

## Intelligence Briefing

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# An enquiry into the ontological and logical foundations of sustainability: Toward a conceptual integration of the interface ‘Nature/Humanity’

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## Non-technical summary

Implementing the logical and ontological principles (dualism, mechanism, reductionism, law of excluded middle, etc.) of modernity has brought forth an unsustainable world. An overcoming of these principles is proposed by mesology (*Umweltlehre, fûdoron*), centring on the concept of *trajection* and the existential operator *as* (*als, en tant que*).

## Technical summary

The modern-classical Western paradigm (MCWP), ontologically founded on dualism and logically on the law of excluded middle, has entailed modernity and industrialization. It has come to a dead end not only in biological terms (those of the Sixth Extinction), but also morally by decomposing the social link, and aesthetically by wreaking havoc on the landscape. In a word, the MCWP has decosmized human existence. For recosmizing ourselves, technical recipes will not suffice. We need to found anew, both ontologically and logically, our way of being and thinking. That is the aim of mesology (*Umweltlehre, fûdoron*), which proposes a set of ontological and logical principles enabling us to overcome the MCWP, centring on the concept of *trajection* and the existential operator *as* (*als, en tant que*).

## Social media summary

The concept of *trajection* and the existential operator *as* are proposed for overcoming our unsustainable way of thinking.

## 1. Introduction

As Arturo Escobar recently wrote, ‘Sustainability cannot be limited to the sole environmental, economic and cultural dimensions, leaving aside epistemic and ontological aspects’ (Escobar, 2018: 82). The aim of the present article is precisely to deal with these last two aspects, understanding here ‘epistemic’ as the logical frame of our ways of thinking. True, such aspects of the question of sustainability are not the ordinary concern of its specialists, whose reflection, it goes without saying, is mainly focused on environmental problems in the broad sense. Yet, our existence on the Earth is fundamentally an ontological question, and the fact is that the epistemic frame of our present civilization – that is, what I shall call the *modern-classical Western paradigm* (MCWP) – has put this condition aside, abstracting the human being into a transcendental position toward nature. What the present article aims at is to refute this paradigm by showing that, on the contrary, human existence is necessarily structured as such by its relation with a certain *milieu*, evolutionarily and historically elaborated from the environment as its raw material.

## 2. From Mount Horeb to transhumanism and geoen지니어ing

That the present course of our civilization is not sustainable is by now common knowledge; therefore, I shall not, here, recapitulate the various reasons we have to change that course, which was entailed by the MCWP. Instead, I shall focus the problem on the ontological and logical grounds of, first, briefly, the MCWP itself (Section 2), and then, at more length, of an alternative paradigm, that of *mesology* (Sections 3–7).

The MCWP is ontologically and logically founded on the principle of decosmization, by means of abstracting our Being from its milieu: (1) ontologically with dualism; and (2) logically with the law of excluded middle, both entailing the reign of Binariness (as exemplarily instanced, nowadays, by the binary ‘language’ of our electronic devices).

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The embodiment of this principle, which I shall call ‘the principle of Mount Horeb’ (an allusion to the Bible, Exodus, 3, where it is said that Moses meets God on the top of Mount Horeb), can historically be summarized in three stages: (1) conceiving absolute Being, namely that of the God of monotheism, who is purely transcendental since he is both subject and predicate of himself, and correlatively depends on nothing but his own substance for existing; (2) applying the same principle to the human, as symbolized by Descartes’ *cogito*, first expression of the modern subject, and correlatively of the modern object; and (3) implementing technically that same principle, in the form of a cyborg’s trans- or post-humanism, and correlatively geoengineering.

For want of place, I shall restrict this argument to the following three quotations (for more details, see Berque, 2010; 2014a):

- (1) *Declaration, thirteenth century BCE, of God’s absolute substance* (Bible, Exodus, 3, 13–14):

Then Moses said to God, ‘Behold, I am going to the sons of Israel, and I will say to them, “The God of your fathers has sent me to you.” Now they may say to me, “What is His name?” What shall I say to them?’ God said to Moses, ‘I am who I am’ (אֶהְיֶה אֲשֶׁר אֶהְיֶה *ehyeh asher ehieh* → ἐγώ εἰμι ὁ ὢν [I am the Being] → *sum qui sum*); and He said, “Thus you shall say to the sons of Israel, “I am’ has sent me to you.”

- (2) *Declaration, seventeenth century CE, of the cogito’s non-placeness* (Descartes, 2008: 36–37; my translation):

Then I looked carefully into what I was. I saw that while I could pretend that I had no body and that there was no world and no place for me to be in, I still couldn’t pretend that I didn’t exist. [...] This taught me that I was a substance whose whole essence or nature is simply to think, and which, in order to be, doesn’t need any place (*qui, pour être, n’a besoin d’aucun lieu*), nor depends on any material thing.

- (3) *Declaration, twentieth century CE, of a cyborg’s deterrestration* (Gray, 1995: 47)<sup>1</sup>:

I thought it would be good to have a new concept, a concept of persons who can free themselves from the constraints of the environment to the extent that they wished. And I coined this word cyborg. [...] The main idea was to liberate man [...] to give him the bodily freedom to exist in other parts of the universe without the constraints that having evolved on earth made him subject to.

### 3. What is mesology?

The French word ‘*mésologie*’ (mesology) – from the Greek *meson*, ‘middle, mean’, and *logos*, ‘discourse, science’ – was created by physician Charles Robin (1821–1885), who presented it at the inaugural session of the Société de biologie on 7 June 1848, as a science of milieux (environments) (Canguilhem, 1968: 71). The first edition of the *Petit Larousse*, in 1906, defined it as ‘Part of biology which deals with the relations of environments and organisms’ (*Partie de la biologie qui traite des rapports des milieux et des organismes*).

Robin was a direct disciple of Auguste Comte. He understood mesology as a positive science, the field of which was extremely large, since it corresponded to that with which ecology, physiology, anthropology and sociology deal today – too vast a field indeed for a single positive science – which explains why mesology, after having prospered together with determinism in the nineteenth century, faded away until it disappeared from dictionaries in the twentieth century.

The main reason for this decline was the blossoming of ecology, which was born later – it is in 1866 that Haeckel introduced in German *Ökologie*, which penetrated in French as *écologie* in 1874 – but the field of which was better defined. A correlative reason was that since the word ‘*mesology*’ did not exist in English, the progresses of the new science in the Anglosphere were accomplished as *ecology*, and consequently were known in French also as *écologie*, not as *mésologie*.

