anagram for "QUI" (in English: "WHO"). In the early 1980s, with the help of film director Robert

⁷This is close to Aristotle's animistic and teleological model, revisited by authors such as Gustav Fechner and Conan Doyle [Deleuze, Guattari, 1996: p. 213]. We could also think of James Lovelock's Gaia hypothesis [Lovelock, 2003].

Kramer, Guattari wrote a full script of a science-fiction movie, which he submitted to producers in Hollywood along with a well-balanced budget (of over ten million dollars!). The synopsis of the movie project reads as follows: “A female scientist makes contact with an E.T. [note A.B. — more precisely: alien, infra-terrestrial] universe and life form, taking the shape of common bacteria; the bacteria (UIQ) gains control of numerous machines and of the government, changes people into mutants, and lives inside the scientist with whom he has fallen in love.” [Maglioni, Thomson, 2012: p. 272].

Guattari pictures the bacteria as living semiotic connections used by an alien force smaller than elementary particles and as communicating with humans through rhythmic pulsation. Guattari is not interested in the infinitely big universe that could potentially host an extra-terrestrial life (a long-shared interest by the philo-cosmologists, from Plato [2008] and Aristotle [1937] to Kant [2009]), and chooses instead to explore the world of the infinitely small. At some point in the script, one of the characters says: “We always ask whether there is a form of life or intelligence on other planets, somewhere in the stars... but we never ask any questions about the infinitely small... it could perhaps come from there, from a universe smaller than atoms, electrons, quarks....” [Maglioni, Thomson, 2012: p. 134 — my translation].

The movie has never been made, perhaps because the producers considered it too difficult to shoot. After all, how can the communication with bacteria be represented on the screen? Perhaps also because it was too politically engaged: affective forces which come from an alien world and take control over society to create a new social organization did not seem particularly pleasing to Hollywood producers...

The project failed but the ideas remained. They are in line with the common work of Deleuze and Guattari [1983, 1987, 1996]: the UIQ have no face, they are imperceptible, revolutionary, desiring, etc. We do not know to what extent Deleuze was familiar with Guattari’s film project, but he was certainly aware of it considering that Guattari wrote the script at the time of *A Thousand Plateaus*.

Conclusion: Cosmology and Ethics

From the ancient cosmologies (Plato, Aristotle, Bible) to Nietzsche and Deleuze, the history of cosmology went from gaining insight into the supracosmic to a new awareness, according to which the earth remains a source of unknown surprises. Ancient cosmologists claimed to know everything about heaven in terms of its organization, finality, or perfection, whereas cosmologists such as Nietzsche and Deleuze turn their attention to the unfamiliarity of *this* world. Until the Enlightenment, cosmologists were developing sophisticated arguments to tell the truth about heaven, whereas the idea of finding a general explanation of the universe is abandoned by Deleuze who chooses instead to explore the strangeness of the “Erewhon” we live in, to borrow another neologism from the English writer Samuel Butler [Butler, 1985], a world that is simultaneously “now here” and “nowhere.” It is as though a cosmological twist was given to Spinoza’s famous idea, according to which we want to know about the immortality of the soul, whereas we still do not know what a body can do [Spinoza, 2005: Part 3, Prop. 2, Scholia]. Paraphrasing it, Deleuze (along with Guattari, and after Nietzsche) seem to be saying: “Philosophy once wanted to know about the supracosmic, whereas we still do not know what the earthly can do!” For Deleuze and Guattari, artists may have the privileged spiritual

and cosmological capacities to create “a new Earth” [Deleuze, Guattari, 1987: chap. 11], but philosophers' task consists in remaining worthy of the not so familiar earthly events which are happening down here and creating unheard concepts to express them. Samuel Butler's “Erewhon” might then be the grammatical expression of Deleuze's c(ha)osmological sensitivity.

How can literature (Joyce, Artaud, Butler discussed above) still provide arguments for cosmology today? Should we believe that philosophy is “dead” and unable to take part in the cosmological debate anymore [Hawking, Mlodinow, 2010: p. 5]? Is one of the main goals of scientific cosmology to free itself from the humanities and favor a purely epistemological perspective? Certainly, as mentioned earlier, there is a scientific (e.g., astrophysical) becoming of cosmology. But Deleuze remains in the margins of this scientific becoming. For him, cosmology is an existential realm of experience which enables to grasp the strangeness of a deterritorializing earth. His cosmological ethics is expressed by being worthy of the earthly events, a dynamic earth in the midst of infinite and endless processes of deterritorialization, an earth which is “not only a point in a galaxy, but one galaxy among others” [Deleuze, Guattari, 1987: p. 345].

Certainly, Deleuze acknowledges recent astrophysical discoveries as epistemological advancement⁸, but he ultimately remains faithful to a more traditional conception of cosmology understood as a spiritual exercise, as he tries to grasp the ethical consequences of some of these new scientific insights. His take on cosmology is primarily ethical as it aims at self-transformation, a new way of perceiving the world, and experiencing with the deterritorializing earthly forces. Thus, Deleuze's philo-cosmological attitude is neither idealistic nor religious, nor is it rationalistic and epistemological. It is rather geodynamic. This dynamic of the earth is not to be understood here merely in a closed terrestrial sense, but rather in a cosmological sense where the earth is affected by impersonal forces coming from an outside.

Deleuze's cosmological attitude is new in terms of content but not in terms of style if we consider that he keeps alive the traditional ethical practice of cosmology. Already for Plato, cosmological questioning serves a higher ethical purpose as it leads to experiencing the harmony of the motion of celestial bodies and the orbits in our soul [Plato, 2008: 47d], and thus contributes to the improvement of the self, which in turn implies, as Foucault notes in one of his studies on ancient thought, a “functional relation (*lien de finalité*) between taking care of the self and taking care of others” [Foucault, 2005: p. 175]. Philosophizing about the immensity of heaven, for Plato, shall bring happiness and allow a better understanding of our condition. In this sense, as Pierre Hadot suggests, Plato is one of the main representatives of the practice of cosmology as a spiritual exercise [Hadot, 1987; Hadot, 1995], which is a basic feature of traditional cosmology. Hadot is primarily interested in the Hellenistic schools. However, it could be stated that the practice of cosmology as a form of spiritual exercise remains a dominant perspective for philosophers in the Western tradition (among other traditions) up until modernity. Modern scientific cosmology, starting with Galileo and Copernicus, took a step away from these ethical concerns either

⁸ See Deleuze's and Guattari's references to Supernovae, Big Bang, Hubble constant, and the Theory of relativity [Deleuze, Guattari, 1996: pp. 42, 59, 118 sq, and 191]. I would like to thank Daniel Falb for sharing some of these references.

by integrating the empirical method to define new laws of nature or by using mathematical tools to objectivize the world. In parallel to these epistemological efforts, Deleuze sustains the practice of cosmology as an ethical task. However, contrary to the idealistic cosmological views initiated by Plato, Deleuze does not conceive the cosmological attitude as aiming at a higher and transcendent degree of perfection, but rather as experiencing with creative and intensive forces of deterritorialization.

That said, despite the fact that Deleuze's take on cosmology is primarily ethical and not epistemological, fruitful exchanges between Deleuze's thinking and astrophysics remain possible. Indeed, Deleuze provides a relevant framework for re-conceptualizing the universe beyond the classical representational models. Similarly, astrophysical discoveries can continue to nourish the Deleuzian philosophy as they reach out to the relativity, unfamiliarity, and strangeness of our place in the cosmos. This dialog remains to be opened.

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