

Machinic heterogenesis

Common usage suggests that we speak of the machine as a subset of technology. We should, however, consider the problematic of technology as dependent on machines, and not the inverse. The machine would become the prerequisite for technology rather than its expression. Machinism is an object of fascination, sometimes of *délire*, about which there's a whole historical "bestiary." Since the origin of philosophy, the relationship between man and machine has been the object of interrogation. Aristotle thought that the goal of *techne* was to create what nature found impossible to accomplish. Being of the order of "knowledge" and not of "doing," *techne* interposes a kind of creative mediation between nature and humanity whose status of intercession is a source of perpetual ambiguity. "Mechanist" conceptions of the machine empty it of everything that would enable it to avoid a simple construction *partes extra partes*. "Vitalist" conceptions assimilate the machine to living beings; unless it is living beings that are assimilated to machines. The "cybernetic" perspective developed by Norbert Wiener¹ envisages living systems as particular types of machines equipped with the principle of feedback. More recent "systemic" conceptions (Humberto Maturana

and Francisco Varela) develop the concept of autopoiesis (auto-production), reserving it for living machines. Following Heidegger, a philosophical fashion entrusts *techne* — in its opposition to modern technology — with the mission of “unmasking the truth” that “seeks the true in the exact.” Thus it nails *techne* to an ontological plinth — to a *grund* — and compromises its character of processual opening.

Through these positions, we will attempt to discern various levels of ontological intensity and envisage machinism in its totality, in its technological, social, semiotic and axiological avatars. And this will involve a reconstruction of the concept of machine that goes far beyond the technical machine. For each type of machine, we will pose a question, not about its vital autonomy — it’s not an animal — but about its singular power of enunciation: what I call its specific enunciative consistency. The first type of machine we are going to consider is the material apparatus. They are made by the hand of man — itself taken over by other machines — according to conceptions and plans which respond to the goals of production. These different stages I will call finalised, diagrammatic schemas. But already this montage and these finalisations impose the necessity of expanding the limits of the machine, *stricto sensu*, to the functional ensemble which associates it with man. We will see that this implies taking into account multiple components:

- material and energy components
- semiotic, diagrammatic and algorithmic components (plans, formulae, equations and calculations which lead to the fabrication of the machine);
- components of organs, influx and humours of the human body;
- individual and collective mental representations and information;
- investments of desiring machines producing a subjectivity adjacent to these components;

— abstract machines installing themselves transversally to the machinic levels previously considered (material, cognitive, affective and social).

When we speak of abstract machines, by “abstract” we can also understand “extract” in the sense of extracting. They are montages capable of relating all the heterogeneous levels that they traverse and that we have just enumerated. The abstract machine is transversal to them, and it is this abstract machine that will or will not give these levels an existence, an efficiency, a power of ontological auto-affirmation. The different components are swept up and reshaped by a sort of dynamism. Such a functional ensemble will hereafter be described as a machinic assemblage. The term assemblage does not imply any notion of bond, passage, or anastomosis between its components. It is an assemblage of possible fields, of virtual as much as constituted elements, without any notion of generic or species’ relation. In this context, utensils, instruments, the most basic tools and the least structured pieces of a machine acquire the status of a proto-machine.

Let us take an example. If we take a hammer apart by removing its handle, it is still a hammer but in a “mutilated” state. The “head” of the hammer — another zoomorphic metaphor — can be reduced by fusion. It will then cross a threshold of formal consistency where it will lose its form; this machinic gestalt works moreover as much on a technological plane as on an imaginary level, to evoke the dated memory of the hammer and sickle. We are simply in the presence of metallic mass returned to smoothness, to the deterritorialisation which precedes its appearance in a machinic form. To go beyond this type of experiment — comparable to the piece of Cartesian wax — let us attempt the inverse, to associate the hammer with the arm, the nail with the anvil. Between them they maintain relations of syntagmatic linkage. And their “collective dance”

can bring to life the defunct guild of blacksmiths, the sinister epoch of ancient iron mines, the ancestral use of metal-rimmed wheels ... Leroi-Gourhan emphasised that the technical object was nothing outside of the technical ensemble to which it belonged. It is the same for sophisticated machines such as robots, which will soon be engendered by other robots. Human action remains adjacent to their gestation, waiting for the breakdown which will require its intervention: this residue of a direct act. But doesn't all this suggest a partial view, a certain taste for a dated period of science fiction? Curiously, in acquiring more and more life, machines demand in return more and more abstract human vitality; and this has occurred throughout their evolutionary development. Computers, expert systems and artificial intelligence add as much to thought as they subtract from thinking. They relieve thought of inert schemas. The forms of thought assisted by computer are mutant, relating to other musics, other Universes of reference.²

