

ASTROPHYSICS AND META-TECHNICS

Abstract

This paper wants to provide a stimulus for reflecting on the ways meta-technics are having fundamental effects on Contemporary Science, including Astrophysics and Astrobiology. According to the author, traditional human technology is being replaced and superseded by "meta-technics". Meta-technics seeks to overcome the traditional anthropomorphic, anthropocentric, and geocentric aspects of all previous technology. It also goes beyond a primary reliance on the human sense of sight as the highest form of perception, –what the author refers to as an "optic-luminic" ordering of reality. Contemporary Science and Technology is captured on an optic-luminic logos and its corresponding language; now: what meta-technics reveals is a trans-human ordering of reality or a trans-optic logos that has important implications on the foundations and conceptual basis of all scientific disciplines. It is simply with the goal of raising such issues, and of beginning to ask such questions in the fields of Astrobiology and Astrophysics, that Mayz Vallenilla gave the following lecture.

1. Introduction

Let me begin by expressing my firm conviction regarding the legitimacy and validity of contemporary scientific knowledge, both in respect to its methodology and its results. Therefore, it would be a temerity, more than plain senselessness, to doubt scientific theories and the great achievements obtained through its application in Astrophysics and Astrobiology.

What I will explain today –making use of the premises that I developed in my book *Foundations of Meta-Technics*– will then be, not a refusal or denial of the founding basis that inform the current cosmographic and cosmological image of the *Universe*, but rather a critical effort to try to analyze the *techno-rational foundations* of its epistemic horizons... producing, as a consequence, the necessary broadening and concomitant variation that underlies them... without yet achieving an adequate expression.

2. Perplexities and problems

Let us question on the first place, what motive or reason is there to connect *Astrophysics* and/or *Astrobiology* to *Meta-technics*? Perhaps, before an audience such as this one, primarily composed of scientists familiarized as much with *Astrophysics* as with *Astrobiology*, the right procedure is to explain what *Meta-technics* is, and why it can have (as, in fact, it has had) such a radical and decisive influence on those reputable and attracting Disciplines.

At the beginnings of the 80s, when I created the term "*meta-technics*" –and used it for the first time before an international audience at the World Philosophy Congress held in Brighton–, my aim was to highlight two main aspects implicit in its very denomination: a) that such term designated a new stage or mode for "*technics*", the purpose of which was to overcome the *anthropomorphic*, *anthropocentric* and *geocentric* characteristics that prevailed up to that moment in *traditional technology*, as much in relation to its *ars operandi*, as in relation to the *nature* and *functions* of its own instruments; and b) that such overcoming of the *traditional technology* implied, *eo ipso*, a radical transformation and transmutation, as much of *Reason* as of *Rationality* which, until then, had served as basis for technology as an expression of the *will to power* that guides it... and the impetus of which, acting as the root and engine of that *technology*, activated the epistemic effort through which the human being sought to dominate otherness or reality (including in such otherness or reality, *Nature as such* and *man* himself as a *natural being*).

But what does this explosive affirmation mean, which states that *Meta-technics* implies and presumes overcoming *Reason* and *rationality* that inform and sustain *technology* and/or *traditional techno-scientific knowledge*?

Plainly stated, from a strictly philosophical point of view, it means the following: that *Reason* and *rationality*, from its beginnings with the Pre-Socratics and Parmenides, up to Husserl, Heidegger and all of their current successors, have been identified (etymologically and philosophically) with a "*seeing*" (νοεῖν)... such "*seeing*" being of a sensitive and empirical, or eidetic and intelligible nature.

Therefore, the *rational-truth*, as such, is considered the expression of an *evidence* (term, as it may be easily noted, derived from the Latin *videre*, which means "*to see*")... be it that such *rational-truth* embodies an *empirical evidence* and/or an *intellectual evidence*... in accordance with its corresponding optical mode as well as with the corresponding mode of being of its objective correlates.

