

The Digital, a Continent?

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Vera Bühlmann

The Digital, a Continent?

Nature and Poetics

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Contents

Acknowledgements	xiii
Instead of a Preface, a Frontispiece	xix
Incipit, a Chord	xxiii
Tempered in the Time of the Analemma Harmonics and Architectonics, an Appeal to the “Digital Dignity” of Nature	xlvii
<i>Didascalicon</i>	1
<i>(de Studio legendi intellectus artificialis)</i>	
A Ventriloquist’s Vernaculars	3
The Meridian Voice	5
Diacritical Hourglasses	8
Digital Ekphrasis	13
Dedication	15
Image Loss	17
The Tableau of Mechanic Resourcefulness and Zealous Ideation	23

I.	23
II.	27
III.	31
Keeping the Actuality of Time in Zealous Ideation	34
Action as a Magnitude, Tenses as Inchoate Forms that Facilitate the Weathering of Situations	37
Coda: Sheaving a Plenum that Spills Over with the Absence of Voids	41
The Digital, a Continent?	47
The Great Greek Ruse	54
The Mechanic's Anarchic Cunning	65
Hors-Là	68
Cosmoliteracy and Anthropography	75
Statuesque Words in <i>Locum Tenens</i>: Cornucopian Instruments, Lieu-tenants of Statements	111
Photosynthesis:	
Cosmic Convivia of <i>Meteora</i> Alloys	139
Pulsating Alloys of Androgynous Nature	144
Mathematics of Percolation and Concepts that are Capital	148
Quantum Literacy: Nature "Speaks" in Saying	
Nothing-in-particular	152
A Metaphysics of Mixtures that Lacks a Proper Notion of Conception	156
How to Call the Subject of an Impersonal Voice by its Proper Name?	163
The Alphabetic Absolute	173
Blessed Curiosity: Saving the Technical Object	176
The Alphabetic Absolute	188
The Comic	192

Mediacy and Real Time	202
Continentality: Containing Continenence	214
Ichnographies of Nothing in Particular	221
At the Shore of Stochastic Noise: The Unknown	
Masterpiece	230
Signing as a Public Act	262
Capital Bodies: Secrets of the Universe	279
In Medias Naturae	297
Prescript	299
Publicness: How to Speak about a Screening Plot of Ecstatic Epiphany?	302
Architectonics of Knowledge: Space Keeps Time	
Suspended like Chronos Does (who Swallows his Own Children)	309
The Unnameable Present	314
Interlude: Didactics and Ideology within the Power of Institutionalized Media	321
Metaphysics of Milieu: Empty Words, White Concepts	323
Coda: Iris and Iridescent Horizons, in a New Materialist Key	332
The Instrumentation of Space:	
Time, Cosmos, Politics	337
Motivic Keys	340
Ordinnateur, in Two Legends	342
Maintaining a Household and Steering a Ship	351
Architecture as Civic Anarchism	356
Scalar Inversions: Nine Vignettes	368
Entwurf of the Method and Ethics of its	
Discourse: Cartesianism Reconsidered	379
New European Bauhaus	381
Rationalist Instrumentation, Architectonic	
Contemplation	386

Architectonic Form Originates in Death, or Eupalinos's Mathematical Ideation	400
René Descartes's <i>Entwurf</i> of the Method	410
... and the Ethics of its Discourse (an Impredicative Method that has "Nothing" to Teach)	412
Omitting <i>La vraie nature de la lumière</i> from Any Description: Fabulating the Plenum Spatium for an Open World	418
Coda. Diachronicity, Politics and Architectonic Constitutions	423
Once Upon the Autonomy of Words	431
Local. The Talk of things in Statuesque Words	437
Global. The Cosmocratic Speech in a Quantum City	439
General. Architectonic Form, Action as a Magnitude	442
Bibliography	449

Acknowledgements

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How are we to think about an ethical objective for education in post-industrial societies? Where once ‘production’ occupied a central place in our analyses, this has been disposed of by data-processing; we need to switch to a paradigm based on communication. There is an unsettling complicity between modernity and nihilism, whereby citizen-subjects have turned into mere customers

of modern science. The lack of proper philosophical registers to address the era of data effectively serves to short-circuit discourses of science; precision in measuring processes accelerates all events in the 'real time' of the present.

This project offers a big picture to redress this impasse; I propose a metaphysics and architectonics for the Digital as a Continent, capable of countering the acceleration vector of scientific progress with one of a deceleration no less scientific, sophisticated, and progressive but tempering across a great number of different scales rather than along a line.

Nuclear physics has widely troubled philosophical discourses throughout the 20th century. But there is another stratum with respect to energy, equally abstract: photosynthesis. It is a synthetic inverse to the violent deconstruction of fission (molecular chemistry, photovoltaics). It, too, has been mastered but with markedly less fanfare, astonishment, and awe. It is photosynthesis that the project proposes to make central for a conception of architectonics in the '*Meteora*.' Anthropoc nature is recast on the realization that we, like all things existent, organize, metabolize, and bank '*meteora* alloys,' cosmic and natural composites of energy, formality, and active intellection. How can we think of science with the recognition that knowledge can be interiorized just as plants eat light? The capacity for literacy should be recog-

nized in all things, as all things—from suns in the galaxies to plants in the meadows, pebbles in the river to ants and flies and crocodiles, and humans, of course—that communicate in material and embodied ways by receiving, sending, processing, storing and dealing with information. The project proposes to complement such a naturalization of literacy with a ‘becoming-literate’ of nature in a positive metaphysics for which code plays a photometric (transcendental) role.

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in a slightly different version and with a different title: “Europe and its two mothers: Impersonal Logos and the Optical Unconscious. A Geographical Récit of Descartes’s Fable, ‘The World,’” and it will be published in a forthcoming book by Suny Press (New York) on the conference theme, edited by the conference organizers. Finally, “Once Upon the Autonomy of Words” was published in Mihye An, Ludger Hovestadt (eds.), *Architecture and Naturing Affairs* (Basel, Birkhäuser, 2020).