It is, then, impossible to deny the participation of human thought in the essence of machinism. But up to what point can this thought still be described as human? Doesn't technico-scientific thought fall within the province of a certain type of mental and semiotic machinism? What we need here is a distinction between on the one hand semiologies that produce significations, the common currency of social groups — like the "human" enunciation of people who work with machines — and on the other, a-signifying semiotics which, regardless of the quantity of significations they convey, handle figures of expression that might be qualified as "non-human" (such as equations and plans which enunciate the machine and make it act in a diagrammatic capacity on technical and experimental apparatuses). The semiologies of signification play in keys with distinctive oppositions of a phonematic or scriptural order which transcribe enunciations into materials of signifying

expression. Structuralists have been content to erect the Signifier as a category unifying all expressive economies: language, the icon, gesture, urbanism or the cinema, etc. They have postulated a general signifying translatability for all forms of discursivity. But in so doing, have they not misunderstood the essential dimension of machinic autopoiesis? This continual emergence of sense and effects does not concern the redundancy of mimesis but rather the production of an effect of singular sense, even though indefinitely reproducible.

This autopoietic node in the machine is what separates and differentiates it from structure and gives it value. Structure implies feedback loops, it puts into play a concept of totalisation that it itself masters. It is occupied by inputs and outputs whose purpose is to make the structure function according to a principle of eternal return. It is haunted by a desire for eternity. The machine, on the contrary, is shaped by a desire for abolition. Its emergence is doubled with breakdown, catastrophe — the menace of death. It possesses a supplement: a dimension of alterity which it develops in different forms. This alterity differentiates it from structure, which is based on a principle of homeomorphism. The difference supplied by machinic autopoiesis is based on disequilibrium, the prospection of virtual Universes far from equilibrium. And this doesn't simply involve a rupture of formal equilibrium, but a radical ontological reconversion. The machine always depends on exterior elements in order to be able to exist as such. It implies a complementarity, not just with the man who fabricates it, makes it function or destroys it, but it is itself in a relation of alterity with other virtual or actual machines — a “non-human” enunciation, a proto-subjective diagram.

This ontological reconversion dismisses the totalising scope of the concept of the Signifier. Because the signifying entities

which operate the diverse mutations of the ontological referent — that makes us move from the Universe of molecular chemistry to the Universe of biological chemistry, or from the acoustic world to the world of polyphonic and harmonic music — are not the same. Of course, lines of signifying decoding, composed of discrete figures — binarisable, syntagmatisable and paradigmatisable — sometimes appear in one Universe or another. And we can have the illusion that the same signifying network occupies all these domains. It is, however, totally different when we consider the actual texture of these Universes of reference. They are always stamped with the mark of singularity. From acoustics to polyphonic music, there is a divergence of constellations of expressive intensity. They involve a certain pathic relationship, and convey irreducibly heterogeneous ontological consistencies. We thus discover as many types of deterritorialisation as traits of expressive materials. The signifying articulation hanging over them — in its indifferent neutrality — is incapable of imposing itself as a relation of immanence to machinic intensities, to this non-discursive, auto-enunciating, auto-valorising, autopoietic node. It does not submit to any general syntax of the procedures of deterritorialisation. No couplet — Being-being, Being-Nothingness, being-other — can claim the status of an ontological binary digit. Machinic propositions elude the ordinary games of discursivity and the structural coordinates of energy, time and space.

Yet an ontological transversality does nonetheless exist in them. What happens at a level of the particulate-cosmic is not without relation to the human soul or events in the socius. But not according to harmonic universals of the Platonic type (*Sophist*). The composition of deterritorialising intensities is incarnated in abstract machines. We should bear in mind that there is a machinic essence which will incarnate itself in a

technical machine, and equally in the social and cognitive environment connected to this machine — social groups are also machines, the body is a machine, there are scientific, theoretical and information machines. The abstract machine passes through all these heterogeneous components but above all it heterogenises them, beyond any unifying trait and according to a principle of irreversibility, singularity and necessity. In this respect the Lacanian signifier is struck with a double lack: it is too abstract in that it makes heterogeneous, expressive materials translatable, it lacks ontological heterogenesis, it gratuitously uniformises and syntaxises diverse regions of being, and, at the same time, it is not abstract enough because it is incapable of taking into account the specificity of these machinic autopoietic nodes, to which we must now return.

