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# Gilles Deleuze & Félix Guattari and the Rhuthmoi of Being -

## part 2

- Recherches

- Le rythme dans les sciences et les arts contemporains

- Philosophie - Nouvel article

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## Expression as Primary Form of Double

From their first approach, they concluded that "there are always two articulations, two segmentarities, two kinds of multiplicity, each of which brings into play both forms and substances" (p. 42). But this kind of statement could easily relapse into dualism if one was not careful enough in tying them to each other. Consequently, faithful to Spinoza and Leibniz's Principle of Sufficient Reason, they completed their model by introducing a genetic principle, "expression," with its correlative "content" *[contenu]* or "what was expressed" *[l'exprimé]*, to account for the presence of a double articulation in every organic stratum.

The "unformed" corpuscular *"matter"* transformed into "formed matters," which constituted *"content,"* and the "formed matters" into "functional structures," which in turn constituted *"expression."* In short, "the first articulation concern[ed] content, *the second expression"* (p. 44, Deleuze and Guattari's italics).

He [the Professor Challenger] used the term *matter* for the plane of consistency or Body without Organs, in other words, the unformed, unorganized, nonstratified, or destratified body and all its flows: subatomic and submolecular particles, pure intensities, prevital and prephysical free singularities. He used the term *content* for formed matters, which would now have to be considered from two points of view: substance, insofar as these matters are "chosen," and form, insofar as they are chosen in a certain order *(substance and form of content)*. He used the term *expression* for functional structures, which would also have to be considered from two points of view: the organization of their own specific form, and [the substance] insofar as they form compounds *(form and content of expression)*. *(A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 43, my mod.)

The introduction of the concept of "expression" was naturally not meant as bringing into play the modern subjective categories of "expression of oneself" or "representation." On the contrary, this concept was borrowed from the 17th century ontological critiques of dualism by Spinoza and Leibniz, which had been studied by Deleuze in his 1968 thesis. At the end of his essay he claimed that they had opened onto both a "new 'materialism'" and a "new 'formalism'" in the wake of which he naturally intended to situate himself (for a detailed analysis, see Michon, 2015, p. 91 *sq.*).

This concept takes on the force of an Anticartesian reaction led by these two authors, from their two very different viewpoints. It implies a rediscovery of Nature and her power and a recreating of logic and ontology: a new "materialism" and a new "formalism." (Deleuze, 1968, trans. Martin Joughin, 1990, p. 321)

For the sake of clarity and ease of comprehension, we need here to open a parenthesis. At the ontological level, the concept of expression made it possible to go beyond the traditional but also Cartesian definition of God as infinitely perfect, and to envisage that of an absolutely infinite as Nature. In definition 6 of the first part of *Ethics*, Spinoza defined God not only, as in the tradition, as absolutely perfect, but also as consisting of an infinity of deeper forms (the attributes), each of which  $\hat{a} \in \hat{e}$  one of his essences or, which amounted to the same thing, through which God  $\hat{a} \in \hat{e}$ 

God expresses himself in his attributes, and attributes express themselves in dependent modes: this is how the order of Nature manifests God. (Deleuze, 1968, trans. Martin Joughin, 1990, p. 59)

Likewise, Leibniz sought to reach God's divine nature upstream from its expressed properties.

Here again this nature is constituted by simple distinct forms in which God expresses himself, and which express themselves in infinite positive qualities. (Deleuze, 1968, trans. Martin Joughin, 1990, p. 325)

Similarly, at the individual level, that is, what Spinoza called *mode* and Leibniz *monad* (see below the quote from p. 327), the concept of expression allowed to overcome Cartesian dualism and subjectivism. Spinoza and Leibniz did not deny that all successive phenomena, whether in the soul or in the body, constituted parallel series, each governed on its own terms by real causality. However, Deleuze noted, the relation between the two series, and their relation to the invariant of the individual's essence, were now ensured by a common process of expression. Real causality in body and spirit was only a part of a larger expression of the individual's essence that brought "a correspondence and a resonance into series that [were] altogether foreign to one another."