Now, while mesology vanished from academia in France, it was reborn in Germany, but in a new light and with a new name, in the works of the Baltic–German naturalist Jakob von Uexküll (1864–1944), one of the founders of ethology, and the precursor of biosemiotics.

The new light brought forth by von Uexküll may be qualified as an instance of hermeneutical phenomenology. It consisted in considering living beings (in practice, mainly animals) no more as *Maschinen* (machines), but as *Maschinisten* (drivers, operators of a machine); that is, no more as objects but as subjects – subjects who interpreted the environmental datum in a way specific to their respective species, thus conferring these data a particular signification, and behaving according to that signification (*Bedeutung*). This meant that the scientist, instead of studying a mechanism of stimulus–response, as did behaviourism, had to penetrate that signification in order to define it from the inside; that is, from the point of view of the concerned subjects.

Thereby, von Uexküll introduced a founding distinction between environment (*Umgebung*) and milieu (*Umwelt*). Environment is a raw and universal datum, considered *in abstracto* by the look from nowhere of modern science, and accordingly valid in principle as such for any living being; whereas milieu is a concrete and singular reality, valid only from the point of view of the being concerned, and dynamically coupled with the constitution of that being.

This amounted to establishing mesology as a science of milieux (*Umweltlehre*), whereas ecology is the science of environment. Moreover, *Umweltlehre* is intimately coupled with a study of signification (*Bedeutungslehre*, later called *biosemiotics*), whereas ecology is not.<sup>ii</sup>

In 1934, von Uexküll gathered up his views in a small book, finely illustrated by his colleague Georg Kriszat, *Streifzüge durch die Umwelten von Tieren und Menschen (Raids into the milieux of animals and humans)* (von Uexküll, 1965).

At about the same time, in 1935, philosopher Watsuji Tetsurō<sup>iii</sup> (1889–1960) published *Fūdo*. This word *fūdo* (‘wind-earth’) means milieu in the sense of *Umwelt*. The subtitle was *Ningengakuteki kōsatsu*, ‘a study of human betweenness’ (Watsuji, 1979). The matter is indeed about human milieux, not milieux in general as in von Uexküll. Correlatively, Watsuji established a human mesology, *fūdorōn* or *fūdogaku*. Whether he had heard of von Uexküll’s *Umweltlehre* during his stay in Germany (1927–1928), or rediscovered its homologue on his own side as a practitioner of hermeneutical phenomenology, Watsuji’s mesology was founded on the same principles; namely, that a milieu supposes the subjecthood of the concerned people, and, correlatively, that milieu (*fūdo*) is not the natural environment (*shizen kankyō*).

von Uexküll and Watsuji are the two founding fathers of contemporary mesology, which I advocate in their wake. Yet in my mind, rather than a discipline, which in a word would amount to a phenomenological ecology, mesology should be considered as a general perspective, outdated modern classic dualism, which, as it is known, relies on an abstract and radical distinction

between what pertains to the subject and what pertains to the object. For mesology, reality, that of concrete milieux, is neither properly objective, nor properly subjective, but *trajective* (Berque, 1986; 2014b; 2016; 2018). This adjective corresponds to the concepts of *trajection* and *trajectivity*. The idea is to go 'beyond' (*trans*, *tra-*) the respective limits of the *object* and the *subject*, by way of a logical operation in which the physical object (i.e. the logical subject S: that which the matter is about) is taken as a certain predicate P (i.e. as something) through the senses, action, thought and eventually (in the case of the sole human) speech of a certain interpreter I, in a ternary (not binary) relation S–I–P (i.e. 'S is P for I'). The formula of this trajection is:  $r = S/P$ , which reads: 'reality *r* is the subject *S* taken as the predicate *P*' (for graphic simplicity's sake, the interpreter I is here only implied, but concretely, the apparent binarity S/P is in fact always ternary: S–I–P). As will be expatiated upon below, this concerns the natural sciences as well as the humanities.

Compared with the MCWP, speaking of trajectivity is of course a shift of both ontological and logical order. As we shall see, mesology's *meso-logics*, overcoming the abstract dualities of dualism (subject/object, nature/culture, assertion/negation, subject/predicate, etc.), overcomes also the law of excluded middle, and pertains to the tetralemma: beyond assertion (A is A) and negation (A is not non-A), it acknowledges bination (neither A nor non-A) and biassertion (both A and non-A). Pertaining to both ontology and logics, the new perspective which mesology brings forth is *onto/logical*.

The general meaning of mesology is that such a paradigm shift is necessary in a time when the abstraction of modern dualism, together with the law of excluded middle and their various attributes (mechanicism, reductionism, analytism, individualism, quantitativism, capitalism, industrialism, etc.), have come to the point of not only triggering off what is nowadays called the Sixth Extinction of life on Earth, but, moreover, of breaking up the social bond and playing havoc with the landscape; in other words, of entailing a loss of cosmicity which may well be fatal for humankind. This means that, contrary to that decosmization, in order to ensure sustainability, we have to recosmize, reconcretize, re-Earthbind human existence; and this is precisely the aim of mesology (Augendre *et al.*, 2018; Berque, 2014a; 2014b).

#### 4. From imprint-matrix to seeing as

Mesology focuses on the notion of milieu. This word 'milieu', at least in French,<sup>iv</sup> has the twin and apparently contradictory meanings of both a centre or focus and what surrounds this focus. It may be the *centre* of a target or the *middle* of a road as well as the *environment* of a fish (i.e. the water *around* it, the *midst* of which is the fish itself). This poses clearly a logical problem: how can the midst be also the surroundings, A be also non-A? How can it mean both one thing and its contrary?

One may notice, first, that when talking about the environment ('milieu') of a fish, one considers here a set of objects – the fish and the other elements of the environment – placed under the look from nowhere of scientific measure; and, second, that when talking about the fish as the midst ('milieu') of its ambient world, we have here a subject – the fish – for which any other thing is defined in relation with its own existence. Both cases are compossible and neither one is truer than the other one, but they are contradictory.

Such is the question: how can we overcome this contradiction? How can the milieu of a fish be both objective and subjective?

How can the inside be at the same time the outside, and vice versa?

