

In the following paper I draw onto Guattari's last book *Chaosmosis* in order to study the relation between the formulation of an ontological problem and the problem of enunciation. The position of this problem constitutes the departing stage of the research that my colleague Stephen Zepke and I are planning to pursue in the following years.

In *Chaosmosis*, both the problems of ontology and of enunciation are not advocated in a straightforward way, as there is no section of *Chaosmosis* which is devoted explicitly to them, but nonetheless constitute important trajectories that are always referred to and that always are in an interlacing. In this regard it is indicative that Guattari explicitly advocates the need for a "radical ontological reconversion"(37), despite the fact that this statement is not subsequently developed in the form of a philosophical argumentation.

In the following I attempt to explore conceptual parameters which could acquire the function of basic diagrammatic vertices demarcating the dimension within which the project of ontological reconversion" can be developed. This parametric research follows two basic questions.

The first regards the definition of the strictly ontological problem. Which concepts are able to grasp and to define „Being“ in Guattari's shape? Although, as stated before, the French thinker does not address the problem of ontology in terms of a treatise which unfolds linearly, there is nonetheless in *Chaosmosis* one concept traveling through the whole book and which is directly connected to the problem. I refer to the idea of *heterogenesis* which is first introduced at the end of the first chapter "On the production of subjectivity" and then ongoingly referred. Alberto Toscano defines it very clearly inasmuch as he speaks of heterogenesis as a generative process of unfolding *of* and *from* the point of view of the different (2005, 9).

If ontology is not addressed as such, it is nonetheless unfolded in terms of specificities which Guattari

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names “ontological relativities” (51): the problems of the production of subjectivity, of schizoanalytic metamodelization, of the intersection between orality and existential territories, the assemblages of aesthetic and ecosophic enunciation are addressed all throughout the book. The second question addressed here, deals with investigating the basic mechanisms determining the forms of singular expression, that is the interrelation between the ontological and enunciative partial views. Guattari explicitly states the interdependence between these aspects, and sees in the concept of machine an mean of creating a meta- level of interrelation.

The concept of machine allows for the exploration of means able to enrich and complexify the linear structure of the semiotic signifier. A complexification which attempts to include „a non- discursive, pathic knowledge“, within the operative dimension of linguistic models. Guattari poses the question of what conditions would be necessary in order to assign a social function to these extralinguistic forms of communication. This problem, he argues, is not merely solvable in terms of enlarging the communicative range by new patterns, but requires a deeper change in the structure of relation between what Guattari considers „the referred object and the enunciative subject“. Seen from this perspective, the problem of enriching enunciation by new components of expression, becomes a problem of re-drawing the relationship between Beings. That is, the issue of establishing new means of communication is thus finally brought back to a question of ontology.

Moreover, if we examine on a closer basis the main characteristic features which are intrinsic to Guattari’s concept of machine, we see that both the genetic aspect and the constitutive inclusion of otherness, - the hetero -genesis- are fundamental and constitutive parts.

Guattari speaks of two basic properties in relation to machines:

1) The machine is strictly dependent onto a form of exteriority on a twofold basis: in difference to the immutable character of structure, Machine is not time independent as it gets fabricated and thus *generated* by someone else, by an exterior otherness. Its existence is thus defined by an exterior input. Moreover the construction of assemblages with different machinic elements, or with further exterior machines, might account for its constitutive role within the assessment of its functional cycle.

2) It is these external linkages with other “finite” machines which are constitutive for their temporal change expressed by Guattari as a “rupture of formal equilibrium” (37): machines are exposed onto a mechanics of disequilibrium, as some external unforeseen variables might abruptly change its functional means. These considerations account for the intrinsic and biunivocal dependence of machines from a complex spatial and temporal pattern of structures.

That is, if thought in relation to the machine, the concepts of space and time are not anymore separate, abstract and immutable containers of events but are generated and limited to the mechanical functionings themselves. They are replaced by what Deleuze calls “spatiotemporal dynamisms”: “agitations of space, holes of time, pure syntheses of space directions and rhythms”. (2004, 96) More specifically, the spatiotemporal coupling is tied up and rendered operational by the mathematical procedures of macroscopic differentiation and microscopical differentiation, problem to which Deleuze dedicates the beginning of the fourth chapter of *Difference and Repetition*. Here I will not unfold his complex argumentative line, but consider one of the results that the French philosopher draws from his speculations: mathematical and physical infinitesimal and function theories allow him to think the problem of intertwining of space and time in terms of its genesis. With the subsequent result that “the genesis of the extension cannot be separated from the genesis of objects that populate it.” (1997, 223). In other words, the topological problem of the formation of space is closely connected to the generation of elements inhabiting it, that is, in the terminology developed in *chaosmosis*, the subjective and collective formations, and the ecosophic object.