The concept [of expression] nonetheless goes farther than causality, since it brings a correspondence and a resonance into series that are altogether foreign to one another. So that real causality is a species of expression, but merely a species subsumed under a more fundamental genus. This genus directly explains the possibility of distinct and heterogeneous series (expressions) expressing the same invariant (what is expressed), by establishing in each of the varying series the same concatenation of causes and effects. (Deleuze, 1968, trans. Martin Joughin, 1990, p. 327)

For Spinoza as for Leibniz, the expression of the individual's essence in the parallel phenomenal series would therefore constitute the individual into an "expressive center." In the final analysis, his, her or its identity was ensured by the expression of an essence that was real although unreachable.

And Leibniz by monad, no less than Spinoza by mode, understands nothing other than an individual as an expressive center. (Deleuze, 1968, trans. Martin Joughin, 1990, p. 327)

The substance, the attributes and the modes for Spinoza, or God, the world and the monads for Leibniz, formed

conceptual strings in which each element, at the same time, "enveloped, implicated and coiled what was expressed in its expression," and "developed, explicated, unwound its expression so as to render what was expressed" (Deleuze, 1968, p. 310, my trans., in 1990, p. 333). The concept of expression thus made it possible to pass from singularity to multiplicity, or from multiplicity to singularity; it was the central operator of the *dynamics of being*.

[In Leibniz] the world as expressed is implicit in the monads that express it, and by which, conversely, monads in their evolution reconstitute their continuous background together with the singularities about which they are themselves constituted. Subject to all the reservations already noted, the same account may be applied to Spinoza. Within the triad of substance God expresses himself in his attributes, the attributes expressing the unlimited qualities that constitute his essence. In the modal triad God re-expresses himself, or the attributes in their turn express themselves: they express themselves in modes, modes expressing modifications as modifications of substance, constituting the same world through every attribute. (Deleuze, 1968, trans. Martin Joughin, 1990, p. 334)

However, by basing their conceptions of the being on a network of dyads calling each other enveloping/developing, implicating/explicating, concealing/manifesting Spinoza and Leibniz gave the concept of "expression" a meaning that no longer had anything to do with the Neoplatonic "emanation," nor with the modern and particularly Cartesian "representation," nor with the ulterior Postkantian "genesis" or "self-development" (Deleuze, 1968, trans. Martin Joughin, 1990, p. 16 *sq.*). Instead of simply translating a content from the inside to the outside, it implied a double and intricate movement. In fact, the concept of expression powered a new *essentially dynamic vision*, an *absolute immanentism*, at a distance as much from the traditional dualisms associated with the theologies of transcendence, as from the modern dualisms linked to the secularization of this transcendence under the figures of a self-reflective *ego*, then of a self-developing *Spirit*.

This dynamics was particularly striking concerning the theory of knowledge and ideas that finally crowned the system. The concept of expression allowed to question the Cartesian primacy of clear and distinct ideas, as applying only "to recognition and nominal distinctions," without being able to establish "true knowledge through real definitions." It also dismissed the Cartesian psychological consciousness as central knowledge processor to the benefit of a "spiritual automaton" that only applied "an 'explicative' logical formalism."

What is common to Leibniz and Spinoza is the criticism of Cartesian clarity-and-distinctness, as applying to recognition and to nominal distinctions, rather than to true knowledge through real definitions. Real knowledge is discovered to be a kind of expression: which is to say both that the representative content of ideas is left behind for an immanent one, which is truly expressive, and that the form of psychological consciousness is left behind for an "explicative" logical formalism. And the spiritual automaton presents the unity [*l'identité*] of this new form and new content. (Deleuze, 1968, trans. Martin Joughin, 1990, p. 326)

To put it in a nutshell, the concept of expression, in its double and intricate form, applied to being as well as to individuals and ideas.