The ancestor of this ambivalent notion of milieu (in the mesological sense of *Umwelt* and *fūdo*) is probably the *chōra* in Plato's *Timaeus* (Berque, 2000a; and especially Berque, 2012). The most general and concrete meaning which this word might have in the Greek city-state – that is, for the citizens of a *polis* – was the nurturing countryside, of which, every day, beyond the walls of the *astu* (the town proper), they could see the hills, covered with wheat fields, vineyards and olive groves. From there, daily, came for them these earthly foods which enabled them to live. In such a world, no *astu* without its *chōra*!

This context probably inspired Plato's words in the *Timaeus* (Plato, 1985). Now, as far as the *chōra* is concerned, the least one can say is that these words are unclear, and even contradictory; a contradiction which the text of the *Timaeus* precisely does not overcome, and which will seal the fate of the *chōra* for the centuries to come in European thought. In a word, until Heidegger's *Dasein*, European thought will foreclose it – forgetting, in sum, the question 'why does Being (*Sein*) need a place and a milieu?' – and content itself with the clear definition which Aristotle, on the contrary, has given about the notion of *topos* in book IV of his *Physics* – namely a place dissociable from the being (*Seiende*) it contains (since it is not mobile, while this being is), whereas the *chōra* is not dissociable from it.

Now, if in the *Timaeus* this foreclosure is still not accomplished, since Plato precisely questions about the *chōra*, his ontology, the principle of which is the self-identity of 'true Being' (*ontôs on*; i.e. the *eidōs* or *idea*), excludes any logical capture of that notion of *chōra*, since it mysteriously escapes this principle of identity. It escapes it so thoroughly that Plato fails to define it, contenting himself with metaphors; which metaphors, moreover, are contradictory. He compares here the *chōra* with a mother (*mêtêr*, 50 d 2) or a nurse (*tithênê*, 52 d 4), that is in sum with a matrix, but elsewhere to that which is the contrary of a matrix, namely an imprint (*ekmageion*, 50 c 1). The *chōra* is both an imprint *and* a matrix toward that which Plato calls *genesis* (origin, source, beginning, nativity, generation, production, creation), that is the process of becoming of beings in the sensible world (*kosmos aisthêtos*); beings who, in Plato's ontocosmology, are not true Being, but only its reflection as images.

Thus both an imprint *and* a matrix, one thing and its contrary, the *chōra* has literally no identity. One cannot figure it. Plato acknowledges that this is 'difficult to believe' (*mogis piston*, 52 b 2), and that 'when seeing it, we dream' (*oneiropoloumen blepontes*, 52 b 3), but he insists that it exists: in the array (the *kosmos*) of Being, there is indeed, from the beginning and at the same time, true Being, its projection as beings, and the milieu where this projection is concretely accomplished, namely the *chōra*. The text says (52 d 2): 'there is Being, and milieu, and being, all three triply, and which are born before the sky' (that is before the arranging of *kosmos*, which in the *Timaeus* is identified with *ouranos*).

In terms of Aristotelian *topos*, on the other hand, such a problem of imprint/matrix does not arise. In the *Physics* (IV), the *topos* is like an 'immobile vase' (*aggeion ametakinêton*, 212 a 15; Aristotle, 1996), which makes that the thing which occupies it, and which for its part is mobile and can change its place while keeping its own identity, obviously distinct from that of the *topos*. This principle is of course linked with Aristotelian logic, which is a logic of the identity of the subject (*hupokeimenon*); in other words, a logic of the identity of substance (*ousia*). As a

matter of fact, in the European way of thinking, following Aristotle, ‘substance & accidents in metaphysics correspond to subject and predicate in logic’ (*The Concise Oxford Dictionary*, 5th ed.: 1287). Now, the *chôra*, on its part, manifestly does not pertain either to that logic or to that ontology, since it can be one thing and the contrary. In Aristotelian logic, correlatively, a place cannot be another place. It is where it is – that is all there is to it. For sure, one can go from a place to another one, but that will precisely be *another* place.

Nourished by such a logic, I was surprised when I discovered that in landscape matters, in East Asia, a place can be another place, or at least be seen as another place. This is what is called in Japanese *mitate*, literally ‘instituting visually’, in other words ‘seeing as’. It consists in seeing such or such landscape as if it were another one, famous in the arts and letters (Berque, 1986; Nakamura, 1982). In that way, throughout East Asia, starting from China, could be found the ‘eight views’ of the Xiao and Xiang rivers, which are tributaries of Lake Dongting in Hunan. The Chinese tradition, since the Northern Song (960–1127), had instituted in these parts eight local scenes into models of landscape: ‘autumn moon on Lake Dongting’, ‘night rain on the Xiao and Xiang’, ‘evening bell at the monastery in the mist’ (Figure 1), ‘fishing village at sunset’, ‘wild geese descending on a sand bank’, ‘sails returning from a distant shore’, ‘mountain village after the storm’ and ‘snow on the river at dusk’. Following China, similar scenes were discovered in the neighbouring countries, and were multiplied. In Japan, the most famous of these ‘eight views’, imitated from those of the Xiao and Xiang, were those of Lake Biwa, near Ōmi. Some others are less famous, like those of Kanazawa (now a district of Yokohama) (Baker, 2010). One must add the multiple allusions to these views which can be found in various gardens, more or less accessible to the public.

What, then, could be the link between a place or view A, near Lake Dongting in China, and a place or view non-A, near Lake Biwa in Japan? Let us here outline a connection with logic and ontology. In this issue are at play two different substances, two different logical subjects (S1 and S2, Lakes Dongting and Biwa), which, eight times, are perceived as a same or analogous view (autumn moon on Lake Dongting, etc.). In other words, the identity of predicate P (‘be as a view of Lake Dongting’) subsumes (engulfs) the non-identity of subjects S1 and S2.

If you are a geographer, such a thing is impossible. As a modern scientist, you are moved by that logic of the identity of the subject which we have inherited from Aristotle, and which has underlain modern classical science. This logic does not allow the confusion of either the *ousia* or the *topos* of Lake Dongting with those of Lake Biwa. The matter is different, and the scene is elsewhere. Then, what founds the *mitate*, in which a same place can be another place, and another thing be the same thing? Probably the fact that we are in a same cultural field – the area of influence of the Chinese literary culture – but is this the only reason?