I hope thus to have shown that, the concepts of ontology and enunciation, which demarcate the starting point of our problem, are strictly interrelated with each other in Guattari's cartography. After this digression the concepts can furthermore be characterized in their particular specificity: ontology is grasped as heterogenesis, enunciation is understood as form of polyvocal expression, and the machine evolves around its basic properties of *heterogeneity* and - to anticipate a concept that I will develop further in relation to Simondon – *metastability*.

In this way we have defined basic parameters necessary for addressing the problem of ontological reconversion. In order to address its development, I propose to research for machinic connections with other theoretical frameviews, thus following Guattari himself who traces the problem in a variety of heterogeneous sedimentations.

I introduce the concept of emergence as a mean to commonly grasp a genetic process of (ontological) becoming as well as the development of its relational patterns. In this way I attempt to propose the creation of a metamodel investigating the relation between ontology and enunciation on a twofold level:

- 1) the level of the emergence of individuality in terms of individuation, as theorized by Gilbert Simondon.
- 2) the level of the emergence of *collective behavior of divergent entities* by examination of aspects relative to Prigogine's theory of dissipative structures.

Both Simondon and Prigogine provide functional descriptions of a process of genesis, whose complex behavior cannot be determined apart from the topological space it constructs or the entities and relations that fill it. Both Simondon and Prigogine resolve the tension between objects and their constitutive space in energetic terms, Simondon by putting emphasis onto potential energy, and Prigogine onto kinetic energy. And it is this energetic condition which accounts for the insertion of otherness into the genetic process. For the case of Simondon we speak of a potential energetic field which is always bigger than a unitary particle, and for Prigogine we speak of kinetic energy always in relation to an ensemble and never to a singularity.

The notion of potential energy is the basic component of what Simondon calls the preindividual state, a material plane of relations out of which the individual emerges through a process of individuation. The relation of the preindividual to the individual is a complex and persistent one, which means that the genetic process not only constitutes the individual singularity, but accounts for its further individuation through the nature of its relations. Individuation in this sense, is a partial and local resolution of these disparate energetic fields, one that does not exhaust its ontogenetic possibilities, and therefore retains the potential for further development. Relations do not appear as a secondary process, consequent to the formation of the individual, but are part of the generative process itself. This gives rise to processes of 'resonance' between different levels of magnitude – both on the microscopic and macroscopic, individual and collective levels. In this way communication between different orders of magnitude can take place, a process Simondon calls 'transduction' (see Simondon; 1992 315). As Adrian Mackenzie has put it, 'Transduction is a process whereby a disparity or a difference is topologically and temporally restructured across some interface. It mediates different organizations of energy' (2002 25). In this sense the process of transduction demarks what in Guattari's terminology, is the machinic element both of heterogenesis (individuation of the individual by means of a frame of more than unity) and of expression, as a complex form of communication, or what Simondon explicitly calls information, is always integrant part of the process.

Information for Simondon is the preindividual disparity which is the condition for an individuation and as such it has no content, structure or meaning, but is rather an event of onto-genetic emergence

(individuation) that cannot be thought separately from the pre-individual field that it simultaneously expresses and constructs (see Deleuze; 1997 246). Simondon's idea of information has a more complex construction than the probabilistic formalism of information theory and cybernetics (Shannon and Weaver, Wiener), where information is inversely proportional to noise.

Simondon rethinks Shannon's definition of information not in terms of pure abstract mathematical quantities, as it was the case in cybernetics, but in materialistic terms of differentiated energy levels. He inserts the principle of quantum mechanics into the construction of the notion of information which allows him first to relate the idea of information to a material basis of matter and energy, and second to change the relationship that information has with indetermination. While cybernetics understood indetermination in relation to entropy, as an entity basically in opposition to information, as the gain of the last would necessarily result into a loss of the first, Simondon conceives the concept of information itself as metastable, that is intrinsically bound to indetermination.

These properties account for the relational aspect of information to assume a fundamental character. "The relation to both the world outside and to the collective is in fact a dimension of the individuation in which the individual participates due to its connection with the preindividual reality that undergoes gradual individuation" (Simondon 1992, 309).

The construction of such a web of relations generates a flow of subtle communications between structures of different degrees, giving rise to processes of resonance between levels of different magnitude – both microscopic and macroscopic.

It is by means of the notion of resonance that I turn to Prigogine, as the concept acquires for him an analogous critical value, although understood in different terms.