Francisco Varela characterises a machine by “the set of inter-relations of its components independent of the components themselves.”³ The organisation of a machine thus has no connection with its materiality. He distinguishes two types of machines: “allopoietic” machines which produce something other than themselves, and “autopoietic” machines which engender and specify their own organisation and limits. Autopoietic machines undertake an incessant process of the replacement of their components as they must continually compensate for the external perturbations to which they are exposed. In fact, the qualification of autopoietic is reserved by Varela for the biological domain: social systems, technical machines, crystalline systems, etc., are excluded. This is the sense of his distinction between allopoiesis and autopoiesis. But autopoiesis, which uniquely defines autonomous entities — unitary, individuated and closed to input/output relationships — lacks characteristics essential to living organisms, like the fact that they are born, die and survive through genetic phylums. Autopoiesis deserves to be rethought in terms of

evolutionary, collective entities, which maintain diverse types of relations of alterity, rather than being implacably closed in on themselves. In such a case, institutions and technical machines appear to be allopoietic, but when one considers them in the context of the machinic assemblages they constitute with human beings, they become ipso facto autopoietic. Thus we will view autopoiesis from the perspective of the ontogenesis and phylogenesis proper to a mecanosphere superposed on the biosphere.

The phylogenetic evolution of machinism is expressed, at a primary level, by the fact that machines appear across "generations," one suppressing the other as it becomes obsolete. The filiation of previous generations is prolonged into the future by lines of virtuality and their arborent implications. But this is not a question of a univocal historical causality. Evolutionary lines appear in rhizomes; datings are not synchronic but heterochronic. Example: the industrial "take off" of steam engines happened centuries after the Chinese Empire had used them as children's toys. In fact, these evolutionary rhizomes move in blocks across technical civilisations. A technological innovation may know long periods of stagnation or regression, but there are few cases in which it does not "restart" at a later date. This is particularly clear with military technological innovations: they frequently punctuate long historical periods that they stamp with the seal of irreversibility, wiping out empires for the benefit of new geopolitical configurations. But, and I repeat it, this was already true of the most humble instruments, utensils and tools which don't escape this phylogenesis. One could, for example, dedicate an exhibition to the evolution of the hammer since the Iron Age and conjecture about what it will become in the context of new materials and technologies. The hammer that one buys today at the supermarket is, in a way, "drawn out" on a phylogenetic line of infinite, virtual extension.

It is at the intersection of heterogeneous machinic Universes, of different dimensions and with unfamiliar ontological textures, radical innovations and once forgotten, then reactivated, ancestral machinic lines, that the movement of history singularises itself. Among other components, the Neolithic machine associates the machine of spoken language, machines of hewn stone, agrarian machines based on the selection of grains and a village proto-economy. The writing machine will only emerge with the birth of urban megamachines (Lewis Mumford) correlative to the spread of archaic empires. Parallel to this, the great nomadic machines constituted themselves out of the collusion between the metallurgic machine and new war machines. As for the great capitalistic machines, their foundational machinisms were prolific: urban State machines, then royal machines, commercial and banking machines, navigation machines, monotheist religious machines, deterritorialised musical and plastic machines, scientific and technical machines, etc.

The question of the reproducibility of the machine on an ontogenetic level is more complex. Maintaining a machine's operationality — its functional identity — is never absolutely guaranteed: wear and tear, fine balance, breakdowns and entropy demand a renewal of its material components, its energy and information components, the latter able to be lost in "noise." Equally, the maintenance of a machinic assemblage's consistency demands that the element of human action and intelligence involved in its composition must also be renewed. The man-machine alterity is thus inextricably linked to a machine-machine alterity which operates in relations of complementarity or agonistic relations (between war machines) or again in the relations of parts or apparatuses. In fact, the wear and tear, accident, death and resurrection of a machine in a new copy or model are part of its destiny and can become central to