## 5. From possibilism to the logic of ‘as’

As a geographer, I have been in my youth nurtured on the thought of Paul Vidal de la Blache (1845–1918), father of the French school of geography. This school, which reigned in France until the 1960s, was characterized by that which historian Lucien Febvre called *possibilism* (Febvre, 1922), a now obsolete term which Roger Brunet mocked as follows:

A ‘doctrine’ attributed by Lucien Febvre to Vidal de la Blache, who however never expressed it. The matter is about a simple empirical attitude which consists in supposing that ‘Nature’ offers a certain range of ‘possibilities’, among which ‘Man’ ‘chooses’, it is unclear how; derived from: *pouvoir* [can]. It only remains to try to describe the momentary ‘impossible’, which depends closely on the technical state, resources and means. [...] Many geographers, afterwards, were satisfied with that empty label, which they thought might attribute them a sort of philosophical label. (Brunet, 1992: 358; my translation)

Seen from that angle, this indeed does not lead far away. Of the same generation as Brunet, Yves Lacoste for his part conceived of that possibilism much less ferociously:

A doctrine attributed to Vidal de la Blache by opposition to the deterministic theses according to which the conditions of the natural environment, notably climatic data, would determine human activities. Vidal estimated that a same natural environment offers various possibilities to humans. One should rather say that human groups, given their tools, can take advantage in different ways from a same natural environment. (Lacoste, 2003: 310–311; my translation)

Replaced in its historical context, possibilism was indeed much more than an ‘empty label’; it meant a refutation of the determinism which, at the time, dominated the German and Anglo-Saxon schools, no less. It showed that, would environmental conditions be similar, human societies can develop completely different *genres de vie* (lifestyles). No determination, then, but the contingency of history.

True, the said possibilism did not go so far as to challenge the very notion of milieu, a term which at the time was used in the sense in which we now talk of environment. It is in that sense that, as we have seen, the founder of mesology, Robin, understood it. Yet, in its new sense of *Umweltlehre* and *fûdoron*, what mesology showed was exactly the same fact as possibilism did at about the same time; namely, that in a same environment, different species or cultures will have different milieux. The logic is the same, except that mesology brings the question much farther. von Uexküll, in particular, goes as far as posing, and proving experimentally, that an object in itself does not exist for an animal; it exists for it only according to a certain ‘tone’ (*Ton*), resulting from an operation which von Uexküll names ‘tonation’ (*Tönung*). This tonation means that a same object will exist differently according to the species concerned. For instance, a same tuft of grass will exist as food for a cow, as an obstacle for an ant, as a shelter for a beetle, as a drink for a cicada larva, etc.; that is to say, respectively, an *Esston*, a *Hinderniston*, a *Schutzton*, a *Trinkton*, etc.

That ‘exist as’ disrupted the substantialism which, until then, had ruled Western ontology and logic. Heidegger made no mistake when he dedicated half his seminar of 1929–1930 to von Uexküll – a seminar which, after his death, was published under the title *Die Grundbegriffe der Metaphysik (The Fundamental Concepts of Metaphysics)* (Heidegger, 1983). For sure, thanks to a subtle shift, the matter here is about *Grundstimmung* (basic mood) rather than about *Ton* and *Tönung*. Yet, the idea remains the same, except that Heidegger makes the topic precise both ontologically and logically. For instance, according to von Uexküll’s demonstration:

All the richness of the world surrounding the tick (*die Zecke umgebende Welt*) shrinks (*schnurrt zusammen*) and transforms itself into a poor image (*ein ärmliches Gebilde*), composed of only three sensible signs<sup>v</sup>



**Fig. 1.** *Evening bell at the monastery in the mist*, by Chen Fu (1259–1309). Source: Baidu.

(*Merkmalen*) and three agible signs<sup>vi</sup> (*Wirkmalen*): it is its milieu (*ihre Umwelt*). The poorness (*Ärmlichkeit*) of the milieu, however, conditions the certainty of the activity, and certainty is more important than richness. (von Uexküll, 1965: 29; my translation)

This unfurls in Heidegger into the famous thesis according to which the stone is ‘worldless’ (*weltlos*), the animal ‘worldpoor’ (*weltarm*) and the human ‘world-making’ (*weltbildend*) (Heidegger, 1983: § 42).

One shall not fail to notice that, in von Uexküll, speaking of the ‘poorness’ of the tick’s world is contradictory, since it is only if compared with the *Umgebung* (i.e. the *Umwelt* of our science) that this world may be deemed to be poor and reduced to a simple image. From the tick’s point of view, on the other hand, its *Umwelt* is just as complete and real as Plato, in the last few lines of the *Timaeus*, judged the *kosmos* to be from his human point of view (that is, as a human *Umwelt*): ‘Thus the world was born [...] very big, good, beautiful and perfect.’ Heidegger for his part, from a definitely anthropocentric (and more precisely logocentric) point of view, saw ‘worldpoorness as world-deprivation’ (*Entbehren von Welt*) (Heidegger, 1983: § 46).

Where Heidegger innovates is, as said above, in considering that question from both a logic and an ontologic point of view. When commenting the enunciative proposition in Aristotle, he shows that the Stagirite, when speaking of *sunthesis* σύνθεσις,

[...] means in fact what we call the structure of ‘as’ (*als-Struktur*). It is what he means, without really advancing expressly into the dimension of that problem. The structure of ‘as’, the *in advance unifying perception* (*vorgängige einheitbildende Vernehmen*) of something as something (*etwas als etwas*), is the condition of possibility of the truth or the falseness of λόγος. (Heidegger, 1983: 456; Heidegger’s italics, my translation).

This ‘in advance unifying perception’, constitutive of a world (*Welt*), Heidegger assimilates it to the predication of ‘a as b’, which makes that ‘a is b’. It is the ‘structural moment of manifest-ness’ (*Strukturmoment der Offenbarkeit*), by way of which the things appear as something. It is the ‘as’ of the being as such (*das Seiende als solches*) (Heidegger, 1983: § 69).

However, Heidegger did not elaborate much farther this logic and this ontology of the ‘as’. On the other hand, that is precisely what mesology is aiming at.

## 6. In search of the predicative field

According to Heidegger, as we just have seen, Aristotle did not venture into the problematic of ‘as’. The opposite would have been surprising from the father of the logic of the identity of the subject, *alias* logic of the identity of substance, since a logic of the ‘as’ is precisely not a logic of substance. When, in the logic of *mitate*, Lake Biwa is looked at as Lake Dongting, that can evidently not be a logic of substance. The substance of Lake Biwa is not that of Lake Dongting. The subject – that which the matter is about – is not the same. Then, what kind of logic is it?