The concept of expression applies to Being determined as God, insofar as God expresses himself in the world. It applies to ideas determined as true, insofar as true ideas express God and the world. It applies, finally, to individuals determined as singular essences, insofar as singular essences express themselves in ideas. (Deleuze, 1968, trans. Martin Joughin, 1990, p. 321)

We now see that by introducing the concept of expression in *A Thousand Plateaus*, Deleuze and Guattari clearly intended to give to the "stratification― of the world, the "double articulation,― and the constitution of a specific "organic stratum,― a firm ontological basis directly borrowed from Spinoza's and Leibniz's philosophies of nature as God's expression. "To express, they half-jokingly said, is always to sing the glory of God. Every stratum had "a dimension of the expressible or of expression" that gave it its relative identity through time; every stratum was "a judgment of God" God naturally being here Nature herself, or better yet, itself.

A stratum always has a dimension of the expressible or of expression serving as the basis for a relative invariance; for example, nucleic sequences are inseparable from a relatively invariant expression by means of which they determine the compounds, organs, and functions of the organism. To express is always to sing the glory of God. Every stratum is a judgment of God; not only do plants and animals, orchids and wasps, sing or express themselves, but so do rocks and even rivers, every stratified thing on earth. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 43-44)

Likewise, Deleuze and Guattari intended to provide, at the epistemological level, an explanation for the way the double articulation was forming that was not, as Deleuze had emphasized in his book on Spinoza, only a "mental" construction "representing" it "in the mind" but that was restoring its "true immanent content," along with its "true logical form" (1968, tr. 1990, p. 324). As a matter of fact, they declared that while the traditional distinction between form and substance was "not real" but "only a mental or modal distinction," "the distinction between content and expression" was "*always real*" (1980, p. 44). This shed light, retrospectively, on the conception of thought as developing according to a rhizomatic flow parallel to the rhizomatic flow of the world that had been presented in the introduction and that obviously replaced, without though any logical concatenation of reasons, Spinoza's or Leibniz's concept of consciousness as a "spiritual automaton" following an "explicative logical formalism" that remained exactly parallel to the flow of nature.

Both ontological and epistemological principles did not mean, yet, that the implementation of the double articulation, and consequently the distribution of strata and the emergence of life, were predetermined. Just like in Spinoza's philosophy of nature, the principle was real but its actualization was variable and aleatory.

The double articulation sometimes coincides with the molecular and the molar, and sometimes not; this is because content and expression are sometimes divided along those lines and sometimes along different lines. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 44)

Moreover, content and expression could "vary from one stratum to another," "intermingle," and "multiply and divide ad infinitum" within the same stratum (p. 44). Between the various strata and layers composing the world, there was actually a lot of exchanges that made them sometimes express themselves into another layer and sometimes be expressed by still another one. This implied that most states were actually "*intermediate* between content and expression, expression and content."

For this reason, there exist *intermediate states* between content and expression, expression and content: the levels, equilibriums, and exchanges through which a stratified system passes. In short, we find forms and substances of content that play the role of expression in relation to other forms and substances, and conversely for expression. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 44)

In other words, the movement of double articulation had certainly resulted in a stratified system containing an emergent organic stratum, but each stratum and each layer of the system was actually partaking in expressive chains in which every link was both expressed by and expressing an infinite number of other links. The whole world was both stratified and dynamized by a general expressive dynamics. If *life*, strictly speaking, was limited to the organic stratum, its larger form, *expression*, actually pervaded all strata.