Now: being *Reason* synonymous with a "*seeing*", such "*seeing*"... (in order to fulfill its role) must be nurtured and must make innate use of the *visible light* (from the Greek φῶς,

the latter from $\phi\acute{\alpha}\omicron\varsigma$)... taking possession, depicting and processing such type of waves from the electromagnetic spectrum that, due to their longitude and frequency, adapt themselves to the apprehensive and receptive capabilities of the human eye as such.

The above mentioned is indeed one of the principal aspects that *Meta-technics* tries to overcome before *traditional technology*... and one that it has convincingly accomplished in our days, through the construction of new instruments capable of apprehending otherness or reality and its manifestations in a manner incomparably greater, richer and radically different from the traditional one... strictly and exclusively human-bounded, or –may we say– reduced to *optic* and *luminic* characteristics on its limits as well as on its foundations.

In fact: otherness or reality, as such, is nowadays apprehended or grasped, for instance:

- through *sonic* or *ultrasonic waves*, be it with the *radar* and the *sonar* or through the assistance of other more complex and sophisticated devices that provide echo-sonograms of such otherness or reality;
- through *thermic stimuli*... in the sensors used to guide missiles or ballistic projectiles;
- through *radio waves* in radio-telescopes;
- through *infra-red rays* in some satellites-telescopes specifically designed to this end;
- through *nuclear magnetic resonance*, where it should suffice to mention instruments such as the SQUID (Superconducting Quantum Interference Device), the action of which allows to depict some magnetic fields utilized to register the functioning of neurons; the MRI (Magnetic Resonance Imaging), which opens access to millimetric structures in brain tissue; or the MRS (Magnetic Resonance Spectroscopy), which provides data on the functioning of cerebral chemistry in activities such as learning, memory, emotions and vision itself;
- also mentioning the complex sensors which, using the *Doppler-Fizeau effect* and the different longitudes of *neutral* and *ionized hydrogen waves*, have amplified and renewed, up to unimaginable boundaries, the most surprising research in Physics, Biology and Astrophysics... as well as, on the other hand, *radioactive carbon*, which applied to chronography and/or chronology, has allowed the calculation of a time, undetectable to any kind of human measurement under chronometric and/or chronological parameters of an optical and luminic nature.

Now: thanks to this *meta-technical logos*, today it is possible to order and make space and time intelligible (as fundamental *basis* or *organizational supports* for otherness or reality) through codes or precepts totally different to the traditional ones.

This radical transformation, in its basis as in its parallel spatial-temporal orderings of otherness or reality, is directly projected not only on all the epistemological and ontological concepts and notions created by philosophical tradition (as for instance, the notions and concepts of Being and of Nothingness, of Affirmation and Denial, of Conscience and Knowledge, etc.), but also, in parallel, on the basis and foundations themselves, that act as implied assumptions in Disciplines as fundamental as Logic, Geometry and Mathematics... additionally affecting, as an inevitable consequence, the idea or concept of *Nature* (Physis), as well as the structure and purposes of the *human institutions*, which are founded over such surmounted basis and notions that have been left behind (for example, those of Language, Ethics, Politics or State Science)... encompassing, of course, even the basis and foundations of Biology, Anthropology and Antropogony themselves... which are, without any doubt, also subject to the transformation propitiated by the *meta-technic revolution*... under the scope of which, as we are seeing it today, the human being himself may be subject to be transformed and/or transmuted in his innate *physis* and, therefore, in his somatic and psycho-physic congenital limitations, with sequels and consequences that are not hard to imagine... in every sense... particularly the axiological one... as we currently hear and observe in our daily morning news.

But this radical *meta-technical trans-formation* and *trans-mutation*, of course, also affects the notions and concepts employed by Astrophysics and Astrobiology... the scope of which spreads out from the notion or concept itself of *Cosmos* or *Universe* (structured and ordered as a *whole* or *totality*, based on the traditional representation of a spatial-temporal binomial notion that is optic-luminic in nature and origin) as well as on the determinations or notions equally optic-luminic such as those of "here and now" ("*hic et nunc*") or those of "before and after" (*ante* or *prius*... *post* or *deinde*), the natures of which are, ostensibly and undeniably, of the same genealogy.