We must here come back to some more geography. Geographers, indeed, would be the first to certify that Lake Dongting is not Lake Biwa. Correlatively, Hiroshige cannot have heard, near Lake Biwa in the evening mist (Figure 2), the same bell sound as Chen Fu heard near Lake Dongting, six centuries before. Then, if Lake Biwa can *exist as* Lake Dongting, that is certainly not geography.

Yet it was indeed as a geographer, and in an encyclopaedia of geography, that I could one day write the following:

Wouldn’t the distinctive feature of geography be that it poses the question of that ‘as’ (*en tant que*), in which the physical and the social hold only in relation to each other? And in which the land, through resources, constraints, risks and amenities, the value of which is always relative (lived, perceived, conceived), is only the milieu in which human space unfurls, that environment which appears as a landscape, and which, in a feedback, humans develop in the sense of the representations they have of it. [...] basically, only a matter of different points of view on a same object. (Berque, 1992: 367–368; my translation)

At the time, over a quarter of a century ago, I had read nothing of von Uexküll nor of Heidegger. My questioning was purely geographical, and seen from today, purely in the wake of possibilism: ‘resources, constraints, risks and amenities,’ indeed, do not exist in themselves (i.e. objectively, *an sich* as Kant would have put it), but only when interpreted *as such* by a certain society (i.e. trajectively:  $S$  is  $P$  for  $I$ ,  $r = S/P$ ). If, however, I had come to talk of *en tant que* (as), it was because in the 1970s, while preparing my thesis on the colonization of Hokkaidô (Berque, 1977; 1980), I had discovered that the reality of one and the same island might be very different depending on whether you were a Japanese peasant or an American agronomist. More specially, it was because, a few years later, I had discovered the custom of *mitate* in the history of landscape in Japan, in its perceptive array as well as in its material array; that is, in sum, in the reality of the Japanese milieu. And thence, I had come to understand that the reality of any human milieu is a matter of ambivalent *prises* (or affordances, in the vocabulary of Gibson, 1979) between nature and society; namely, that for human beings, the physical data of the environment *exist as* four main categories or predicates: resources, constraints, risks and amenities. The reality of these predicates is historical, and depends both on nature and society. For instance (let it be said to simplify), petroleum in itself *is not* a resource. It *exists as* a resource only inasmuch as you have invented the combustion engine and petrochemistry. For the Inuit, who nevertheless had had petroleum under their feet for millennia, the oil of Alaska simply did not exist. Then came oil companies, and the reality of the Alaskan milieu changed.

This problematic, once established (Berque, 1986; 1990), remained to take head on the question of ‘as’ in its relation with reality. What does ‘exist as’ mean? Back to the very term ‘category’, which I was using regarding the issue of said affordances,



Fig. 2. Evening bell at Mii monastery, by Utagawa Hiroshige (1797–1858). Source: Kokkai Toshokan.

when I started to work – still as a geographer, since Vidal de la Blache had defined my discipline as a ‘science of places’ (*science des lieux*) (Robic, 1980) – on the ‘logic of place’ (*basho no ronri*) of Nishida Kitarô (1870–1945), I discovered at the same time that Nishida, for saying the same thing, also used the expression ‘logic of the predicate’ (*jutsugo no ronri*) (Nishida, 1927; 1945). In fact, rather than ‘place’ – a common translation of the term *basho* since it is its ordinary meaning – the Nishidian *basho* would more adequately be rendered with ‘field’ or, better, ‘predicative field’.

Almost at the same time, I discovered that Aristotle used *katêgoria* in the sense in which we now talk of ‘predicate’: that is, what is said about a logical subject, or a quality attributed to a certain substance. To say, for example, that ‘petroleum (S: subject: substance) is a resource (P: predicate: quality)’ is an ontological and logical equivalent of the geographical reality of oilfields as resources, and of the mesological reality ‘petroleum (S) exists as a resource (P)’. In other words: in a certain predicative field – in a certain milieu – petroleum is a resource, but, though it is still substantially and physically there in the environment, it is not a resource in all milieux and not at all times in human history (e.g. not for the Inuit until oil companies came on stage).

Said predicative field is also called by Nishida ‘historical world’, or straight out ‘predicate world’. That could well have met the Uexküllian *Ton*, and consequently Heidegger’s *Welt*, by showing that the same logic is at work in the three cases: that of ‘as’ (i.e. *als* in German and *soku* 即 in Japanese). Such a meeting would have allowed the building of a genuine logic of milieux – a *meso-logic* – but, unhappily, it did not happen. Instead of searching for a middle course between Aristotelian logic (i.e. that of the identity of the subject, hereafter IgS, and his own logic of the predicate, hereafter IgP), Nishida only capsize IgS into its enantiomer, the absolutization of IgP, by

assimilating P to absolute nothingness (*zettai mu*), that is the polar opposite to that of substance (Berque, 2000b; 2002a; 2002b). Now, absolutizing P is, *ipso facto*, absolutizing one’s own world (e.g. one’s own ethnicity; it is the reason why so many peoples have called themselves ‘the Humans’: Ainu, Anishinabe, Inuit, etc.). Neither Nishida himself nor his followers, even today, realized this (including Lavelle, 1994, though he criticizes Nishida from the point of view of political science), but it is indeed what such a philosophy entails.

One can also show, in another direction, that this philosophy takes place, in more than one respect, in the wake of Buddhist thought. I will come back to this later; let us confine ourselves here to noticing that Nishida’s philosophical system tends to absolutize worldliness as absolute nothingness, *zettai mu*.

This absolutization of the world in Nishida expresses itself notably by reducing systematically the Other to the Same. This is textually what the formula which reigns supreme in his system means: *zettai mujunteki jiko dôitsu*, ‘absolutely contradictory self-identity’. Commenting on such an oxymoron would require pages, but what does it entail, really? That all the differences between beings are resolved in the self-identity of the world. Correlatively, in Nishidian phraseology, there are plenty of formulas – the preceding one to begin with – which allow us to say anything and its contrary; for instance, ‘worldwar must be worldwar for negating worldwar, for eternal peace’ (Nishida, 1945: 439) – the war to end all wars, what else? One can also easily find in Nishida the idea that, if alterity is resolved in identity, the latter supposes the former, etc.; which allows us to quibble indefinitely over the place of the Same and the Other, A and non-A in that philosophy.