its essence in certain aesthetic machines (the “compressions” of César, the “metamechanics,” the happening machines, the delirious machines of Jean Tinguely). The reproducibility of the machine is not a pure programmed repetition. The scansions of rupture and indifferentiation, which uncouple a model from any support, introduce their own share of both ontogenetic and phylogenetic difference. It is in this phase of passage to a diagrammatic state, a disincarnate abstract machine, that the “supplements of the soul” of the machinic node are distinguished from simple material agglomerates. A heap of stones is not a machine, whereas a wall is already a static proto-machine, manifesting virtual polarities, an inside and outside, an above and below, a right and left ... These diagrammatic virtualities take us beyond Varela’s characterisation of machinic autopoiesis as unitary individuation, with neither input nor output; they direct us towards a more collective machinism without delimited unity, whose autonomy accommodates diverse mediums of alterity. The reproducibility of the technical machine differs from that of living beings, in that it is not based on sequential codes perfectly circumscribed in a territorialised genome. Obviously every technological machine has its own plans for conception and assembly. But while these plans keep their distance from the machine, they also move from one machine to another so as to constitute a diagrammatic rhizome which tends to cover the mecanosphere globally. The relations of technological machines between themselves, and the way their respective parts fit together, presuppose a formal serialisation and a certain perdition of their singularity — stronger than that of living machines — correlative to a distance between the machine manifested in energetico-spatio-temporal coordinates and the diagrammatic machine which develops in more deterritorialised coordinates.

This deterritorialising distance and loss of singularity needs to be related to a reciprocal smoothing of the materials constitutive of the technical machine. Of course, singular rough patches belonging to these materials can never be completely abolished but they must only interfere with the machine's "play" if they are required to do so by its diagrammatic functioning. Let us examine these two aspects of machinic separation and smoothing, taking an apparently simple machinic apparatus — the couple formed by a lock and its key. Two types of form, with ontologically heterogeneous textures are at work here: 1) materialised, contingent, concrete and discrete forms, whose singularity is closed in on itself, embodied respectively in the profile Fl of the lock and by the profile Fk of the key. Fl and Fk never quite coincide. They evolve through time, due to wear and oxidation, but both forms must stay within the framework of a separation-type limit beyond which the key would cease to be operational; 2) "formal," diagrammatic forms, subsumed within this separation-type, which appear as a continuum including the whole range of profiles Fl, Fk, compatible with the effective operation of the lock.

One quickly notices that the machinic effect, the passage to the possible act, is entirely concerned with the second type of form. Although ranged across the most restrained separation-type limit possible, these diagrammatic forms appear infinite in number. In fact, it is a matter of an integral of forms Fk, Fl.

This infinite integral form doubles and smooths the contingent forms Fl and Fk which only have value machinically inasmuch as they belong to it. A bridge is thus established "above" the concrete, authorised forms. I call this operation deterritorialised smoothing and it applies as much to the normalisation of the machine's constitutive materials as it does to their "digital" and functional description. Ferric ore which has been insufficiently worked, or deterritorialised, retains irregularities from

the milling of the original material, which would distort the ideal profiles of the lock and key. The smoothing of the material has to remove excessive aspects of contingency from it, and make it behave in a way that accurately moulds the formal imprints extrinsic to it. We should add that this moulding — in a way comparable to photography — should not be too evanescent and should conserve a properly sufficient consistency. Here again we find a separation-type phenomenon, putting into play a theoretical diagrammatic consistency. A lead or golden key risks bending in a steel lock. A key that is changed into a liquid or gaseous state immediately loses its pragmatic efficiency and departs from the field of the technical machine.

This phenomenon of a formal threshold can be found at all levels of intra- or inter-machine relations, and in particular with the existence of spare parts. The components of the technical machine are thus like the units of a currency, and this has become more evident since computers started to be used in their conception and design. These machinic forms, these smoothings of material, of a separation-type limit between parts and their functional adjustments, would suggest that form takes precedence over consistency and over material singularities — the technological machine's reproducibility appearing to dictate that each of its elements fit into a pre-established definition of a diagrammatic order. Charles Sanders Peirce, who described the diagram as an "icon of relation" and assimilated it to the function of algorithms, proposed a broader vision that is worth developing further in the present perspective. Here, the diagram is conceived as an autopoietic machine which not only gives it a functional and material consistency, but requires it to deploy its diverse registers of alterity, freeing it from an identity locked into simple structural relations. The machine's proto-subjectivity installs itself in Universes of virtuality which extend far beyond its existential territoriality. Thus

we refuse to postulate a formal subjectivity intrinsic to diagrammatic semiotisation, for example, a subjectivity “lodged” in signifying chains according to the well-known Lacanian principle: “a signifier represents the subject for another signifier.” For the machine’s diverse registers, there is no univocal subjectivity based on cut, lack or suture, but there are ontologically heterogeneous modes of subjectivity, constellations of incorporeal Universes of reference which take the position of partial enunciators in multiple domains of alterity, or more precisely, domains of alterification.