It was based on these notions and corresponding etymologies (optic-luminic and optic-spatial) that Greeks and Latins, from assumptions and traditions of Phythagorean origin, conceived and represented the *Cosmos* (κόσμος) and/or the *Universe* (*universus*), as *eidos*, species or figures.

In fact: in Greek, κόσμος means *order*... and such *order* was the one that governed the *World* as much as *Heaven*. Also, *Universus-a-um*, means (in Latin) "*what, with one single impulse, is driven, oriented, and directed toward*"... and translated precisely the Greek word, κόσμος... which referred to a *whole* or to the *totality*.

Now: there is no other notion more ostensibly optic-spatial, than that of the *whole* or the *totality*... still present and acting in our own conception of the *Cosmos* and of the *Universe* as such.

Also, on these basis and syntax –optic-spatial and optic-luminic– were and are still conceived such notions as a *beginning* or as an end and/or an *ending*... likewise (and not by mere coincidence) that of an *expansion* and/or that of a *contraction*; and also, even beyond those, the optic-spatial representations and notions of *particles* and *waves*... all of them created, without exception, based on meanings of identical origin (“optic-spatial” and “optic-temporal”)... and in consequence, strictly *anthropomorphic*, *anthropocentric* and *geocentric*.

Can we now understand the explosive or detonating effect that the *meta-technics thesis* contain in themselves? They mean –no more, no less– the radical questioning of the *optic-luminic logos* prevailing up to our own time, on which *cosmo-logy* and *cosmo-graphy* are founded.

In fact: it is not only the concept or notion of a *Cosmos* (which in Greek expressly means, as we have indicated, *order* or *ordering*) what is being questioned... but, indeed, what is at stake is the nature and efficiency of the *ordering* itself... which is rooted and originated from the *optic-luminic order* (represented by the *Cosmos*).

Or going straight to the matter: If the *Cosmos*, as such, is a concept or a construct developed and sustained only through the notion of an optic-luminic conception of *space* and *time* (anthropomorphic, anthropocentric and geocentric)... can man nowadays continue to assert the validity of the concept of *Cosmos* as an hermeneutic instrument, ordering otherness or reality in an emblematic manner? Is such otherness or reality reduced in its parameters, dimensions, ingredients, potentials and energetic modalities, to those which have been detected, described and dominated by men through the use of their anthropomorphic, anthropocentric and geocentric instruments and devices?

Or, prying even deeper: What are *Space* and *Time* themselves, and what ordering do they have... are they apprehended, and organized through a syntax, no longer through the limited windows of the *human eye* and of *visible light*... but in a *trans-optical*, *trans-luminic* and *trans-human* manner through *meta-technical* instruments and devices as those now normally used?

Would optic-luminic characteristics, as those represented by the *line* (γραμμή), the *figure* (σχήμα), the *limit* or *frontier* (ὄρος, πέρας)... of a clear Euclidian-Phythagorean genealogy, subsist in *Space*, as such?

And if such notions or characters disappear from *Space* as such... can, and should *Time* continue to be ordered and interpreted using images and metaphors of a *spatial origin*... such as those of a *flowing* or *elapsing* that is endowed with a *distance* and a *direction* (as well as with a *before* and an *after*) of a clear *optic-luminic* genesis, proceeding and meaning?

Are there “arrows” and “trajectories” in *Time*... or are these also just metaphors... as are dates, cycles and periods... in which we continue to divide *Time* into segments, according to its presumed *spatial extension*?

And would it not be valid to assume the same about *spatial notions* –likewise applied to *Time*– such as those of an *origin* or a *beginning*, and/or those of an *end* or an *ending*? Does the first one not come from the Latin word *origo*... and the latter from *orior*, *oriris*, *oriri*, *ortus*... from which also derives the substantive *ortu-us*... which designated sunrise and the first rays of light?

And its opposite –may we say, the notion of an *end* or an *ending* (from the Latin word *finis*... which translated the Greek ὄρος)– did it not designate, as such, the *edge* or *limit* of a *field* or *territory* obviously *spatial* and *optic*?

