

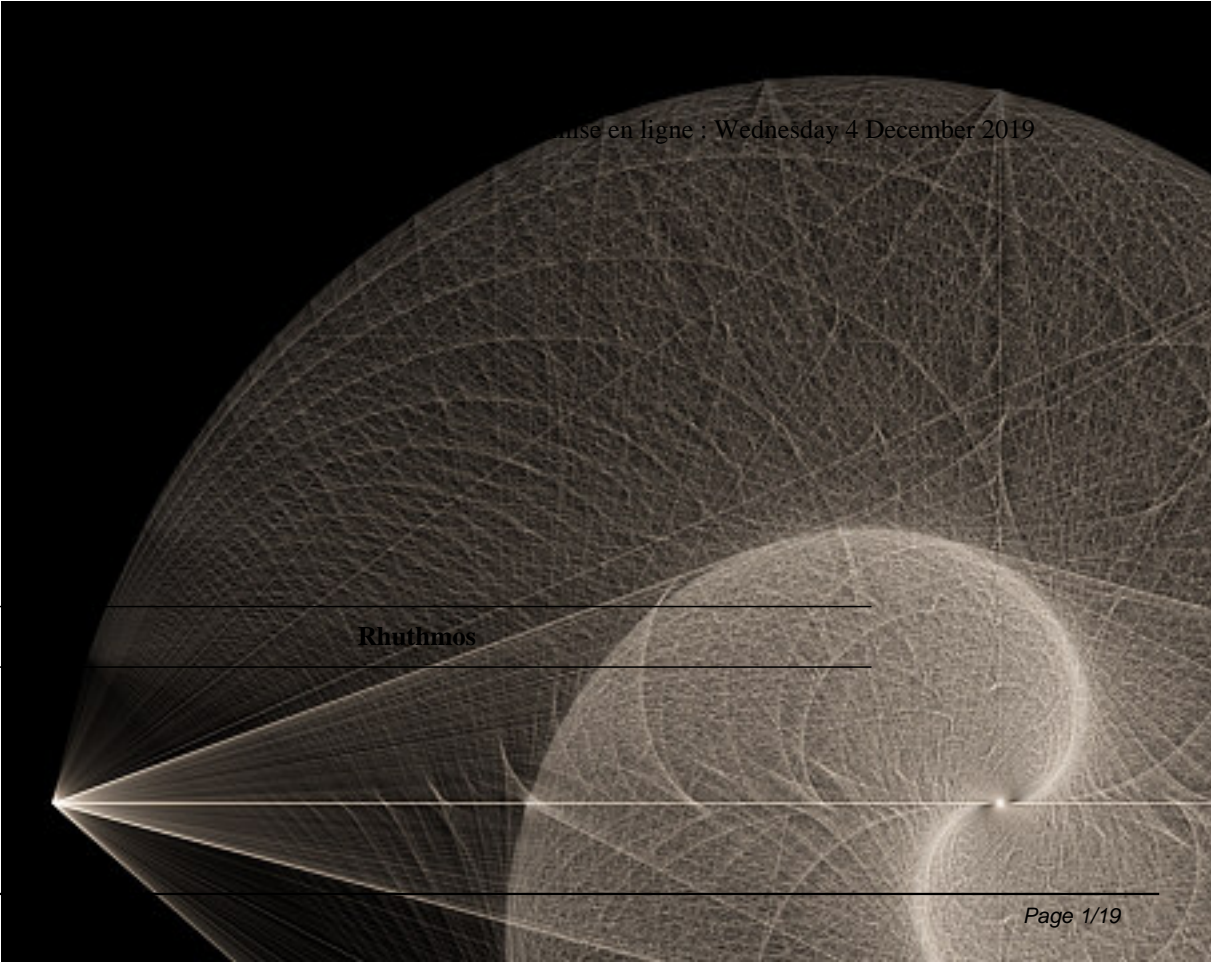
Extrait du Rhuthmos

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Edgar Morin and the Rhuthmoi of Nature - Part 3