Each articulation is already, or still, double. This can be seen on the organic stratum: proteins of content have two forms, one of which (the infolded fiber) plays the role of functional expression in relation to the other. The same goes for the nucleic acids of expression: double articulations cause certain formal and substantial elements to play the role of content in relation to others; not only does the half of the chain that is reproduced become a content, but the reconstituted chain itself becomes a content in relation to the "messenger." There are double pincers everywhere on a stratum; everywhere and in all directions there are double binds and lobsters [a picture of a lobster with the caption "Double Articulation" pleasantly opened the chapter], a multiplicity of double articulations affecting both expression and content. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, pp. 44-45, my comment)

This sophisticated model, borrowing some of its basic ideas from the very first modern process philosophies, allowed Deleuze and Guattari to accommodate the findings of the latest biology without yet resorting, as some contemporary biologists were inclined to do, to the cybernetic model based on program and command, nor to the structural model based on biunivocal fixed relationships. It also allowed them to expand the model of life through the concept of expression to the whole world.

The world was not composed of beings organized by programs, nor by codes structured like the phonemes of the language, and neither was it completely fluid. It was more like a large stream composed of lami-nar flows whose pressure interactions provoked the appearance of whirls and gave to it a certain viscosity. Or better yet, because the metaphor of the stream was still misguiding, the world was like a set of mutually expressing strata and layers leaning on a reservoir of potentialities and allowing, in between, the emergence of dynamic machinic assemblages of machinic assemblages.

### **Evolution as Expressive Flow**

The very next page, Deleuze and Guattari declared wanting to sing the praise of the naturalist Etienne Geoffroy Saint-Hilaire (1772-1844). Indeed, they noticed, the latter developed, at the beginning of the 19th century, "a grandiose conception of stratification" based on a *rhuthmic* theory of matter that "consisted in particles of decreasing size, flows or elastic fluids" which, I must say, was already common in his time rejected any vitalist account such as Diderot's endowing matter with life, and above all explained life by a "specific unity of composition, a single Abstract animal, a single machine embedded in the stratum."

Should we not sing the praise of Geoffroy Saint-Hilaire? For in the nineteenth century he developed a grandiose conception of stratification. He said that matter, considered from the standpoint of its greatest divisibility, consist[ed] in particles of decreasing size, flows or elastic fluids that "deploy[ed] themselves" by radiating through space. [...] There [was] no vital matter specific to the organic stratum, matter [was] the same on all the strata. But the organic stratum [did] have a specific unity of composition, a single abstract Animal, a single machine embedded in the stratum, and presents everywhere the same molecular materials, the same elements or anatomical components of organs, the same formal connections. Organic forms [were] nevertheless different from one another, as [were] organs, compound substances, and molecules. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, pp. 45-46, my mod.)

They also praised Geoffroy Saint-Hilaire for his morphogenetic theory. Any animal could be related to a series of others "by means of folding."

*Geoffroy:* The proof that there is isomorphism is that you can always get from one form on the organic stratum to another, however different they may be, by means of "folding." To go from the Vertebrate to the Cephalopod, bring the two sides of the Vertebrate's backbone together, bend its head down to its feet and its pelvis up to the nape of its neck ... (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 46)

This proved, according to Geoffroy Saint-Hilaire, that life was expressing itself in the same manner, the "same abstract Animal," throughout the organic stratum. Differences in forms were secondary and caused by "molecular clashes," "influence of the milieu," or "pressure from neighbors."

I [Geoffroy Saint-Hilaire speaking] said that there was isomorphism but not correspondence. You have to bring "degrees of development or perfection" into the picture. It is not everywhere on a stratum that materials reach the degree at which they form a given aggregate. Anatomical elements may be arrested or inhibited in certain places by molecular clashes, the influence of the milieu, or pressure from neighbors to such an extent that they compose different organs. The same formal relations or connections are then effectuated in entirely different forms and arrangements. It is still the same abstract Animal that is realized throughout the stratum, only to varying degrees, in varying modes. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 46)

The second great master concerning the organization of the organic stratum was naturally Charles Darwin (1809-1882) who introduced two revolutionary ideas by extending the *rhuthmic* concept of matter as made of mobile and multitudinous molecules to the organic stratum. Through the concept of "natural selection," forms were now understood "in terms of populations" and degrees of development "in terms of speed and differential relations."