Or now, asking provokingly: is not the very hypothesis of the “*Big Bang*” inscribed, perhaps, within this same notion of an *origin*... without observing that it assumes (at least etymologically) the prior existence of *light* and the *sun*? And, isn’t it likewise with the genealogy and with the ontic-epistemic texture that the optic-luminic models have of an assumed “*open-ended universe*”, “*closed*” or “*plane*”?

As one may notice and understand, these are just a few questions... stimulating and unsettling... that in their most simple and general manner, without going into further details, or making in-depth reference to their truly philosophical and epistemological background, I have deemed convenient to disseminate at this important meeting with specialists in *Astrophysics* and *Astrobiology*... since many of the basic concepts of such Disciplines –such as *physis* and *bios*– are not, in the very least, foreign or immune to the fundamental criticism that the questioning of their *anthropomorphic*, *anthropocentric* and *geocentric* basis of *support projects* on *contemporary science*.

This *basis of support* –may we say, the very *fundamentals* on which both *Astrophysics* and *Astrobiology* are built– are, in our opinion, constructed and developed over the questionable preeminence or supremacy of an *optic-luminic logos*... already overcome, *de facto*, by the advances and achievements of *meta-technical reason* and *rationality*... thanks to the instruments built by that very same *reason* and *rationality*.

3. Conjectures and new horizons

Although today I have abused of your patience in excess –adducing the multiple philological and philosophical annotations inserted throughout my presentation– please allow me to explain the reason and need for these.

Meta-technics being addressed, as one of its main objectives, toward the discovery, critique and overcoming of the *optic-spatial* and *optic-luminic fundamentals* that support *human thinking* and *instituting...*, *language*, as such, is the *proto-institution*, fundamental and basal, to that *thinking* and *instituting...* and, accordingly, in that very *language* are gathered all the limitations of anthropomorphic, anthropocentric and geocentric interpretations of otherness or reality –of optic-luminic and optic-spatial genealogy–, that we have questioned in their *fundamentals* or *supporting basis* throughout this presentation.

Now: we are prisoners of this *language* (may we say, limited users, conditioned by the limits, syntax and belief assumptions that nurture it) –as the fundamental human proto-institution– without being aware that it is the one that surreptitiously holds and organizes our *ratio*, as well as the consolidation and construction of the *otherness* or *reality* in which we live, nurtured and interwoven by its etymologies and syntax, tacit and hidden, as ingredients of our own life and existence... and intangible ground of our world.

Astrophysics and *Astrobiology* could in this manner be prisoners of the same prison or cavern in which we all live... given our inborn somatic-psychic constitution, and the supremacy that the *seeing* or *νοεῖν* have over our *reason* and *rationality* as building and ordering agents of the *otherness* or *reality* that we inhabit.

Such captivity –ancestrally larval and tacitly dominating human race from its very genesis– is expressed through *word* and *language...* and without historical, cultural or racial limitations, is necessarily imposed by the very *factum* to which we have made reference.

Therefore, to trans-mute and overcome the enslaving *optic-luminic limits of language* (and as such *limits*, all those of concepts, notions, meaning, etc., that we use as repertoire of our knowledge)... is an urgent and decisive imperative of our times... one which we ought to feel incited and obliged to address in view of the very same challenges, perplexities and defiances that are ostensibly set forth by the discoveries and revelations, made by the instruments created by a *meta-technical reason* and/or *rationality...* designed and construed by man himself, in an agonizing and creative struggle, to conquer and overcome the anthropomorphic, anthropocentric and geocentric limitations that until now oppressed and suffocated him.

How can we apprehend and decipher data, configurations, and a new syntax –without translating them into optic-luminic images or codes– that provide us with revolutionary *meta-technical sensorium* available to man today? Is this possible? Will we be able to articulate some day the syntax and the fortuitous *metaxys* of *abyss* and *chaos...* without equating them (from within our linguistic prisons) to a *Non-Being*, a *Dis-Order*, or a simple and negative *An-Archy*?

These questions are left unanswered... but I humbly believe that the path outlined (and barely glimpsed at) opens up some perspectives that lead to urgent and necessary reflections.

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