- Recherches
- Le rythme dans les sciences et les arts contemporains
- Physique
-

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Rhuthmos

Table of contents

- [Modern Rhuthmic Theory of Knowledge](#)
- [Modern Rhuthmic Theory of Form](#)

[Previous chapter](#)

Modern *Rhuthmic* Theory of Knowledge

As Lucretius, Morin finally proposed, at the end of the first part of his book, a theory of knowledge. Not unlike his forebear, who based his own theory on the association between passive perception of fluxes of infinitesimal simulacra and active recognition of the shapes they enveloped, he based his knowledge theory on a cross-involvement between "system perception" and "system conception." What was new, however, besides the concept of system, was the use of the concept of loop to formalize this cross-involvement.

Against both "naive realism which takes a system as a real object" and "naive nominalism which takes a system for an ideal schema," and their respective elimination of the subject or the object (p. 140), Morin proposed to associate them through a recurrent circuit going from "the observed system" to "the observer-system" and back.

Thus, the observation and the study of a system link physical organization and the organization of ideas to each other *in systemic terms*. The observed system, and consequently the organized *physis* of which it is a part, and the observer-system, and consequently the anthro-social organization of which it is a part, become interrelated in a critical manner: the observer is *also* a part of the definition of the observed system, and the observed system is *also* a part of the intellect and culture of the observer-system. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 141, my mod.)

Morin here alluded to the possibility to establish by this circular or, better, spiraloid process a "new systemic totality" which could become "a metasystem in reference to both." But he immediately added, recognizing that this perspective was remote, "if it is possible however to find the meta-point of view."

The new systemic totality which is constituted by associating the system-observed and the observer-system can, thenceforth, become metasystem in reference to both, if it is possible however to find the meta-point of view, which allows us to observe the set constituted by the observer and his observation. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 141, my mod.)

In his introduction, the translator Joseph Lucien Roland B elanger (1925-2010), a Marist catholic priest, compared many times Morin's materialist evolutionism, quite wrongly as a matter of fact, to Teilhard de Chardin's grand evolutionism, but he was closer to the truth concerning his theory of knowledge.

Although Morin did not know anything about hermeneutics, Bélanger noticed, he was in fact close to the conclusions reached recently, on Heideggerian ontological basis, by Hans-Georg Gadamer (1900-2002). *Wahrheit und Methode - Truth and Method* had been published in German in 1960 and translated into French in 1976. We could add that he was even closer, as we will see, to the conclusions reached, on more philological basis, by Friedrich Schleiermacher (1768-1834) at the beginning of the 19th century.

To put it in a nutshell, according to hermeneutics theoreticians, interpretation, whether of the Being or, less speculatively, of the Bible, needed constant loopings between the Dasein's or reader's "interpretations" and the "answers" given by the Being or the Text. The Cartesian "Method," with its linear chains of reasons, had to be replaced by the back-and-forth of a "conversation" or by a spiraloid approach to "Truth."

We must not give in to simplifications like idealizing or rationalizing or standardizing. There can be no linearity, only the spiral. [NN21f] Though there is no forthright mention at this point of two of the most prominent philosophical theorists of knowledge in our time, Michel Foucault or Hans Georg Gadamer, Morin clearly, in his categorical rejection of a dichotomy between object and subject, stands against Foucauldian "archeology" and for Gadamerian hermeneutics. (Translator's Introduction, J.-L. Roland Bélanger, in *Method*, 1992, p. xx)

However, because he speculated from a poor concept of language limited by his prioritarily ontological reflection, Gadamer concluded that since human understanding was part of inescapable loops, it allowed no exterior and overlooking viewpoint to emerge and that absolute truth was therefore unreachable. All knowledge was subjective or, at least, supported by grand collective movements of meaning that Gadamer called *Wirkungsgeschichte* - Effective History. As Bélanger recalled, for Gadamer, "understanding is always an interpretation" (quoted p. xxix) (on Gadamer's limitations, see Michon, 2000 and 2010a, chap. 7). And it is true that Morin sometimes indulged in this new sophisticated kind of deconstruction of science. In a following section dedicated to information, he wrote for instance, as Bélanger rightly noticed: "*The real takes on substance, form, and meaning only under the form of messages which an observer/conceiver interprets. We have only translations of reality, never the original version [jamais la v.o.]*" (p. 363).