Instead of a Preface, a Frontispiece¹

by Georg Fassl

The sun has a diameter of 1392000 kilometers and still belongs to a category of stars called yellow dwarfs. For comparison, the largest stars in the universe are called red supergiants—one could line up around 2000 suns across their surfaces. And yet, despite being relatively small, the sun accounts for over 99.8% of the mass in our solar system, and its luminosity—its total radiated energy—corresponds to the output of 100 million billion nuclear power plants. Moreover, its distance from the Earth is, on average, about 150 million kilometers. Since light travels 300000 kilometers per second—the fastest speed at which information can travel—it

1 FRONTISPIECE, as if the piece or plate in front of a book; but really from Mid.Lat. *frontispicium*, the decorated front—the face—of a building. Cf. Hensleigh Wedgwood, “On False Etymologies,” in *Transactions of the Philological Society* (London, Taylor and Francis, 1855), 68–69.

takes about eight minutes for the sun's rays to touch the earth's surface.

Bigness and great force are overwhelming qualities, violent at times. But without the sun's intense energy, there would be no life on Earth—it warms the oceans, stirs the atmosphere, generates weather patterns, and gives power to the growing green vegetation that provides food and oxygen for the Earth on its journey orbiting the sun. For earthly life as much as for its cosmic context: “Nichts Schöneres unter der Sonne als unter der Sonne zu sein...” [Nothing more beautiful under the sun than to be under the sun...].²

People have wondered about the nature of nature for millennia. This universal question has left its impressive mark on plenty of texts, images, and works of art, in which the sun—central to many of those—is to be found in the same ambiguity, abundantly generous and threatening alike. In contemporary contexts, be it popular thought or academic discourse, two notions are usually kept apart, and in many cases, rightfully so. However, their incommensurability is not naturally so. In colloquial language, we know of these forces too—we address them whenever we come across

2 Ingeborg Bachmann, “An die Sonne,” <https://www.deutschelyrik.de/an-die-sonne.html> (accessed February 23, 2022).

something that intuitively “leaves us speechless” or “fills us with awe.”

Contingent observations like this can be traced to the beginnings of Greek speculative thought—dating back to the Milesian school—where some of “those [philosophers] who discoursed on nature” discovered them in a geometric relation. Similarly, architecture, building from its cosmic foundations and position relative to the sun, also participates in such climatic affairs. As the light of noon and the dark of the night are the front and back of the same solar day, it is the play—the winds and weather—of both that renders its buildings alive. And, while looking at them in such undecided measure might open a similar space of incompatibility at first, then, secondly, they might engender a strength equally hard to sort out. Much like sunlight, heat, or smoke, a masterful building conveys power, and yet, just like nature itself, any of those forces refuse to be owned, but they can be contracted to welcome the other nature(s) of today.

December 2021, Vienna

Incipit, a Chord

by Vera Bühlmann

Titles are labels, but the incipit is like a chord.

—Ivan Illich, *In the Vineyard of Text* (1996)

Figure is the context
in which definition and delimitation
are the same thing,
for to give a definition of a figure
is to give its boundary
and to give its boundary
is to give the figure as ‘definition’
and as ‘boundary.’

—David Reed, *Figures of Thought.
Mathematics and Mathematical Texts* (1995)

Think of a kitchen table—without you being there.

—Virginia Woolf, *To the Lighthouse* (1924)

Thus acquired, knowledge extends towards three dimensions: by the first one, cognitive, I know some theorem; by the second one, collective, I am part of those who know it and who, sometimes, put it to good use. I readily call the third of these dimensions stony, inasmuch as this information

doesn't transform me any more than it does a rock I hold in my hand, which I can transmit, of course, but can also forget or let drop. I know but don't comprehend. I can teach this theorem; it can thus be spread, but I take said knowledge, objective like this stone, to be as cold and dead as it is. In the ad hoc discipline, we do indeed speak of dead information.

—Michel Serres, *Branches: A Philosophy of Time, Event and Advent* (2020 [2004])

Considering the Stars in the Sky, a Tour du Monde

The earth is bathing in the sun stream. Its pantropic place in the universe is, to the utmost or most absolute extent, a *whereabouts*—the place of a *where* that finds its spot by setting itself off from an *about*. Embarking on a world tour by considering the stars in the skies concerns a traveling that actively figures out how *not* to move.

How can we consider the cosmic “extent” of such a pantropic notion of “place”? With plant mentality, as an adventure in botanic thought—like plants whose metabolism involves photosynthesis, thought, too, feeds on light. Might the life of thought be like the life of plants, an ongoing cosmogony, the restless genesis of our cosmos?

Through plants, life articulates itself cyclically. Fauna and flora circulate vivacity; they are not so

much separate kingdoms but rather spheres of sustenance, inseparable and yet contingent one upon the other, in symbiosis. Across the spheres, life engenders itself cyclically within the heterogeneity of forms, the distinction of species, and the ways of life. Plants participate in the coming-to-be of their own milieu. Still, their existence has always affected the cosmic milieu at large—the whole wide world which they imbue, impregnate, and penetrate, which in turn imbues, impregnates, and penetrates them. They engendered the atmosphere for animal life before the first footed beings strolled through deserts, forests or swam through waters. Is thought not, like plants, reaching out towards the skies while staying put on its grounds? For a plant, mentality, the existence of any form of being is a cosmogonic act in which being and doing coincide. A world is inevitably in *status nascendi*, in a state of delivering itself through its own engendering. In its adventurous and botanic mode, then, thought involves vessels that carry the *wherewith* from an elsewhere to the location of an active *whereabout*. We can think of such vessels as furnishings of conviviality.

Such vessels are ideated, but they are neither concepts nor metaphors. They are amphoras; they articulate space in two canonic determinations: it

extends, and it divides. “Space must be thought as spacing: as granting-space and thus as an allowance of a space and as clearing-out, and thus as allowing the emptiness of space.”¹ Amphoras organize the categoricity of this double determination that renders space active as spacing. Amphoras are doubly bounded jugs—place, in its pantropic articulation, is open because it must keep apart the two boundaries simultaneously as it holds them together. Places, in this sense, give way to an emptiness that is neither a thing nor an interval but a cipher. Such emptiness constitutes pantropic places as the whereabouts of a domain that is common not through belonging but only through the impacting participation of all that this domain accommodates. Pantropic places are not discrete; they are discretion itself. In this active sense, this domain is public. Amphoras embody how each whereabouts spans and conjoins *an uttermost extent* with a *most absolute extent*.