Earlier, we invoked two factors, and their uncertain relations, in order to explain the diversity within a stratum degrees of development or perfection and types of forms. They now undergo a profound transformation. There is a double tendency for types of forms to be understood increasingly in terms of populations, packs and colonies, collectivities or multiplicities; and degrees of development in terms of speeds, rates, coefficients, and differential relations. A double deepening. This, Darwinism's fundamental contribution, implies a new coupling of individuals and milieus on the stratum. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, pp. 47-48)

Deleuze and Guattari did not explain how they articulated this new step in natural science based on a "molecular view" with Geoffroy Saint-Hilaire's contribution which sought to bring to light, through morphologic comparison, one common "abstract machine." The two views seemed totally opposite as they implicitly recognized, as a matter of fact, a few pages later [1]. Deleuze and Guattari's attraction for Geoffroy Saint-Hilaire's ideas and his strange pairing with Darwin was maybe due to his implicit use of the concept of expression that made life produce an infinite number of forms, related to each other by folding in the first case, and among which only those adapted to the milieu were to be selected and transmitted without regard to a common form, in the second case.

First, if we assume the presence of an elementary or even molecular population in a given milieu, the forms do not preexist the population, they are more like statistical results. The more a population assumes divergent forms, the more its multiplicity divides into multiplicities of different nature, the more its elements form distinct compounds or matters the more efficiently it distributes itself in the milieu, or divides up the milieu. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 48)

Anyhow, Darwin and not Geoffroy Saint-Hilaire opened a new scientific era by introducing a "science of multiplicities." Darwin showed for the first time that the organic strata was developing according *rhuthmic* principles that made its populations evolve according to variable and relative speeds.

Relative progress, then, can occur by formal and quantitative simplification rather than by complication, by a loss of components and syntheses rather than by acquisition (it is a question of speed, and speed is a differential). It is through populations that one is formed, assumes forms, and through loss that one progresses and picks up speed. Darwinism's two fundamental contributions move in the direction of a science of multiplicities: the substitution of populations for types, and the substitution of rates or differential relations for degrees. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 48)

Darwin's contribution was certainly a scientific and philosophical progress towards a more immanent and materialist worldview but his work had been used in the 20th century for a very different purpose. Deleuze and Guattari targeted, without naming him, Pierre Teilhard de Chardin (1881-1955), the French Jesuit Catholic priest, paleontologist, geologist and philosopher. There had been no progress whatsoever, they contended, from the cosmological to the geological, then from the geological to the organic, and finally from the organic to the human stratum. Cosmology, geology, biology and anthropology had not been developing according to a grand divine design. The organization of the substrata was "no less complex than, nor was it inferior to, that of the strata." Consequently, they bluntly rejected his idealist view of evolution, calling it "ridiculous."

We should be on our guard against any kind of ridiculous cosmic evolutionism. The materials furnished by a substratum [were] no doubt simpler than the compounds of a stratum, but their level of organization in the substratum [was] no lower than that of the stratum itself. The difference between materials and substantial elements [was] one of organization; there [was] a change in organization, not an augmentation. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 49, my mod.)

By contrast, a more complete and precise description could be reached by expanding further the complex dynamics of expression, double articulation and stratification that had been presented previously. To make their point clearer, they gave two examples drawn respectively from the chemical-geological and the organic strata.