Nevertheless, Morin also affirmed the possibility of finding a "meta-systemic point of view" that could bridge "the polysystemic group constituted by the conceiver-subject and his anthropo-social grounding," and "the polysystemic group constituted by the object-system and its physical grounding." He never accepted sheer subjectivism nor relativism, and he would have been very much opposed had he known about it to the subtle version lately proposed by Gadamer under the cloak of a radically temporalized ontology.

We can and must also go beyond in the search for a meta-systemic point of view: we can no longer escape the key epistemological problem which is the relation between, on one hand the polysystemic group constituted by the conceiver-subject and his anthropo-social grounding, on the other hand the polysystemic group constituted by the object-system and its physical grounding. Henceforth, it is a question of elaborating the meta-system of reference from which we might embrace simultaneously both groups which could communicate and interorganize therein. (*Method*, vol. 1, 1977, trans. J.-L. Roland Bélanger, 1992, p. 142)

If Morin's theory of knowledge shared some features with hermeneutics, it was rather with Schleiermacher's brand, who had, thanks to his philological approach and despite he was living at the beginning of the 19th century, a much more precise and accurate knowledge of language than Gadamer, who in his book rarely talked of literature and

knew nothing about modern linguistics. Whereas Gadamer, when describing the relation between Dasein and Being, used the term "conversation" as a vague metaphor, Schleiermacher used it, to describe his relation to the Bible text, in a much more proper sense as intertwining of two discourses.

As Schleiermacher who believed that modern readers could rightly understand the Bible, provided they read it carefully and recursively, because they share with ancient writers the same language capacity endowed by God, Morin thought that "the organizing retroaction of our anthropo-social understanding on the physical world," i.e. progressive adequation between scientific discourse and *physis*, was made possible by their "preliminary organizational homology," i.e. their similar systemic nature, based on their common evolutionary history.

The systemic articulation which is established between the anthropo-social universe and the physical universe, *via* the concept of system, suggests to us that an organizational character is fundamentally common to all systems. The possibility of posing, in systemic terms, the organization of *physis* as well as the organization of knowledge, supposes a preliminary organizational homology. This homology would allow the organizing retroaction of our anthropo-social understanding on the physical world, an understanding which has come about by evolution. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 142)

Thus, the concept of system, reshuffled through the concepts of interrelation, organization, loop between parts and whole, and antagonism, was an evolutionary universal mediator between physical, living, and human spheres, which allowed true knowledge.

[It is] a reading guide for all phenomena of physical, biological, anthropological, ideological, organization, including the theoretical system which I am beginning to elaborate here. This pilot-definition, concerning the common denominator of everything organized, has, therefore, universal value. *System is, therefore, conceived here as the basic complex concept concerning organization.* It is, if we may say so, the most simple complex concept. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 147-148)

Much further down in the book, Morin elaborated further this idea. World and mind were not opposed but were actually involved in a permanent loop.

This rotation leads us to physicalize our notions, then to socialize them, then to rephysicalize them, then to resocialize them, then to rephysicalize them, then to resocialize them, and so on *ad infinitum*. It seems to us that this is not a vicious circle, but a productive praxis. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 288)

Rather than pose the problem in terms of the alternative idea/matter, we can attempt to bind these two antagonistic propositions in a loop: physical configurations - symbolic configurations. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 366)

The spiraloid movement of knowledge between observer and world, which forbid any "reflection" theory, resulted however in "a possible correspondence and translation" between the "physical play" of matter and the "psychic play," that is two fluxes: that of the world and that of the thought.