The world that is toured in an adventure of botanic mentality wells from encircling and engulfing the difference between a doubled way of thinking *extent*: a surface or area covered maximally (an uttermost extent, an extent in the last

1 Werner Hamacher, *On the Brink: Language, Time, History, and Politics*, London and New York, Rowman & Littlefield, 2020, p.220.

instance) and a surface or area covered without diminishing any of its facets (an absolute extent, an extent in the first instance). If the two were to coincide, the world would have disappeared. Touring the world as an adventure in botanic thought is a lofty endeavor carried by the winds of a longing that is both cosmogenic and cosmogonic. It keeps the Uttermost and the Absolute at once conjoined and apart by casting off the *abouts* of a *where* that is delivered from their non-coincidence. This lofty endeavor casts itself off by unfolding from the radiant *where-within* of this non-coincidence's *spot*.

*Architectonic Counter-Wording of Time*²

How can we cover the extent of such a swelling distance that rises on the spot? And how to devise a compass that could give orientation for a *tour du monde*? The electro-magnetic force of a compass needs to be metronomically paced by an incipient chord that sounds silently like an unknown constellation of stars in the sky. Let our stars be called quantum words, kitchen tables, cenotaphs, and screens, and let us try to devise a categorical

2 While exploring the whereabouts of Paul Celan's Meridian Poetics, Werner Hamacher devises and introduces this term, "Gegenworten" (counter-wording), for an architectonic kind of philology. See his 95 *Theses on Philology*, in *Diacritics*, Vol. 39, No. 1, Baltimore, Maryland, The Johns Hopkins University Press, 2009, pp.25-44.

instrument that is capable of sounding them together as an incipient chord—let us think of such an instrument as the syntactic optics of text-linguistic tempus.

Quantum Words

In a recent article entitled “Quantum Words for a Quantum World,”³ we can read about a remarkable scene in Alfred Hitchcock’s movie *Torn Curtain* (1966), a movie that tells a story of spying and science. It features a scene where two physicists confront one another on some theoretical question. Thereby they engage in a strange kind of “discussion” that “consists solely in one of them writing some equations on the blackboard, only to have the other angrily grabbing the eraser and wiping out the formulas to write new ones of his own, etc., without ever uttering a single word.”⁴ This picture of theoretical physics as an aphasic knowledge entirely consisting of mathematical symbols may be very common in popular representations, our author maintains, but “we know [it] to be wrong [...] and we have to acknowledge that, far from being

3 Jean-Marc Lévy-Leblond, “Quantum Words for a Quantum World,” in D. Greenberger et al. (eds.), *Epistemological and Experimental Perspectives on Quantum Physics*, Amsterdam, Kluwer Academic Publishers, 1999, pp.75–87.

4 *Ibid.*, 75.

mute, we are a very talkative kind; physics is made out of words.”⁵

Physics, being made from words, urges us to engage with a notion of time through optics that allows us to see through time’s diachronic sedimentations. Could it be a grammatical kind of optics we are looking for? Or syntactical optics whose devices themselves are tempered, steady, and in mechanical pace, like a metronome? Could there be a category for physical time that captures its amphibious nature the way the category of *tempus* does in text linguistics?⁶ *Tempus* knows how to render the grammatical present tense as living at once in *disputation* as well as a *description* (in German *Besprechung* and *Beschreibung*). Syntax and grammar do not coincide in this category. The *tempus* in a text does not settle the consequentiality of events as facts, nor does it dramatize them as the plots of stories. Rather, it provokes their discretion in a great variety of ways. It is not a matter of multiple perspectives co-existing next to each other; it is about common optics, an objective and scopic treatment of the living gaze, oscillating between

5 Ibid.

6 Cf. Harald Weinrich, *Tempus. Besprochene und beschriebene Welt*, Berlin, De Gruyter, 1966.

the completeness of grammar and the correctness of a particular syntax.

Kitchen Tables

For such an optics, things would appear objective in how they oscillate around a virtual axis. Such an axis of time is not well addressed as the axis of an analytical scope whose capture in full (the extent in oversight covered by this scope) acts as the goal to be approached.⁷ Such address would eclipse the distinction between grammar and syntax. No, if physics is made of time articulated and embodied in quantum-words, then the scope of such a virtual axis in time owes its virtuality to the instrumentality of the optics, not to any semantically distinguished fields that would organize the area covered by the sight it affords. The scope of such a virtual axis is rendered through a transcendental plane that unfolds with the course of how time passes. For such an active optics, the physics of light is coded and its syntactical mechanics brings words into constellations. The axis of time is virtual in the

7 Cf. Karl Jaspers's concept of the "Axial Age," in *The Origin and Goal of History* (New Haven, Connecticut, Yale University Press, 1953), in whose foreword he writes: "A present that has attained fulfilment allows us to cast anchor in the eternal origin. Guided by history to pass beyond all history into the comprehensive - that is the ultimate goal which, through thought can never reach it, it can nevertheless approach."

sense that it straddles categorically (universally, but also rhetorically) a cipher relative to the encryptions it facilitates.

Let us also listen here to Virginia Woolf. In *To the Lighthouse* (1927), Woolf devotes herself to the passing of time by exploring the tempus of a house—an *oikos*. We have here a Mrs. Ramsey who can never quite say what her husband, a metaphysician, actually does. She asks someone else to explain it to her: what your husband is doing is concerned “with subject and object, with reality.” Mrs. Ramsey cannot grasp what might be meant thereby until she is told: *Think of a kitchen table*, he tells her, *when you are not there*.