We have already encountered a certain number of these registers of machinic alterity:

- the alterity of proximity between different machines and between different parts of the same machine;
- the alterity of an internal, material consistency;
- the alterity of formal, diagrammatic consistency;
- the alterity of the evolutionary phylum;
- the agonistic alterity between machines of war, whose prolongation we could associate with the “auto-agonistic” alterity of desiring machines which tend towards their own collapsus and abolition.

Another form of alterity which has only been approached very indirectly, is the alterity of scale, or fractal alterity, which establishes a play of systematic correspondences between machines at different levels.⁴ We are not, however, in the process of drawing up a universal table of forms of machinic alterity because, in truth, their ontological modalities are infinite. They organise themselves into constellations of incorporeal Universes of reference with unlimited combinatories and creativity.

Archaic societies are better equipped than White, male, capitalistic subjectivities to produce a cartography of this multivalence of alterity. With regard to this, we could refer to Marc

Augé's account of the heterogeneous registers relating to the fetish object Legba in African societies of the Fon. The Legba comes to being transversally in:

- a dimension of destiny;
- a universe of vital principle;
- an ancestral filiation;
- a materialised god;
- a sign of appropriation;
- an entity of individuation;
- a fetish at the entrance to the village, another at the portal of the house and, after initiation, at the entrance to the bedroom...

The Legba is a handful of sand, a receptacle, but it's also the expression of a relation to others. One finds it at the door, at the market, in the village square, at crossroads. It can transmit messages, questions, answers. It is also a way of relating to the dead and to ancestors. It is both an individual and a class of individuals; a name and a noun. "Its existence corresponds to the obvious fact that the social is not simply of a relational order but of the order of being."⁵ Marc Augé stresses the impossible transparency and translatability of symbolic systems. "The Legba apparatus [...] is constructed on two axes. One is viewed from the exterior to the interior, the other from identity to alterity. Thus being, identity and the relation to the other are constructed, through fetishistic practice, not only on a symbolic basis but also in an openly ontological way."⁶

Contemporary machinic assemblages have even less standard univocal referent than the subjectivity of archaic societies. But we are far less accustomed to the irreducible heterogeneity, or even the heterogenetic character, of their referential components. Capital, Energy, Information, the Signifier are so many categories which would have us believe in the ontological homogeneity of referents (biological, ethological, economic, phonological, scriptural, musical, etc.)

In the context of a reductionist modernity, it is up to us to rediscover that for every promotion of a machinic intersection there corresponds a specific constellation of Universes of value from the moment a partial non-human enunciation has been instituted. Biological machines promote living Universes which differentiate themselves into vegetable becomings, animal becomings. Musical machines establish themselves against a background of sonorous Universes which have been constantly modified since the great polyphonic mutation. Technical machines install themselves at the intersection of the most complex and heterogeneous enunciative components. Heidegger, who turned the world of technology into a kind of malefic destiny resulting from a movement of distancing from being, used the example of a commercial plane on a runway: the visible object conceals "what and how it is." It unveils itself "only as standing-reserve inasmuch as it is ordered to insure the possibility of transportation" and to this end, "it must be in its whole structure and in every one of its constituent parts on call for duty, i.e., ready for take-off".⁷ This interpellation, this "ordering" which reveals the real as "standing-reserve" is essentially operated by man and understood in terms of a universal operation, travelling, flying ... But does this "standing-reserve" of the machine really reside in an already-there, in terms of eternal truths, revealed to the being of man? In fact the machine speaks to the machine before speaking to man and the ontological domains that it reveals and secretes are, on each occasion, singular and precarious.

Let us reconsider the example of a commercial plane, this time not generically but using the technologically dated model baptised as the Concorde. The ontological consistency of this object is essentially composite; it is at the intersection, at the point of constellation and pathic agglomeration of Universes each of which have their own ontological consistency, traits of

intensity, their ordinates and coordinates, their specific machinisms. Concorde simultaneously involves:

- a diagrammatic Universe with plans of theoretical “feasibility”;
- technological Universes transposing this “feasibility” into material terms;
- industrial Universes capable of effectively producing it;
- collective imaginary Universes corresponding to a desire sufficient to make it see the light of day;
- political and economic Universes leading, amongst other things, to the release of credit for its construction ...