Under some conditions, crystals form in "an amorphous milieu" around "a seed." This process implies both that the forming crystal "incorporates masses of amorphous material" drawn from the milieu and that the seed, so to speak, "moves out to the system's exterior" in order to sustain the process. Similarly, life emerged in the "famous prebiotic soup" by the action of "catalysts" that "play[ed] the role of seed in the formation of interior substantial elements or even compounds." These elements and compounds followed the same double dynamics as in the previous case: "Both appropriate[d] materials and exteriorize[d] themselves through replication, even in the conditions of the primordial soup itself." Once again, Deleuze and Guattari emphasized, "interior and exterior exchange[d] places, both [being] interior to the organic stratum." Consequently, the most important point was actually the "limit" or the "membrane" that separated the crystal from the saturated milieu or the living cell from the prebiotic soup, because it regulated "the exchanges and the transformation in organization, (in other words, the distributions interior to the stratum)" (pp. 49-50, my mod.).

These two examples introduced to a larger and detailed description of the organic stratum. First, contrarily to the idealist view, the strata were not arranged from the simplest to the most complicated. From the physical to the

biological and from the biological to the anthropological, there was no progress, no spiritual elevation. Each stratum had in fact its specific complex organization which was neither more nor less complex than that of the adjacent strata but simply based on different materials and different forms.

Second, the organic stratum was not homogeneous but entirely layered or substratified. It was composed of a "central layer" (which "already comprised several layers and, actually, did not exist *per se* but only "in relation with its periphery") consisting of "exterior molecular materials, interior substantial elements, and the limit or membrane conveying the formal relations," and "*epistrata*" disposed around this layered core that constituted "intermediaries" with the exterior and, at the same time, broke the former "down into gradations" (p. 50).

A stratum, considered from the stand-point of its unity of composition, therefore exists only in its substantial epistrata, which shatter its continuity, fragment its ring, and break it down into gradations. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 50)

Third, this finely layered structure was the place of constant exchanges "from the center to the periphery," while "the periphery react[ed] back upon the center to form a new center in relation to a new periphery." Flows, Deleuze and Guattari insisted, "constantly radiate[d] outward, then turn[ed] back" (p. 50). This resulted in a kind of constant migration of the center.

The central ring does not exist independently of a periphery that forms a new center, reacts back upon the first center, and in turn gives forth discontinuous epistrata. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 51)

Fourth, each stratum was in interaction with "*annexed or associated milieus*" which, for example, provided the cells with the energy they needed or, as Jakob von Uexküll (1864-1944) had shown, more complex animals like the Tick with a full world implying "active, perceptive, and energetic characteristics" (p. 51).

The associated milieu is thus defined by the capture of energy sources (respiration in the most general sense), by the discernment of materials, the sensing of their presence or absence (perception), and by the fabrication or nonfabrication of the corresponding compounds (response, reaction). (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 51)

Fifth, the differential "degrees of species development," that is, the change in forms in the organic strata, studied by Darwin could be accounted for by the interaction between the random evolution of "the annexed or associated strata," that Deleuze and Guattari called "parastrata," and the sometimes imperfect transmission of the "genetic code" carried by a particular "animal population," the so-called "genetic drift" revealed by 20th century genetics. In short, evolution did not occurred according to a linear and predictable development but randomly and without a plan.

Parastrata envelop[ed] the very codes upon which the forms depend[ed], and these codes necessarily appl[ied] to populations. There must already be an entire molecular population to be coded, and the effects of the code, or a change in the code, [were] evaluated in relation to a more or less molar population, depending on the code's ability to propagate in the milieu or create for itself a new associated milieu within which the modification will be popularizable. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 52, my mod.)

There is no genetics without "genetic drift." The modern theory of mutations has clearly demonstrated that a code, which necessarily relates to a population, has an essential margin of decoding: not only does every code have supplements capable of free variation, but a single segment may be copied twice, the second copy left free for variation. In addition, fragments of code may be transferred from the cells of one species to those of another, Man and Mouse, Monkey and Cat, by viruses or through other procedures. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 53, my mod.)