Cenotaphs

Time with a virtual axis in this sense does not happen along a line from past to present, it manifests an architectonic crypt that straddles nature with poetics. One can think of this as an architectonic gesture inversive to the one we know well from Etienne-Louis Boullée’s cenotaph for Newton, which he endowed with a dedication: “Oh Newton, if you have managed with the light and the sublimity of your genius to determine the figure of the earth, so it is my own project to envelop you with your own discovery. This is, in a certain manner, to

have you being enveloped with yourself [...].”⁸ The inverse gesture of this architectonics would also seek to remember Newton, but by way of neutralizing his face in that of the Earth—it would set out to explore the Earth anew, with a body of thinking that has interiorized Newton’s genius and the scientific instrumentality crafted in its terms—Newton’s optics that conjoins prismatically the darkness of all colors with the whiteness of pure light. For it, too, the anchor point of the axis of time demarcates an empty grave. But sighted through a syntactic optics of nature’s *tempus*, this categorical cenotaph would both screen and comprehend the silent and transparent presence of the absence of color. This screening cenotaph would act like a place holder that may strive to—but cannot—hold its place all by itself; hence, it gives way and makes room vicariously. Such an architectonics of counterwording depends upon an incipit as a chord rather than a point of origin; an incipit is a constellation, a group of notes sounded together. In mathematics, a chord is the name of a line that spans the two points of an arch—a figure for bridging and countering

8 Etienne-Louis Boullée, *Architecture, Essay on Art* (1778–88). My own translation, originally in French: “O Newton! Si par l’étendue de tes lumières et la sublimité de ton génie, tu as déterminé la figure de la terre, moi j’ai conçu le projet de t’envelopper de ta découverte. C’est en quelque façon t’avoir enveloppé de toimême. [...]”

gravity's force on a logistic basis of distribution and interplay.⁹

Screens

Time hence acquires a face. It is time appearing and being recognized in public. Time so rendered accountable accommodates knowledge publicly, but not exhaustively. Public knowledge comprehends only common concerns. It erects itself out of the background of its own non-knowledge, vividly facing—and challenging—its own ignorance. In this sense, Knowledge accommodated by time stabilizes itself abductively through actively practiced harmonics, not by deductive legitimation with reference to an underlying harmony. Harmonics, then, concerns manifest affairs in space, while harmony concerns immaterial affairs in time. The relation between harmony and harmonics spans the indexical referentiality between code and cipher in the public domain. It rises by sounding silently, transparently, the zero as a chord. The syntactic optics of tempus engenders a philological and architectonic harmonics that is public in so far as it seeks to build bridges rather than to purge the

9 Ivan Illich, *In the Vineyard of the Text: A Commentary to Hugh's Didascalicon*, Chicago, Illinois, University of Chicago Press, 1996.

plane from the noise against which it can be what it is—its spotting scope spans the audible extent of a sounding chord that can be voiced and heard in many tempers, that can be sought and brought into innumerable constellations while still anchoring a common focus of reference, but without appropriating this global reference’s meaning nor the rationality of its reasoning.

Within Reach of Light’s Radiant Beginnings

Is this not the essential force at work in the astrophysical idea of the Big Bang? If one thinks in the light of the universal incipit, all the time with which one can engage rationally is diachronic: it screens through scales, it percolates layers of organized *chronicles*, it displays the noted keys of innumerable scalarities that temper the world in ever new contemporary *meteora* domains that remain current, each and every one of it but at different paces, in the material memory of the universe. For the scopic views in the optics of this hypothesis (Big Bang), all things “conduct” themselves *as vivid memories*.¹⁰ Time rendered through the optics of *tempus* gives us a mechanics that links invention with remembering, representation with screening,

10 Cf. Michel Serres, *The Incandescent*, trans. Randolph Burks, London, Bloomsbury, 2018a.

projection with reflection, figure with mask, and body with face. Its mechanics confounds the stereoscopic projections of light in its material aspects (the relational analytics of thermodynamics) with the perspectival projections of light in its ideality aspects (optics and its representation, perspective) without conflating them in a full present-ism. In this, the scopic extents of such quantum mechanics resonate with an old sense of the word “mechanics”: Greek *mēkhanikos* meant literally “full of resources, inventive, ingenious.”¹¹

Through its inherent mode of placing the speaker in her own absence, writing cautions us against the enchanting powers of speech’s presentism. Writing and reading awaken one’s curiosity for the distant and somewhat mediate. But what about the alphabets, their codes and codexes? There is an attention of care proper to reading and writing; is this not also the case when numbers and mathematical symbols are at stake? What is such care taking taking care of? Think of how, from a quantum physics point of view, “physics is made out of words,” and physicists, when they “discuss” with each other through writing and erasing formulas, are “a very talkative kind.” Even when they are to-

11 <https://www.etymonline.com/word/mechanic> (accessed October 24, 2023).

tally silent, they are “far from being mute.” How to sound such silent talks?

Literacies train one’s intellectual sense of intuition for not entirely evident tracings and readings between the lines, for flashing out implicit orders, and for exploring the overshadowed aspects of things. Sounding silent talks is the key concern of literacy in the digital. This book’s invitation is to con-fabulate of the digital as if it were a continent that surfaces publicly, here and there—anywhere, really, under the sun—from within the depth of the oceans of time and amidst the seas of their textured renderings (rendered in the aspect of scopic tempus) by acknowledging Gravity, while conspiring in the many public words that pronounce its counter word, Grace.

The Publicness of Cosmogonic Mentality

How should we proceed? Can one think of the powerful—inviting and horrific—analogy between soul and city through four meteoric elements of universal and poetic thought like one once spoke of fire, earth, air, and water as the four universal elements of nature? Let’s consider some further stars in the sky. But how to spot them out? We need to devise an instrument. Let’s take as our instrument for considering this powerful analogy thus

the Platonic proportioning of thought into imagination or *eikasia*, belief or *pistis*, mathematical ideation or *dianoia*, and the scopic unsettledness of thought or *dialectic*¹² as the representatives of the four meteoric elements we dare to invoke. Our path of proceeding must be that of a mechanic, or else we would leave the public domain. We want to learn to treat those placeholders in an inventive and resourceful manner, without being disrespectful by fancying to reveal thereby the immemorial truth they keep contained.