But the bottom line is that the ensemble of these final, material, formal and efficient causes will not do the job! The Concorde object moves effectively between Paris and New York but remains nailed to the economic ground. This lack of consistency of one of its components has decisively fragilised its global ontological consistency. Concorde only exists within the limited reproducibility of twelve examples and at the root of a possibilist phylum of future supersonics. And this is hardly negligible!

Why are we so insistent about the impossibility of establishing the general translatability of diverse referential and partial enunciative components of assemblage? Why this lack of reverence towards the Lacanian conception of the signifier? Precisely because this theorising which stems from structural linguistics forbids us from entering the real world of the machine. The structuralist signifier is always synonymous with linear discursivity. From one symbol to another, the subjective effect happens without any other ontological guarantee. As opposed to this, heterogeneous machines, as envisaged from our schizonanalytical perspective, do not produce a standard being at the mercy of a universal temporalisation. To clarify this point we should establish some distinctions between the different forms of semiological, semiotic and coded linearity:

- the codings of the “natural” world, which operate on several

spatial dimensions (for example those of crystallography) and which do not imply the extraction of autonomised operators of coding;

- the relative linearity of biological codings, for example, the double helix of DNA which, starting from four basic chemical radicals, develops equally in three dimensions;
- the linearity of pre-signifying semiologies, which develop on relatively autonomous, parallel lines, even if the phonological chains of spoken language appear to always overcode all the others;
- the semiological linearity of the structural signifier which imposes itself despotically over all the other modes of semiotisation, expropriates them and even tends to make them disappear within the framework of a communicational economy dominated by informatics (please note: informatics in its current state, since this state of things is in no way definitive);
- the superlinearity of a-signifying substances of expression, where the signifier loses its despotism. The informational lines of hypertexts can recover a certain dynamic polymorphism and work in direct contact with referent Universes which are in no way linear and, what is more, tend to escape a logic of spatialised sets.

The indicative matter of a-signifying semiotic machines is constituted by “point-signs”; these on one hand belong to a semiotic order and on the other intervene directly in a series of material machinic processes. Example: a credit card number which triggers the operation of a bank auto-teller. The a-signifying semiotic figures don't simply secrete significations. They give out stop and start orders but above all activate the “bringing into being” of ontological Universes. Consider for a moment the example of the pentatonic musical refrain which, with only a few notes, catalyses the Debussyst constellation of multiple

Universes:

- the Wagnerian Universe surrounding Parsifal, which attaches itself to the existential Territory constituted by Bayreuth;
- the Universe of Gregorian chant;
- that of French music, with the return to favour of Rameau and Couperin;
- that of Chopin, due to a nationalist transposition (Ravel, for his part, appropriating Liszt);
- the Javanese music Debussy discovered at the Universal Exposition of 1889;
- the world of Manet and Mallarmé, which is associated with Debussy's stay at the Villa Médicis.

It would be appropriate to add to these past and present influences the prospective resonances which constituted the reinvention of polyphony from the time of the *Ars Nova*, its repercussions on the French musical phylum of Ravel, Duparc, Messiaen, etc., and on the sonorous mutation triggered by Stravinsky, his presence in the work of Proust...

We can clearly see that there is no bi-univocal correspondence between linear signifying links or archi-writing, depending on the author, and this multireferential, multidimensional machinic catalysis. The symmetry of scale, the transversality, the pathic non-discursive character of their expansion: all these dimensions remove us from the logic of the excluded middle and reinforce us in our dismissal of the ontological binarism we criticised previously. A machinic assemblage, through its diverse components, extracts its consistency by crossing ontological thresholds, non-linear thresholds of irreversibility, ontological and phylogenetic thresholds, creative thresholds of heterogenesis and autopoiesis. The notion of scale needs to be expanded to consider fractal symmetries in ontological terms. What fractal machines traverse are substantial scales. They

traverse them in engendering them. But, and this should be noted, the existential ordinates that they “invent” were always already there. How can this paradox be sustained? It’s because everything becomes possible (including the recessive smoothing of time, evoked by René Thom) the moment one allows the assemblage to escape from energetico-spatio-temporal coordinates. And, here again, we need to rediscover a manner of being of Being — before, after, here and everywhere else — without being, however, identical to itself; a processual, polyphonic Being singularisable by infinitely complexifiable textures, according to the infinite speeds which animate its virtual compositions.