In order to understand the correspondence between the organization of knowledge [Fr. *connaissance*] and the knowledge [Fr. *connaissance*] of organization, [...] it is no longer a matter of looking for the "reflection" of the real in the mind of the observer, nor for the "reflection" of the mind in the real: the organization of knowledge [Fr. *connaissance*] is perhaps a translation of, but not the "reflection" of, physical organization. This principle of equivalence can only be truly conceived if we conceive *physis* according to the fundamental "tetralogical" relation disorder/interaction/order/organization. *From that moment on, there is a possible correspondence and translation* between the physical [play]: disorder/interaction/order/organization (physical) and the psychic [play]: noise/information/redundancy/organization (psychic). (*Method*, vol. 1, 1977, trans. J.-L. Roland Bélanger, 1992, pp. 359-360, my mod.)

This possible correspondence between the two fluxes, psychic and physical, was actually allowed by their common temporal organization or their common way of flowing. Both, Morin claimed, were involving the same chain of basic elements noise corresponded to disorder, redundancy to order, information to play of interaction, theories to organization and the same kind of concatenation.

Thus, for the observer, noise is ignorance psychically (and thereby unknown, mysterious) and disorder physically; for the observer, redundancy is certainty psychically and order physically (invariance, law, repetition, pattern, regularity, stability); for the observer, information is knowledge [Fr. *savoir*] psychically acquired from events, understanding [Fr. *connaissance*] extracted from noise, and it is physically the event-full and diversely haphazard play of the interactions. And, just as physical play finds and produces its organization in physical systems, psychic play finds and produces its organization in theoretical systems. Just as there are, in the physical tetralogue, unceasing permutations and transformations (organization in disorder, disorder in organization, etc.) so in the tetralogue of ideas, noise/redundancy/information/systems, there are permutations and transformations: information is born from interactions between organization and noise, gives birth to redundancy at the heart of an *ad hoc* organization, dies in noise like this organization itself. (*Method*, vol. 1, 1977, trans. J.-L. Roland Bélanger, 1992, p. 360)

Knowledge was thus progressing through the "redistribution of redundancy, of information, of noise" (p. 360) but, due to the laws revealed by Brillouin, "an exhaustive observation [would] necessitate infinite information, which [would] necessitate infinite energy" (p. 362). This resulted in limiting human knowledge based not any more on the structure of subjectivity, as for Kant, but on the relation between the information and the energy that was needed to produce it.

Knowledge [Fr. *connaissance*] *carried to the absolute is self-destructive*. This proposition holds for every observation, every science, concerning every object, every phenomenon, every being, and of course, the universe as a whole. (*Method*, vol. 1, 1977, trans. J.-L. Roland Bélanger, 1992, p. 363)

Modern *Rhuthmic* Theory of Form

This leads us, finally, to Morin's theory of form. Unsurprisingly, as Lucretius and Serres, he explicitly rejected both Platonic and Aristotelian theories. Forms were not "essences" nor "mold[s] sculpturing the identity of the objects from the outside" (same idea p. 369). Forms were the "totality of the complex organized unit" once "manifested phenomenally" as a whole "in time and space."

The object is no longer an essence-form and/or a substance-matter. There is no longer any form mold which sculpts the identity of the object from the outside. The idea of form is preserved, but transformed: form is the totality of the complex organized unit which is manifested phenomenally insofar as whole in time and space. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 121)

As both Lucretius and Serres, Morin conceived of form as product of processes of individuation based on the interaction of the internal dynamism of a particular complex unit and the constraints of its environment. No longer "essence," form became "an idea of existence and organization."

The *Gestalt* form is the product of catastrophes, of interrelations/interactions between elements, of internal organization, of the conditions, pressures, constraints of the environment. Form ceases to be an idea of essence in order to become an idea of existence and organization. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 121)

Form was therefore a byproduct of organization both as a "morphogenetic" process, transforming "a discrete diversity into a global form (*Gestalt*)," and as a "morphostatic" functioning, an "ordering principle which insures permanence."