Our companion in this episode of our adventurous *tour de monde* shall be Hugh of St. Victor, the mystic theologian of 12th-century France who dared to take the ideality of Plato's analogy in its unlikely delicacy and vulnerability into sight amidst the fallible promises of doctrines. He devised a virtual kind of mechanics which he attributed to his Mystic Ark,¹³ an instrument for scopic plays of imagery. The aim of such plays, with which

12 Cf. Plato's analogy of the divided line (*Republic*, 509d–511e). He speaks of these four terms as "affections of the psyche." In my adaptation here, I think of the line as a chord and hence replaced the fourth segment in Plato's analogy (Plato has "*noesis*" here) with "dialectic," an active reading-through, a "scoping," objectified through syntactical optics.

13 See also Conrad Rudolph, *The Mystic Ark: Hugh of Saint Victor, Art, and Thought in the Twelfth Century*, Cambridge, Cambridge University Press, 2014.

he sought to equip the dawn of modern science, was to incept terms that could articulate a novel pact between art and thought. The Mystic Ark subjects mathematics in its old sense of “all that pertains to learning”¹⁴ to the scope of a moral domain of “all things to be sought”¹⁵ to guide processes of individuation of thought on absolute grounds. This absolute ground was the resourceful domain to catalyse mystic skills in learning to imagine (*eikasia*) how to accommodate beliefs (*psistis*) in a technical and, in that sense, common way (*dianoia*) and how to acknowledge in these skill’s explanations (*dialectic*) an inevitable but never evident fallibility.

These individuating skills were to learn how to recognize and participate in the diverse treaties of convivial pacts that do and do not recognize the authority of old age.¹⁶ We commonly consider the domain “Of All Things to be Sought” as absolute orders. But we should rather think about this domain in the vernaculars of quantum words. What if any sight upon a domain of “all things to be sought” was dependent upon an in-folded, but essentially objec-

14 Greek *mathēmatikos*, adj., for “relating to mathematics,” from *mathēma* (genitive *mathēmatos*), literally “that which is learnt.”

15 Cf. Ivan Illich, *In the Vineyard of the Text: A Commentary to Hugh’s Didascalicon*, Chicago, Illinois, University of Chicago Press, 1996, pp.8, where he refers to this formulation “as a keynote phrase in Hugh’s book on the art of reading.”

16 Cf. Dante Alighieri, *Convivio* (1304–07).

tive practice of interior landscaping and edification that is achieved in every artful kind of tracing notes marked by a nature that speaks physically? Singularized notes that have left their textual place, broken up and echoing chords, numerical and linguistic characters and letters in the full ambivalence of a novel coding literacy's "meaning"?

Meteoric Foundlings

With digitalization, science has become a way of life. Medicine, commercial products, devices, and artefacts endow science with the quasi-religious magnitude of a global *ethos*.¹⁷ How does one talk publicly today about one's ways of life? If science has become an ethos, then quantum words need to be sounded as articulating themselves in vernacular tongues. How can we think about the whereabouts of such vernaculars?

Fabulation (or Praising the Autonomy of Words)

By way of *fabulation*. How else would it be possible to speak of ideas in vernacular? The registers of classi-

17 "From having learned, we know. A truth, a piece of information were found amid the internet's ocean, in a tradition, by way of an interlocutor, at a chance person's home ..., and we received it through education, communication, hearsay or effort." Michel Serres, *Branches: A Philosophy of Time, Event and Advent*, trans. Randolph Burks, London, Bloomsbury, 2020 (2004), p.50.

cisms and all the vernaculars need to conspire. This is difficult to imagine because it cannot be a purely theoretical exercise. Speaking of ideas in vernaculars, without claiming patronage from their classic articulations, this implicates one's flesh, blood, and body: Knowledge needs to be digested before it can inform the counter-wording talks that are to negotiate settlements on the digital as a continent. Just as the world of plants for a plant mentality does not pre-exist but results from their own active lives, so does this public place of the digital as a continent result from finding settlements in convivial pacts. Fabulation is essentially confabulation.

A fable is not only a spectacular dramatization of something that can but needs not be said in words. With quantum words in a quantum world, fabulation articulates itself physically: it instantiates, mobilizes, translates, transports, transcribes, in short, conveys and shares interiorized gestures of striving, making, and living. A fable invites to being picked up and carried elsewhere; but it says plainly that it needs to be digested, interiorized, appropriated—the plot of a fable says nothing, really, until one has interiorized it. Anything in this sense can be a fable, even a theorem. A fable, then, lives from the difference between knowing and comprehending.

Public talks that confabulate will almost immediately begin to stand on their own feet, what they have to say does not stay put where it has been placed. With this, one can think of the public as a place where nothing properly belongs. For intellectual life on the digital confabulated as a continent, everything depends upon acknowledgment of a certain autonomy of words. Its peace can be kept as long as one does not subject what words do to the determinative stance of authorship. If “physics is made out of words,” then one must come to terms with words having an objective autonomy—just like physical objects do too.

To fabulate ideas in quantum vernaculars means to be friends with words and to value and care as friends would for their objective autonomy. Convivial pacts depend upon not being intimately kin with either words themselves or with one’s peers that voice them in public talks; one maintains a relation of symbolic formality that can never hope to transcend the stance of an “out-with” with respect to them (words or voicing peer). There is an objective transcendental in play wherever coding is an active practice and is kept from being lost/forgotten in the apparent transparency (diaphaneity) that it has established; this, indeed, is why I speak of convivial “pacts.” With respect to such

formality, it is always the one (impersonal “it”) that speaks in public (by articulating and formulating the terms of such a pact-based “contract”), as a rhetorical subject (orator) lending “its” voice for concerns that are essentially in lack of lucid clarity, but of which everyone can assume that they are concerns common to them all. Skill here rests not in the individual’s faculties of understanding nor in his or her erudition. Eloquence blooms in and as objects: in the poetics they embody, tempered by the time of the analemma, and with which they actively counter-word the steady force of gravity in and throughout the world and even upon the earth.