Prigogine has described the emergence of self-organized collective behavior in chemical processes emerging under conditions he called 'far from equilibrium'. Prigogine directly related his description of the evolutionary activity of an ensemble to the ongoing production of entropy, or what he called 'dissipative structures'; 'structure because a coherent spatio-temporal activity was produced, and dissipative, because it occurred on the condition of maintaining the dissipative processes' (Prigogine; 1979, 250). Dissipative structures therefore provide a direct link between the production of entropy and the production of coherence. By setting up the connection between entropy and coherent spatio-temporal becoming, Prigogine's approach radicalizes the relationship of indeterminism and information that Simondon had laid down in a germinal form by arguing that entropy is in fact the 'principle of evolution' (Bensaude-Vincent and Stengers; 1996 283). In thermodynamics and statistical mechanics

entropy is defined as being in direct proportion to the number of possibilities of transformation a system has, and as such gives a measure of the 'disorder' of the system. This measure expresses the amount of energy dispersed by a system, i.e. energy that is not commutable into the production of work. Prigogine thus turns dispersion into a productive quality, by defining entropy as an operator, or function, that produces an action. As a result, the importance traditionally given to the study of the singular body (or particle) is replaced by an analysis of the activity of an ensemble. Entropy moreover becomes a generator of a sort of 'collective information' that in Prigogine's terminology produces self-organized activity (see Prigogine; 1979, 163-164).

As it was for Simondon, the notion of resonance between different levels of macroscopic and microscopic behavior is central for Prigogine. But the effect that micro-dynamics, or more properly microkinetics has on the macroscopic level is not connected (as it was in Simondon) to the presence of a 'pre-individual' field of potential energy, a 'primordial reality' (Simondon; 1964 127) that serves as the generative basis for singular and collective individuations. Instead, Prigogine understands resonance in terms of the coupling of the parameters of various processes (parametrics). In other words, a systems self-organizing transformation (becoming) emerges when it reaches a threshold of instability, at which point a bifurcation or an amplified fluctuation occurs. Entropy plays a crucial role in establishing the conditions for these complex patterns of emergence, although bifurcation and instabilities are not per se generative of self-organized patterns of activity but constitute operative junctions between different levels of collective behavior.

Prigogine therefore offers an extra element to our understanding of onto-genetic processes; the energetic content of entropy is kinetic, meaning its emergence is bound to the self organizing and collective becomings it provokes, rather than being understood as the evolutionary development of a pre-given energetic function, as is the case for Simondon. (Stengers; 2002 147) This scenario extends the concept of transduction to the relations between different patterns of collective behavior, which can now be thought in terms of their dynamic intersection. This means that the consequences of a specific junction cannot be pre-determined conceptually, which is something that Isabelle Stengers has argued Simondon tends to assume. (Stengers; 2003 277) In this sense Prigogine comes close to Guattari's method of 'metamodelization' (1995, 58), where the question of the creation of a particular model is not solely an epistemological question of defining the means of knowledge, but as Stengers notes, it designates the effective implementation of knowledge as historical and political processes.

Bibliography:

- Bensaude-Vincent, Bernadette and Isabelle Stengers (1996), *A History of Chemistry*, Cambridge Mass: Harvard University Press.
- Deleuze, Gilles, (2004), *Desert islands and other texts 1953-1974*. Cambridge (Mass): Semiotext(e).
- Deleuze, Gilles (1997), *Differenz und Wiederholung*. Translated by Joseph Vogl, München: Wilhelm Fink Verlag.
- Guattari, Felix (1995), *Chaosmosis: an ethico-aesthetic paradigm*. Translated by P. Bains and J. Pefanis, Sydney: Power publications.
- Mackenzie, Adrian (2002), *Transductions: Bodies and Machines at Speed*. London: Continuum.
- Prigogine, Illya (1979), *Vom Sein zum Werden*. München: R. Piper & Co.
- Simondon, Gilbert (1964), *L'individu et sa Genèse Physico-Biologique*. Paris: Presses Universitaires de France.
- Simondon, Gilbert (1992), 'The Genesis of the Individual' in *Incorporations*, J. Crary and S. Kwintor (eds), Cambridge Mass: Zone Books.
- Stengers, Isabelle (2002), 'Pour une mise a l'aventure de la transduction', in *Simondon*, P. Chabot (ed.), Paris: Vrin.
- Stengers, Isabelle (2003), *Cosmopolitiques II*, Paris: La Decouverte.
- Toscano, Alberto (2005) *The Theatre of Production: Philosophy and Individuation between Kant and Deleuze*. Basingstoke: Palgrave Macmillan.
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