Then Deleuze and Guattari summarized their view of the evolution of the organic strata. Instead of the common depiction presenting the proliferation of life as a tree whose branches had been multiplying and sometimes falling with time, they proposed a picture that was not any more based on the sole classification of species but on an association between an original process philosophy (that advocated the virtual/tensive/actual ontological trilogy, as well as the expression/double-articulation/stratification cosmological trilogy), ethology, the study of animal behavior in the environment, and finally genetics, the study of genes and heredity in living organisms. Life had been emerging through the passage from the great reservoir of virtualities and potentials to actuality (this was actually Morin's opinion too, based on Prigogine's and Atlan's contributions on emergence and irreversibility), then it had been developing through a series of overlapping layers (evanescent core, epistrata organized in individual existential territories, parastrata enveloping population genetic codes), whose changes, provoked by processes of de- or reterritorialization, or de- or encoding, interacted, developed at different speeds, here blocking one another, there accelerating one another. The tree of life was replaced by a complex and dynamic view combining ontological, cosmological, ethological, and genetic perspectives.

In short, the epistrata and parastrata are continually moving, sliding, shifting, and changing on the Ecumenon or unity of composition of a stratum; some are swept away by lines of flight and movements of deterritorialization, others by processes of decoding or drift, but they all communicate at the intersection of the milieus. The strata are continually being shaken by phenomena of cracking and rupture, either at the level of the substrata that furnish the materials (a prebiotic soup, a prechemical soup...), at the level of the accumulating epistrata, or at the level of the abutting parastrata: everywhere there arise simultaneous accelerations and blockages, comparative speeds, differences in deterritorialization creating relative fields of reterritorialization. (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, p. 55)

Up to this point, Deleuze and Guattari's analysis remained very close to Morin's, which was not surprising since they used more or less the same scientific material, except that they did not consider cosmophysics and physics. They agreed with his *rhuthmic* theory of becoming. Time, we remember, for Morin was not sheer "degradation, progress, sequence nor perpetual cycle" but "rich and complex," that is, "complementary, concurrent, and antagonistic." It allowed accumulation and continuity as well as emergence, novelty, creativity.

Similarly, Deleuze and Guattari joined Morin in dismissing Teilhard de Chardin's grand view of cosmic evolutionism, even if they insisted, for their part, on the questions raised by the idea of increasing integration and refinement as proof of "spiritualization," while Morin argued, with a little irony, that what naively appeared as an ascension was actually the chance result of a *physis* dominated by "destruction and dispersion," "fruitless expenses" and "useless agitations."

Finally, either under the guise of the "fold" of the primordial molecules upon themselves, or the "interaction" between seed and milieu, enzyme and prebiotic soup, or the "action and reaction" from center to periphery of the stratum, or the "interaction" between the animals populating a particular stratum and the "associated or annexed milieus," Deleuze and Guattari clearly recognized the role of the "loop" principle without though making it, as Morin, a decisive tool in the description.

The main difference pertained to their general theory of becoming that philosophically expanded to the other strata a model mainly elaborated from the organic stratum and that entirely blurred the distinction between physical, biological and anthropological domains. Whereas Morin developed an historical narrative starting from the physical strata and maintained that evolution, certainly through immense expense, chance encounter, emergence, complexity threshold, and irreversibility, had nonetheless resulted in a specific anthropological and noological sphere, Deleuze and Guattari advocated a purely naturalistic view. The limits between *physis*, living beings, and humanity were anthropocentric

fantasies. By contrast, the latest science showed, according to them, that connections, mutual associations, permanent exchanges, even sometimes annexations between strata dissolved humanity into a larger natural frame.

Next chapter

[1] "The change is obviously not due to a passage from one preestablished form to another, in other words, a translation from one code to another. As long as the problem was formulated in that fashion, it remained insoluble, and one would have to agree with Cuvier and Baer [Geoffroy Saint-Hilaire's adversaries] that established types of forms are irreducible and therefore do not admit of translation or transformation." (*A Thousand Plateaus*, 1980, trans. B. Massumi, 1987, pp. 52-53)