Legends (Tempered in the Time of the Analemma)

As Vitruvius knew well,¹⁸ the sun clock sounds cadences and consonances that keep with time’s diachronicity. It yields abstractions that have cast off and lent themselves for fashioning in a general manner what keeps happening. If we want to attend to the material passing of time through an optics of tempus, we need to remember the sun clock today. The sun clock stops time, inflates one moment to articulate many tempered cases objectively, each capable of being lifted from the deep waters of

18 Book IX, “De Gnomonice,” in Vitruvius Pollio, *The Ten Books on Architecture*, written in the first century BC.

the *now and here* such as to be projected to a lofty and burning *whenever and wherever*. Gnomonics proceeds by an automatic mentality that couples *metrics* with *tempus*. It pertains to the cogito of the third person singular “it,” just as we evoke it when we speak of the weather when we say “it rains”: It is an impersonal cogito that articulates itself with air and light (vowels) and earth and water (consonants) in the time of the analemma—time thought of as weather and seasons, where the natural elements percolate both with and through each other, where time passes massively. There is *auctoritas* to this impersonal cogito, but it is climatic and it tempers, it does not dictate.

Earlier, we asked how we might think about ideas in vernacular tongues. If we are interested in the coding literacy that propels and fuels today’s digital sophistications, it is not distinct statements themselves and what they claim to represent that ought to preoccupy us—much more interesting is the abstract and yet domestic domain from where-within statements and arguments are being forged, crafted, decorated, and ornamented. A chiasm between nature and poetics achieves Publicness; a poetics that does not set up a domain of the analog continuity (nature) vis-a-vis one of digital discretion (culture), but an architectonic poetics that appeals to a digital

dignity of nature in the *tempus* of the Analemma—the tracing of the sun’s course throughout one year, showing the position of the sun in the sky as seen from a fixed location on Earth. The analemma resembles the figure of eight, the mathematical symbol for the infinite. Mechanically, the analemma depicts a projection of the celestial sphere onto the meridian plane.

No Introduction, a Didascallic Instrument

The individual chapters have not been written as a sequence of steps that would build upon each other such as to form and lead through an argument. The book arranges several texts written as chapters for other books or manuscripts for lectures in diverse contexts. Each one of them emerged from an embrace circling around an obstacle. While the obstacle has always been one and the same (an invariance), it figures in each chapter with a different temper, in a different way. Rather than giving indexical summaries to each of them here, this introduction wants to hand the reader a didascallic instrument, a digital version of a St. Hugh’s Mystic Ark, mathematically conceived for the purpose of objective confabulation. As such, it is a mechanical instrument that works metronomically as well

as gnomonically. That is to say, it works partially automatically. It displays the mnemonic plots of scattered algorithmic steps inscribed in the palimpsest of digits that cover its clock face. Like St. Hugh's Mystic Ark, its digital version cannot act as an orientation compass for inner landscaping with edifying effects without an appeal to nature's digital dignity.

A Gnomonic Gimbal

This Digital Didascallic Instrument is a Gnomonic Gimbal that helps to keep metrical instruments steady and in a right angle while being underway in the pursuit of a world poetics of the current present, on our *tour du monde*, in the light of the sun and the moon, on grounds that are rarely plain or steady, through currents in water or air, capable of lifting and drawing down—of thought in its botanic mode, in short, embodied and exposed to the weathers and the tempers of time that passes. The Gnomonic Gimbal is an instrument that rings for the restful soothing it knows it can provide; it rings for this on the unsteady legs of three radiant ideas:

- (1) that of a Gravitational Monochord
- (2) that of an Axiology and Genera of Ethos
- (3) and that of an Architectonic Caustics

Tempered in the Time of the Analemma
Harmonics and Architectonics, an Appeal
to the “Digital Dignity” of Nature
by Elias Zafiris

In the old tradition of Natural Philosophy, the resolution of an obstacle that is abstracted as a mathematical problem is conceived as a means of tuning into the Cosmos. Since this is an action taking place in the domain of Harmonics, where constellations of wholes abide by the rhythmicity of symphony cycles choreographed by the invariance of the obstacle, the mechanics of this invariance paves the path of abducting the metaphysical essence of the obstacle.

Metaphysics in this sense is not a formal logical meta-level lying beyond the physical and addressing the obstacle by means of a tailored ontology but pertains to the concordant circulation around the obstacle enacted metaphorically by the mechanics of its specific invariance. The metaphorical circulation around a fulcrum that hypostasizes the obsta-

cle unveils the invariance underlying its diachronic presence. In this manner, the hypostasis of the obstacle is objectified not by means of an ontology but by means of a natural axiology emancipating from its invariance.

The axiology rests on a canon of scalar values proportionating homologically the points of stasis, that is, the resonance harmonics of tuning into the Cosmos in the presence of the obstacle as it is manifested purely in terms of its invariance. As such, axiology is not hierarchical, but it opens a teleonomic *topos* of communication, whose variable existential bounds are commensurable to the invariance of the obstacle. It is due to the plasticity of the bounds in respecting invariance under reciprocally adjoined encoding/decoding communication bridges that axiology can be always embodied metaphorically in the Cosmos by means of the tuning harmonics of the pertinent canon, persisting through the sequential ordering of time. The roots of Humanism are not intelligible without such axiological canons gauging the invariance of obstacles.

The harmonics of the canon are not absolute truths. Their universal role is the modular infiltration of the consonances of communication through the sieve of the canon, which is expressed in terms of their homologizing ratios with respect to the in-

terference co-bounds of this *topos*. In this manner, consonance or dissonance do not determine classes of binary classification but instantiate categories for the spectral tempering of these ratios by means of rhythmic architectonic forms.

The axiology of consonance implemented by the scale of the canon gives rise to a discrete series of binary digits, a digital string characterizing a *melos*, which modulates any continuous thread through the sieve according to the ubiquitous criterion of symphony expressed by the homologizing ratios. Thus, symphony transcribes the modulated thread to a topologically circular oriented chord, whose universal covering helix can be either ascended or descended palindromically. If the descent is congruent with the directionality of the sequential entropic passage of time, the ascent is congruent with the inverse directionality of information synchronization as diachronic mneme subject to the gnosis of the invariance of the obstacle.