Confronting these mirror games, what must not be forgotten is the absolute closure of this worldliness on itself. As a matter of fact, Nishida often uses the formula *sekai no jiko gentei*, ‘self-

determination of the world'. This goes along with an absolute constructivism, in which, if every thing also determines itself, it ultimately comes down to the circularity of a world endowed with the will to create itself through the 'absolutely contradictory self identity from what is created to what is creating' (Nishida, 1945: 391): 'Every thing determines itself baselessly, that is, it holds its own self from its very self-determination' (Nishida, 1945: 390). 'The historical world forms itself self-formatively, as willing-active Being' (Nishida, 1945: 391).

In the scientific domain, one can easily find here what, for instance, inspired Imanishi Kinji's idea that in evolution, contrary to Darwin's theory (in which the evolution of the species is the mechanical result of the selection of individual organisms), it is the species which, as such, determines the course of its own evolution (Imanishi, 1980). Yet more generally, and ontologically, if the world is endowed with will and acts on its own, it is simply because it subsumes, as the nothingness of a predicative field, individual beings, and accordingly invests itself with the properties which characterize individuals. It shall not be necessary to underline what this implies politically: the radical impossibility that Antigone ever opposes Creon, since Creon is... absolute nothingness!

As I have argued elsewhere (Berque, 1998), Nishida's philosophy holds in itself that at which expressly aimed the militarism of his time: to nihilate the responsibility of the citizen, by engulfing it in what Heidegger calls 'the They' (*das Man*), and about which he writes 'the They [...] each time takes away from the Dasein his responsibility,' since the They is 'that about which we must say: it was nobody (*keiner war es*)' (Heidegger, 1993: 127). Just as that cunning Ulysses to Polyphemus: *Oudeis* (Nobody)!

Nishida (1945) adds: 'The world [...], that does not mean a world opposed to our self. It is nothing else than that which tends to express its absolute placehood, and this is why one can say that it is the absolute' (p. 408), and 'That it comprises indefinitely this self-negation is precisely the reason why the world exists just by itself, moves by itself, and why one can consider it as absolute existence' (p. 457).

From the point of view of mesology, that does not stand up, since, for standing up, you need a ground on which to stand ontologically and logically (i.e. a *hupokeimenon*) as well as ecologically (i.e. an *Umgebung*). In a word, you need planet Earth, that *primum datum* from which the various concrete milieux of the living species, including ours, have evolved; whereas for Nishida's absolute constructivism – a radical forerunner of the *French theory* – the world has no ground: it is baseless (*mukitei*) (Nishida, 1945: *passim*).

## 7. Overcoming the MCWP with the meso-logic of mesology

While we owe to Nishida the idea that the world is a predicative field (P) – for mesology, it is indeed the combination of all the 'as' according to which we have a hold on things as something – on the other hand, we cannot follow him in his absolutization of the predicate. A world, whichever it is, cannot arise if not from an *Umgebung*, that is from the Earth, which is its *hupokeimenon* – its necessary base: S. Yet, this universal base does not exist – it does not *ek-sist* (stand out) from the gangue of its self-identity – if it is not drawn outside by a certain world (P) which, by predicating it, will assume it, *realize* it as something (*als etwas*, would say Heidegger). Hence, as we have seen, the mesological idea that *reality is the assumption of S as P*, which I summed up with the formula  $r = S/P$  (reality is S as P).

What is here essential, and which characterizes the meso-logic of mesology, is that concretely, there cannot be S without P, nor P without S. Modern classic science, the dualism of which absolutizes the substance of the object (i.e. S: that which the matter is about) does exactly the opposite of what did Nishida, who absolutized P. In both cases, it is a profession of faith, since empirically, there is never S without P, nor the reverse. Without a certain predicate, S would remain forever closed up in mere virtuality, that of its self-identity. This is what physics has discovered and proved experimentally in the twentieth century, which led precociously Heisenberg to acknowledging that

If one may speak of the image of nature according to the exact sciences of our time, one should understand here, rather than the image of nature, the image of our relationship with nature. [...] It is first and foremost the network of the relations between man and nature which that science is aiming at. [...] Science, ceasing to be the spectator of nature, recognizes itself as part of the reciprocal actions between nature and man. The scientific method, which chooses, explains, orders, admits the limits which are imposed on it by the fact that the use of the method transforms the object, and that, consequently, the method cannot anymore separate itself from its object. (Heisenberg, 1962: 33–34)

This relational view was born, as we know, from the numerous paradoxes of quantum physics, such as the intrication of different states, non-separability or non-locality. We have here several analogies with the problematic of milieux. That a same particle can, according to the experimental device, exist for us as a wave or as a corpuscle, or that two particles can behave as a same particle in two different places, such facts do not tally with the Aristotelian substance and topicity (placeness) proper to modern classic science. On the other hand, they are strangely consonant with such mesological notions as *mediance* (*fūdosei*) – defined by Watsuji as 'the structural moment of human existence' (Watsuji, 1979: 3) (i.e. the dynamic coupling of Being and its milieu), *choresy* (the unfurling of a same predicative field, therefore extending a milieu over the environment), *conrescence* (the growing-together of Being and its milieu), etc. (Berque, 2000a; 2018) which characterize the empirical grasp of reality.

What, then, for mesology, is said 'empirical grasp'? It is the *trajection* of S as P, in other words the *realization* of S (the transformation of the virtuality of S into a reality S/P) through the senses, action (which concerns all the living), thought (which concerns only superior animals) and language<sup>vii</sup> (which is proper to humans alone). This is what concretely produces the reality (S/P) of milieux (S/P), those of the living in general as well as those of the human in particular. Now, this trajection is a process – historical or, at another time scale, evolutionary – where indefinitely, through generations, new predicates P', P'', P''', etc., overpredicate reality S/P into (S/P)/P', ((S/P)/P')/P'', (((S/P)/P')/P'')/P''', etc., thus placing indefinitely S/P in position of S' relative to P', then of S'' relative to P'', and so on. This is what I call a *trajective chain* (*chaîne trajective*; Berque, 2010; 2014, *passim*). Now, taking into account the homology of the two couples subject/predicate in logic and substance/accident in metaphysics, this is to say that the predicate P, which is unsubstantial for Aristotle as well as for Nishida, will progressively be substantialized. This conversion of unsubstance into substance is traditionally called a hypostasis. A trajective chain is, then, the history of such a hypostasis, the evolution of a substantialization.