The ontological relativity advocated here is inseparable from an enunciative relativity. Knowledge of a Universe (in an astrophysical or axiological sense) is only possible through the mediation of autopoietic machines. A zone of self-belonging needs to exist somewhere for the coming into cognitive existence of any being or any modality of being. Outside of this machine/Universe coupling, beings only have the pure status of a virtual entity. And it is the same for their enunciative coordinates. The biosphere and mecanosphere, coupled on this planet, focus a point of view of space, time and energy. They trace an angle of the constitution of our galaxy. Outside of this particularised point of view, the rest of the Universe exists (in the sense that we understand existence here-below) only through the virtual existence of other autopoietic machines at the heart of other bio-mecanospheres scattered throughout the cosmos. The relativity of points of view of space, time and energy do not, for all that, absorb the real into the dream. The category of Time dissolves in cosmological reflections on the Big Bang even as the category of irreversibility is affirmed. Residual objectivity is what resists scanning by the infinite variation of

points of view constitutable upon it. Imagine an autopoietic entity whose particles are constructed from galaxies. Or, conversely, a cognitivity constituted on the scale of quarks. A different panorama, another ontological consistency. The mecanosphere draws out and actualises configurations which exist amongst an infinity of others in fields of virtuality. Existential machines are at the same level as being in its intrinsic multiplicity. They are not mediated by transcendent signifiers and subsumed by a univocal ontological foundation. They are to themselves their own material of semiotic expression. Existence, as a process of deterritorialisation, is a specific inter-machinic operation which superimposes itself on the promotion of singularised existential intensities. And, I repeat, there is no generalised syntax for these deterritorialisations. Existence is not dialectical, not representable. It is hardly livable!

Desiring machines which break with the great interpersonal and social organic equilibria, which invert orders, play the role of the other as against a politics of auto-centering on the self. For example, the partial drives and perverse polymorphic investments of psychoanalysis don't constitute an exceptional and deviant race of machines. All machinic assemblages harbour — even if in an embryonic state — enunciative zones which are so many desiring proto-machines. To clarify this point we need to extend our transmachinic bridge and understand the smoothing of the ontological texture of machinic material and diagrammatic feedbacks as so many dimensions of intensification that take us beyond the linear causalities of the capitalistic apprehension of machinic Universes. We also need to abandon logics based on the principles of the excluded middle and sufficient reason. Through this smoothing there appears a being beyond, a being-for-the-other which gives consistency to an existent beyond its strict delimitation, here and

now. The machine is always synonymous with a nucleus constitutive of an existential Territory against a background of a constellation of incorporeal Universes of reference (or value). The “mechanism” of this turning around of being consists in the fact that some of the machine’s discursive segments do not only play a functional or signifying role, but assume the existentialising function of pure intensive repetition that I have called the refrain function. The smoothing is like an ontological refrain, and thus, far from apprehending a univocal truth of being through *techne* — as Heideggerian ontology would have it — it is a plurality of beings as machines which give themselves to us the moment we acquire the pathic and cartographic means of reaching them. The manifestations — not of Being, but of multitudes of ontological components — are of the order of the machine. And this, without semiological mediation, without transcendent coding, directly as “being’s giving of itself,” as giving. Acceding to such a “giving” is already to participate ontologically in it as a full right. The term right does not occur here by chance, since at this proto-ontological level it is already necessary to affirm a proto-ethical dimension. The play of intensity of the ontological constellation is, in a way, a choice of being not only for self, but for the whole alterity of the cosmos and for the infinity of times.

If there’s choice and freedom at certain “superior” anthropological stages, it’s because we will also find them at the most elementary strata of machinic concatenations. But the notions of elements and complexity are susceptible here to being brutally inverted. Those that are most differentiated and undifferentiated coexist within the same chaos which, at infinite speed, plays its virtual registers — one against the other and one with the other. The machinic-technical world, at the “terminal” of which present-day humanity structures itself, is barricaded by

horizons of constants and the limitation of the infinite velocities of chaos (the speed of light, the cosmological horizon of the Big Bang, Planck's constant and the elementary quantum of action in quantum physics, the impossibility of going below absolute zero...). But, this very same world of semiotic constraints is doubled, tripled and infinitised by other worlds which under certain conditions seek only to bifurcate out of their Universes of virtuality and engender new fields of the possible.

Just as scientific machines constantly modify our cosmic frontiers, so do the machines of desire and aesthetic creation. As such, they hold an eminent place within assemblages of subjectivation, themselves called to relieve our old social machines which are incapable of keeping up with the efflorescence of machinic revolutions that shatter our epoch.