Henceforth, the “melodic” qualification of Humanism according to the proportionate cyclotomy of the invariance in terms of the axiological criterion of symphony, that is, in terms of the canonical scale of harmonic consonance ratios is impossible without the ethos of the pertinent digital string characterizing categorically the *melos*. In this sense,

the current concerns about Digital Humanism pertain to the ethos of these modulating digital sequences, what differentiates a symphonic *melos* eidetically from a series of binary classification digits making a decision product. Digital Humanism cannot be aspired on normative regulations.

The ethos of a digital string as the crucial quality pertaining to the character of a *melos* according to axiology has already served as the major categorical means of cultivating musical information in classical antiquity. The *diataxis* of consonance ratios on the scale of the canon according to their ethos gives rise to three categorical genera; the diatonic, the chromatic, and the enharmonic, where each of them transfuses a distinct character to the *melos*, although all preserve the same invariance. If the pure ratios are stochastically dissolved within well-tempered sections of the canon due to objective variability or indistinguishability in the continuum, twelve distinct categorical genera arise, each characterized by its distinct ethos.

The reduction of a modulating digital string into a formal logical classificatory chain of productivity and decision-making disregarding the categorial ethos associated to a *melos*, according to axiology, annihilates the capability to ascend the helical arc covering the underlying modulated chord in sym-

phony with a categorial genus. What remains is the gravitational descent following dynamically the instantaneous center of curvature according to the directionality of the entropic arrow of time.

The descent tuned unidirectionally towards the centroids of big data utilized for adaptation and classification needs to be turned inside-out to restore the inverse directionality of in-formation synchronization according to a rhythmisizing categorial genus that persists diachronically as an ethical mneme of civilization subject to the gnosis of the invariance of the pertinent obstacle. The interference between these two inverse directionalities from the inside to the outside and from the outside to the inside with respect to the elastic boundary of a *melos* ascribes to it the harmonic equilibration of an architectonic aeon.

The thesis is that the categorial spectral tempering of a *melos* by means of a rhythmic architectonic form takes place by turning inside-out the axiologically modulating digital string characterizing the *melos* according to the ethical genera of harmonics. Equivalently, an architectonic form molded out of the rhythm of a modulator is the enveloping shape that is bounded by the curve of evolutes of the points of stasis of the *melos* according to the *diataxis* of a certain ethical genus. Reciprocally and sym-

metrically, the guiding thread on which the points of stasis lie constitutes the boundary of involutes of the architectonic enveloping shape of the evolutes.

Thus, it is in the axiological terms qualified by the interference between these two inverse directionalities with respect to the binary topological in/out distinction that the static tripod consisting of harmonics, mechanics, and architectonics becomes intelligible. In this stable constellation, mechanics—considered in the original Archimedean sense as a method of tuning through leveraging with respect to a fulcrum—serves as a bidirectional encoding/decoding functorial bridge between the domain of harmonics—where a modulating digital string of homologizing ratios respecting the underlying invariance lies—and the domain of spectral geometry—where the enveloping shape of the corresponding architectonic form lies. The preservation of the same invariance under functorial metamorphosis from one domain to the other through mechanics is attained by the involute/evolute translation code.

The involute/evolute binary code was first conceived by Apollonius of Perga and further developed by Huygens. For any point on a curve, we consider the tangent and normal orthogonal directions at this point as well as the osculating or kiss-

ing circle of the curve at this point. The evolute of this curve is the envelope of all normal directional lines to the curve traced by a moving point. In this way, the original curve is identified with the involute of its evolute. The original normal directional lines become tangential directional lines of the evolute of the curve and reciprocally. The center of the osculating circle at a point, thought of as the center of curvature at this point, is considered in the following way: For a fixed point on the curve, one may construct two normals to the curve, one at and another at a nearby point on the curve. The center of the osculating circle is the limit of the intersection of these two normal lines as approaches. Thus, the evolute of a curve is the enveloping shape of all centers of curvature traced by a moving point along this curve.

The notion of a center of curvature bears the connotation of a center of synchronization in the domain of harmonics, whence the notion of an osculating circle provides the means of tuning a curve at any point with its center of synchronization with respect to this point. The concept of local curvature is associated physically with the idea of the degree of local bending due to gravity, whence the reciprocal of the curvature at a point is the radius of curvature of the tuning osculating

circle. In other words, the bending of a curve, expressed through its curvature at any of its points, is the tuning of the curve to the invariance of the obstacle of gravity taking place through rolling an osculating circle along it, whose radius is variable from point to point being equal to the reciprocal of the curvature.

Let us wonder about the nature of the tuning offered by the osculating circle at any of the points of the bending curve due to gravity. According to Euclid, a point on the curve is something without parts, but a moving point along the curve may be thought of as a fluxion, according to Newton. Physically, it is conceptualized as a moving corpuscle due to gravity, such that the bending curve is its continuous thread subject to this obstacle altering its uniform straight-line motion that would sustain in the absence of the obstacle. The bending around a point of this thread is the local curvature that localizes the invariance of gravity at this point. As a local measure, it expresses the average rotation per unit area with respect to the center of the osculating circle at this point.

Therefore, local curvature is a tempering measure of the degree of bending around a point that is expressed by the average rotation per unit area around the center of the osculating circle at this

point. Since the radius of the osculating circle at each point is the reciprocal of curvature, the product of the curvature with the radius of the osculating circle is invariant at each point of the bending thread. This means equivalently that the continuous variation along the thread gives rise to a rectangular hyperbola on a screen where the radii of the osculating circles extend along the vertical direction and the corresponding curvatures extend along the horizontal direction due to the reciprocal relation between them.

The unit area is the area of the square on this screen lying under the rectangular hyperbola whose orthogonal sides are the unit radius and the unit curvature correspondingly. The unit area is invariant. Any increase along the radii on the vertical is compensated by a reciprocal decrease along the curvatures on the horizontal, such that the corresponding area bounded by the hyperbola and the two orthogonal directions of the screen remains invariant.