We can see this, for instance, in the history of human settlements. Hypostasis, in that case, was not only metaphysical, but

eminently sensible and material. Starting from the myth of the Golden Age and its Chinese equivalent (*Datong*, the Great Identity), that is, from mere words (P), and through successive stages – mandarin hermiticism and the invention of ‘landscape’ in China, hence the realization of landscape gardens, hence of suburban villas inspired by the fabrics of such gardens, hence of modern suburbs, hence of urban sprawl, hence of our present way of life: diffuse urbanization, the ecological footprint of which is unsustainable – it has entailed, 3,000 years later, a telluric effect: global warming, a substantial S if ever there was (Berque, 2010)!

In that way, in the history of milieux, world P is indefinitely hypostatized into ground S, which indefinitely makes it the base (*hupokeimenon*) of further worlds P’, P”, P”” and so on, and correlatively of new milieux S/P, S’/P’, S”/P””, etc. Far from the self-identity of substance, which is an abstraction, concrete reality is trajective; therefore, it is indefinitely a genesis of beings, a becoming of Being – precisely that which Plato, when trying to conceive of the *chôra*, called *genesis*. In other words, it is the historical and relational (not theophanic, nor absolute) advent of Being as different beings. It is, among others, the principle of biodiversity, on account of the dynamic coupling (the mediance) of any living being with its proper milieu (Berque, 2014a).

When he tried to overcome substantialism – that of Aristotle and Plato as well as that of Christianity – why did Nishida not think of a meso-logic (i.e. a logic of trajection and trajectivity (S/P) rather than of a logic of the predicate (lgP))? The answer is because his inspiration fundamentally came from Buddhism (especially from Zen, which he practised), which precisely, as a religion, absolutizes its own predicates – in this case under the name of ‘ultimate truth’ (Sanskrit *paramārtha*).

No wonder, then, that this in fact is also what Christianity did when posing that the Word (which is intrinsically predicative, since it says something P about something S) is God (absolute subject: substance: S), paradigmatically so in the beginning of Saint John’s Gospel: 1. In the beginning was the Word; 2. and the Word was with God [this is the canonical translation, but the Greek *καὶ ὁ λόγος ἦν πρὸς τὸν θεόν* can also be read: and the Word (P) was about God (S)]; 3. and the Word was God [i.e. P was S].

What we can see here, in a sublime shortcut, is the essence of what happens in trajective chains, where there is – but progressively, historically and evolutionarily – a hypostasis of P into S, and where, unless through the mystic leap of religious faith, one cannot ever return to the initial genuine S. We find that same hypostasis of the predicate in the Koran, said to be God’s Word itself, etc. It is the logic of myth, which is a hypostasis of unsubstance (P) into substance (S). This is indeed what Roland Barthes showed in his *Mythologies* when defining myth as the effect of a ‘semiological chain’ in which a former sign (the signifier  $S^a$  as the signified  $S^e$ , = S as P) becomes in its turn the signifier ( $S^a = S$ ) of a further signified ( $S^e = P$ ; i.e. S’/P’) (Barthes, 1957). To be sure, Barthes did not use exactly the same formulas as the above trajective chains, but the underlying logic is the same: that of a hypostasis.

Yet there is an essential difference between Christianity and Buddhism, in that the latter is precisely antipodal to substantialism. On the contrary, it poses that all is relation, and elaborates this relativity with a great conceptual luxury, from which Nishida, had he not been obsessed with the idea of capsizing Aristotle’s lgS into its enantiomer lgP, might have taken a more meso-logical party. Whereas he only speaks of absolute nothingness and baselessness, Buddhism for its part also speaks of

‘propping’ (Sanskrit *niśraya*), namely that the relations, while being unsubstantial, support each other. The *Mahāyānasūtrālamkāra* (one of the founding classics of Mahayana Buddhism) writes, for example: ‘It is because they have no proper nature that (all the *dharma*) arise/The anterior props the posterior’ (Girard, 2008: vol. I, p. 212).

There is much in common between the said ‘propping’ and the trajective chains of mesology, a reason for which I came to speak of ‘trajective propping’ (*calage trajectif*). In the trajective linkage of a mesological chain, each posterior predicate tends to hypostatize an anterior S/P, thus establishing a new link in the chain, on which it can prop itself as on a ground (*hupokeimenon*). This can exactly be represented by the formula, ‘The anterior props the posterior’. Yet there is an essential difference, namely that Buddhism does not consider this as a hypostasis at all: the *dharma* arise because of their very unsubstance, and while propping each other, remain unsubstantial. For mesology, such an absolutization of unsubstance is a mystic leap, typical of a religion. From a Buddhist point of view, considering *niśraya* as a hypostasis, were it relative and progressive, would be nothing else than a heresy; but this is precisely the stance of mesology.

Another concept of Buddhism seems to have much in common with mesology: *pariyāya*, which has been rendered with *catégoriel* (categorical) (Cornu, 2001: 799; remember that Aristotle called *katêgoria* what we call the predicate). Xuanzang (600–664) translated it as ‘different doors’, *yimen* (Yamauchi, 1974: 315). The idea is that there are different accesses to a same thing, none of which can be deemed to be else than a mundane truth – ultimate truth being precisely that there is no proper nature of the thing. These ‘different doors’ seem to be homologous with the ‘as’ of mesology, and particularly with Uexküllian ‘tones’ (*Töne*), which are never the object in itself, but somehow a certain access to the object, respectively proper to each different species. It is the same in human milieux: for instance, that which for a certain culture can exist as a delicacy (S/P) can also be considered as uneatable (S/P’) by another culture, independently from what the object is in itself (S). Here, then, predicate P corresponds to Xuanzang’s ‘different doors’.

These various relations combine themselves into what Buddhism named *prajñapti* in Sanskrit. This term is ordinarily rendered as ‘conceptualization’ or ‘designation’, but I prefer to render it as ‘array’ (*agencement*), having in mind, on the one hand, what evokes its Chinese translation *shishe* 施設, and on the other hand Heidegger’s *Gestell* and Foucault’s *dispositif* (Agamben, 2006). In mesological terms, it is the chorey (extension of a predicative field; from the Greek *χώρασις*, action of going forward) of a certain milieu (S/P). Commenting on the concept of *prajñapti*, Yamauchi speaks of an ‘array which lets exist’<sup>viii</sup> (Yamauchi, 1974: 324).