Rather than adopting a reticent attitude with respect to the immense machinic revolution sweeping the planet (at the risk of destroying it) or of clinging onto traditional systems of value — with the pretence of re-establishing transcendence — the movement of progress, or if one prefers, the movement of process, will endeavour to reconcile values and machines. Values are immanent to machines. The life of machinic Fluxes is not only manifested through cybernetic feedback; it is also correlative to a promotion of incorporeal Universes stemming from an enunciative Territorial incarnation, from a valorising consciousness of being. Machinic autopoiesis asserts itself as a non-human for-itself through zones of partial proto-subjectivation and it deploys a for-others under the double modality of a “horizontal” eco-systemic alterity (the machinic systems position themselves in a rhizome of reciprocal dependence) and phylogenetic alterity (situating each actual machinic stasis at the conjunction of a passéist filiation and a Phylum of future mutations). All systems of value — religious, aesthetic, scientific, ecosophic... — install themselves at this machinic interface

between the necessary actual and the possibilist virtual. Thus Universes of value constitute incorporeal enunciators of abstract machinic complexions compossible with discursive realities. The consistency of these zones of proto-subjection is then only assured inasmuch as they are embodied, with more or less intensity, in nodes of finitude, Territories of chaosmic grasping, which guarantee, moreover, their possible recharging with processual complexity. Thus a double enunciation: finite, territorialised and incorporeal, infinite.

Nevertheless, these constellations of Universes of value do not constitute Universals. The fact that they are tied into singular existential Territories effectively confers upon them a power of heterogenesis, that is, of opening onto singularising, irreversible processes of necessary differentiation. How does this machinic heterogenesis, which differentiates each colour of being — which makes, for example, from the plane of consistency of a philosophical concept a world quite different from the plane of reference of the scientific function or the plane of aesthetic composition — end up being reduced to the capitalistic homogenesis of generalised equivalence, which leads to all values being valued by the same thing, all appropriative territories being related to the same economic instrument of power, and all existential riches succumbing to clutches of exchange value? The sterile opposition between use value and exchange value will here be relinquished in favour of an axiological complexion including all the machinic modalities of valorisation: the values of desire, aesthetic values, ecological, economic values ... Capitalistic value which generally subsumes the ensemble of these machinic surplus values, proceeds with a reterritorialising attack, based on the primacy of economic and monetary semiotics, and corresponds to a sort of general implosion of all existential Territories. In fact, capitalistic value is neither separate nor tangential to systems of valorisation; it constitutes

their deathly heart, corresponding to the crossing of the ineffable limit between a controlled, chaosmic deterritorialisation — under the aegis of social, aesthetic and analytical practices — and a vertiginous collapse into the black hole of the aleatory, understood as a paroxysmically binary reference, implacably dissolving the whole consistency of Universes of value which would claim to escape capitalistic law. It is thus only abusively that one could put economic determinations in a primary position with respect to social relations and productions of subjectivity. Economic law, like juridical law, must be deducted from the ensemble of Universes of value, for whose collapse it continually strives. Its reconstruction, from the scattered debris of planned economies and neo-liberalism and according to new ethico-political finalities (ecosophy) calls for, in contradistinction, an untiring renewal of the consistency of machinic assemblages of valorisation.

- 1 Norbert Wiener, *Cybernetics, or, Control and communication in the animal and the machine*, Technology Press, Cambridge, Mass., 1948.
- 2 Cf. Pierre Lévy, *Les Technologies de l'intelligence*, La Découverte, Paris, 1990, *Plissé fractal. Ideographie dynamique* (memoire d'habilitation à diriger des recherches en sciences de l'information et de la communication) et *L'idéographie dynamique*, La Découverte, Paris, 1991.
- 3 F. Varela op. cit.
- 4 Leibniz, in his concern to render homogeneous the infinitely large and the infinitely small, thought that the living machine, which he assimilated to a divine machine, continued to be a machine in its smallest parts until infinity (which would not be the case with a machine made by the art of men), in *Monadologie*, pp.178-9, Delagrave, Paris, 1962.
- 5 M. Augé, "Le fétiche et son objet" in *L'Objet en psychanalyse*, presented by Maud Mannoni, Denoël, "L'espace analytique," Paris, 1986.

- 6 Ibid.
- 7 Martin Heidegger, *Basic Writings*, edited by David Farrell Krell, Harper, San Francisco, 1977, p.298.