Organization is both transformation and formation (morphogenesis). It is really a matter of transformations: elements transformed into the parts of a whole lose some qualities and gain new ones; organization transforms a discrete diversity into a global form (*Gestalt*). It creates a continuum the interrelated whole where there was the discontinuous; thereby it brings about a change of form: it forms (a whole) starting from the transformation (of the elements). It is really a matter of morphogenesis: organization gives form, in space and time, to a new reality: complex unity or system. [...] Organization is, at the same time, the ordering principle which insures permanence. Permanence in the being of atoms, molecules, heavenly bodies does not correspond to inertia but to active organization. Organization is morphostatic: it maintains the permanence of the system in its form (*Gestalt*), its existence, its identity. (*Method*, vol. 1, 1977, trans. J.-L. Roland B elanger, 1992, p. 128)

But that was not all. Actually, this initial description was valid only for "closed systems," that is, the rare ones that did not effect exchanges with the outside. Yet, most were "open systems" which effected material, energetic and/or informational exchanges with the outside. Consequently, the concept had to be completed to fit this complex situation: form was thus the result of the looping interactions between morphogenetic process and morphostatic functioning, on the one hand, and, on the other hand, the environment dynamics. It thus resulted from a relentless

"re-form" activity. In other words, in those cases, the form was properly in a fluid state. Although it maintained a certain consistency, it was ceaselessly "re-forming."

Active organizations of systems called open insure the exchanges, the transformations which nourish and effect their own survival: the opening allows them to ceaselessly [re-form] themselves [*à se re-former sans cesse*]; they are [re-formed] [*ils se re-forment*] by closing, by multiple loops, negative retroactions, recursive uninterrupted cycles. (*Method*, vol. 1, 1977, trans. J.-L. Roland Bélanger, 1992, p. 133, my mod.)

Morin was here very close to the ancient idea of *rhuthmos* as "particular manner of flowing." Each system had a specific form that was actually determined by its randomly acquired specific way to re-produce itself through its exchanges with the environment, a way that Morin called, for the time being, "*qualities*," and that he was soon to call "œself of the system."

We must also, given the improbability and ever greater fragility of what becomes complex, understand evolution starting from the consolidation of fragility and improbability in and by organizational order, in and by the acquisition of emergent qualities (among them, more subtle organizational qualities, more and more apt to resolve phenomenal problems), in and by the aptitude to form organizational relations with other systems. Thus, the universe of organization, born by chance encounters, is maintained by order, necessity, but also *qualities*, making what otherwise should have been dissolved and dispersed survive and perdure. (*Method*, vol. 1, 1977, trans. J.-L. Roland Bélanger, 1992, p. 135)

On the whole, Morin's theory of knowledge and theory of form were consistent with his ontology, his physics, his model of becoming, and his theory of individuation: they were de facto *rhuthmic* theories based, as all other parts of his thought, on "recurrent spiraloid loops." But they only indirectly alluded to "specific ways of flowing" whose concept was not yet completely elaborated. Contrary to Serres', the concept of *rhuthmos* was absent of his reflection. Remarkably, though, Morin did not stop at these first conclusions. He developed a full theory of "dynamic organization" that was his particular way of addressing the very same issue. Let us see now how far he went in this direction.

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As the reader may have noticed, up to now Morin's reflection covered exactly the same subjects as Serres' and it is not merely an artifact of my presentation. Moreover, his perspective was often very close, if not similar, to the Ancient materialist thought brilliantly revealed by Serres. For both reasons, we may legitimately consider Morin not only as a member of the rhythmic constellation of the 1970s-1980s but also as one of the most articulate contributors to an emerging *rhuthmic* worldview. Probably without realizing it, Morin was part of a powerful but unnoticed trend.

[Next chapter](#)