This ‘array which lets exist’ must be compared with what has been said above under the name of trajection. Trajection indeed is that which lets exist (*ek-sist*, stand out) S as P (i.e. S/P), a reality which is not S in itself (the Real, that ideal goal of physics), and therefore can be held as that which physicist and philosopher Bernard d’Espagnat called ‘veiled real’ (*réel voilé*) (d’Espagnat, 1979; 1994; 2002) – veiled by the very fact of observing it as something (S/P). Mesology also, when speaking of the trajectiveness of things (S/P), means that they are a veiled real, which never can be the object in itself (S). On the other hand, for considering like Buddhism that, in certain conditions, ultimate truth can be attained, one needs a mystic leap – that which is proper to religion, and which mesology refuses to do.

For mesology, indeed, attaining the absolute (S) would *ipso facto* be trajecting it into S/P.

To be sure, Buddhism does not deal with S in the same meaning as Europe understood it (the subject: substance), but considers on the contrary the vacuity (*śūnyatā*) and thusness or tality (*tathatā*) of things, which one could in sum understand as the 'as' of 'S as P', but without S. This could be represented with the following formula: /P. The 'as' indeed is neither S nor P, but what relates them and therefore is neither substance (S) nor unsubstance (P).

Now, this 'neither... nor' is a binegation, which corresponds here to an impossibility in Aristotelian logic, since it infringes the law of excluded middle by posing: neither A, nor non-A (i.e. neither substance nor unsubstance). The trajectiveness of concrete reality infringes effectively the law of excluded middle, which, on the other hand, has reigned over Western classic rationalism at least since the *Timaeus* excluded as unthinkable the 'third and other gender' (*triton allo genos*, 48 e 3) of *chōra*, which is neither absolute Being nor relative being. And the fact is that the law of excluded middle still reigns over Western thought, meaning, for example, that quantum physics has still not been rationally integrated into the rest of physics.

Following Yamauchi, I shall consider binegation as the third (not the fourth) lemma of the tetralemma, the fourth lemma being then biassertion (both A and non-A). It is indeed essential to put biassertion in fourth and last position, since, instead of closing everything on nihility, on the contrary it opens up all the possibilities of singular milieux (S/P) on the ground of a universal environment (S). That was the essence of Vidal's possibilism as well as of von Uexküll's *Umweltlehre*, as seen above. Yet, both the third and the fourth lemma instantiate the same 'third and other gender' of milieu, that is a meso-logic which overcomes trajectively both dualism and the law of excluded middle.

Effectively, from the meso-logical point of view of mesology, understanding concrete reality requires precisely the ternarity of the 'third and other gender' excluded not only by the dualism of the MCWP, but also by the mystical absolutization of unsubstance P, as well as by the scientific absolutization of substance S. Being S as P, reality is necessarily on the move (in trajection) midway between S and P, because this, concretely, always necessitates a third term I, the interpreter of S as P, be it human or non-human or even, as in quantum physics, a purely material experimental device. Concrete reality is neither S nor P, it is the ternarity of S–I–P (i.e. S as P for I). By the same token, reality is neither purely objective, nor purely subjective, but always trajective.

## 8. Conclusion

To conclude, why should we need such an ontological and logical frame?

First, because we need to understand why, ontologically and logically, what we consider as 'the' reality of 'the' environment does not exist in itself (*an sich*, S), and therefore must not be absolutized. It *exists as* something (*als etwas*, S/P); in other words, as a set of resources, constraints, risks and amenities (S/P) which all depend trajectively – that is, historically and mesologically – on our own existence (I, in the interpretive ternarity S–I–P). No pure natural determinism here, nor pure human arbitrariness, which both are dualistic abstractions, but the contingency and concreteness of the ecumene (the total

combination of all human milieux), that is the interface 'Nature/Humanity'.

Second, because the sustainability of our very existence depends on acknowledging this trajectivity of reality. Absolutizing S (as does scientism) or P (as does religion) is to foreclose the existence of any interpreting I, which, as far as we humans are concerned, is first and foremost a human being, whose mediance necessarily depends on a certain milieu, within the ecumene, which in its turn necessarily comprises other living beings and their respective milieux.<sup>ix</sup> Now, ontologically and logically, the MCWP, with its dualism and its exclusion of the middle, precisely forecloses the existence of the third term I, which concretely makes trajection (*ek-sistence*) possible. This foreclosure, following the principle of Mount Horeb, first and foremost abstracts our existence from its structural moment (our mediance), an abstraction which in fact, far from absolutizing it, virtually amounts to annihilating our very Being, deprived of its nurturing *chōra*. Concretely, this means that, by dint of abstracting our existence from our milieu, we may well, sooner or later, delete ourselves from the surface of the Earth, swept away by the Sixth Extinction which the MCWP has triggered off. This is not only the ontological and logical, but the vital reason we have for overcoming the MCWP with the meso-logic of mesology.

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## Notes

<sup>i</sup> Gray is here quoting Manfred Clynes, who invented the word 'cyborg' in 1960.

<sup>ii</sup> Today, biosemiotics (*Biosemiotika* in German) has become a part of ethology, not of ecology (*Ökologie* in German).

<sup>iii</sup> In the present text, East Asian names are given in their normal order: family name first.

<sup>iv</sup> In English, the *Shorter Oxford English Dictionary* (2007 edition) defines 'milieu' (in roman fonts; i.e. as an English word), plural -ieus, -ieux, as '1. An environment; (esp. social) surroundings. 2. A group of people with a shared (cultural) outlook; a social class or set. In France: (a group or organization belonging to) the criminal underworld.'

<sup>v</sup> Or perceptual marks.

<sup>vi</sup> Or operational cue carriers.

<sup>vii</sup> As defined by double articulation, not only the transmission of signs as in biosemiotics.

<sup>viii</sup> *Sonzai seru sesetsu* 存在せる施設.

<sup>ix</sup> In the case of quantum physics, being a material device, the interpreter (I) for sure is not a living being, but it exists only inasmuch as it is conceived, made and read by a human being I'. This amounts to a trajective chain; and even at the ontological level of the device itself, the fact is that in physics, what for instance is called a 'von Neumann chain' (D'Espagnat, 2002: 128 *sqq*) is also quite analogous with a trajective chain.

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