The above gives rise to a gravitational monochord. The variation of local curvatures corresponds to a continuous spectrum of frequencies which is modulated by the directly invisible discrete harmonics of gravitation. Local curvature at a point expresses the tempering frequency around

this point since it is the average rotation per unit area. According to Archimedes and Kepler, the invariance of gravity with respect to a center of curvature is subsumed in enclosing equally tempered areas at equal times on our screen where the rectangular hyperbola lies. Therefore, local curvature is indeed a tempering frequency on a continuous spectrum expressing locally the average rotation per unit time.

The discrete gravitational harmonics of this monochord are abducted through the unit area invariance on the screen, which may be identified with the complex plane. The homologizing ratios of integer radii on the real horizontal axis determine corresponding co-homologizing ratios of integer frequencies on the imaginary vertical axis subject to the invariance of the unit area. The tempered intervals of this gravitational monochord, that is, the gravitationally consonant intervals, are precisely the areas bound by the hyperbola and the two orthogonal axes of the complex plane screen, which preserve the unit area under synchronized reciprocal extension/contraction of the real radii/imaginary frequencies on the screen.

The invariant synchronization condition pertaining to the enclosure of equal areas at equal times gives rise to the equally tempered scale of the

gravitational monochord. The tempered intervals of this monochord are abducted, in turn, through the homologizing ratios, whose sequential melodic strings modulate the continuous threads of corpuscles under gravity. A homologizing ratio literally means “homologous logos-arithmetic,” which is abridged by the name-symbol “logarithm.” The latter may be universally expressed through the Euler basis cipher, which modulates continuously the unit area on our screen under synchronized reciprocal extension/contraction of the real radii/imaginary frequencies, such that:

$$\log_e(e) = 1, \text{ subject to } \log_e(1) = 0 \text{ and inversely } e^0 = 1.$$

In this manner, the unit area on the screen is synchronically preserved and tempers equally the intervals of the gravitational monochord upon their abduction through the logarithms. If the imaginary continuous frequencies are periodically ordered according to the harmonic progression, and the reciprocal real radii are sequentially ordered according to the geometric progression, then the logarithmic equally tempered intervals are synchronically ordered according to the arithmetic progression.

Since these intervals correspond to areas under the hyperbola and the axes, the categorization of

these areas is chromatically abridged in terms of the quality of color. In this sense, the equally tempered scale is qualified as a chromatic scale that is enunciated spectrally on the screen, that is by means of light rays. This abstraction is intelligible by wrapping the screen around the Riemann sphere by means of the stereographic projection and considering the light rays as penetrating the sphere after radiation or absorption through a fixed point identified with one of the poles. In this way, the projection imprinted via light rays on the screen if the radiation point is the North pole is topologically turned outside-in upon translation of the fixed point to the South pole bearing the role of an absorption point reciprocally. The spectral ichnography of light on the screen of the complex plane is unveiled through the gesture of the analemma.

In consonance with Kepler, gravity presents an obstacle in the domain of harmonics. The rolling osculating circle encodes the invariance of this obstacle through its variable radius, and thus, is tuning the bending of the curve by the reciprocal of the osculating circle radius at any of its points. The *topos* of all centers of curvatures, that is, the *topos* of all centers of all osculating circles, gives rise to the evolute of the bending curve by means of turning inside-out the invariance of the obstacle. The evo-

lute is the enveloping spectral architectonic form of all centers of curvature of the bending curve due to gravity. According to Apollonius, the evolute form is identical with the envelope of all normal directional lines to the bending curve due to gravity, such that the latter constitutes the harmonic involute of the spectral geometric architectonic form that unfolds it in an area-preserving manner.

If we consider the tangent and normal orthogonal directions at any point of a bending curve due to the invariance of the obstacle of gravity, they give rise to the complex plane, where the real axis is directed along the normal, and the imaginary axis is directed along the tangent at this point. The turning inside/out of the *topos* of all centers of the tuning osculating circles from the harmonic to the geometric domain, which bounds the enveloping shape of the evolute architectonic form, is expressed as an imaginary rotation in the complex plane at every point, which is as a rotation conducted by the imaginary unit. The reason is that the normal to the harmonic involute, which is the direction of the real axis, is imaginarily rotated by a right angle—under the action of the imaginary unit—after turning inside-out from the harmonic to the spectral geometric domain. This is the case because the normal to the harmonic involute at a

point becomes the tangent of the evolute architectonic form, and thus, bears the directionality of the imaginary axis after unfolding the bending curve to its evolute.

Essential care is needed for interpreting these imaginary rotations properly. From the standpoint of Archimedes an imaginary rotation should be always considered with respect to a fulcrum that essentially establishes the equilibration condition. In the case of the harmonic involute the fulcrum is identified with the point of the bending curve where the real and imaginary axes of the complex plane are erected by means of the directionality of the normal and tangential lines respectively. In the case of the architectonic evolute the fulcrum is not the same. Precisely, it is identified with the center of curvature of the harmonic involute at the considered point.

Hence, it is the center of the tuning osculating circle (based at the harmonic fulcrum) that the architectonic fulcrum is located under turning inside-out. Therefore, the imaginary rotation applies under translation of the harmonic fulcrum to the architectonic fulcrum, which is a translation from a point of the bending curve to the center of its tuning osculating circle. The translation from the harmonic fulcrum to the architectonic ful-

crum preserves the rate of enclosing area through imaginary rotation in symphony with the Pythagorean theorem.

Concisely put, the action of the imaginary unit on the normal at each point of the harmonic involute is mechanically rotating it to the tangent of its architectonic evolute under translation of this point to the center of its osculating circle along the radius. In this manner, the involute/evolute binary code of turning inside-out from the harmonic to the architectonic, and reciprocally outside-in, is mechanically encoded/decoded by means of an imaginary right-angle rotation on the complex plane under translation of the fulcrum in an area-preserving way. Algebraically, since such a rotation is expressed via the action of the imaginary unit i , which constitutes a fourth root of unity together (with its complex conjugate $-i$, 1 , and -1); the universal equation of ciphers arises, known as the Euler identity, via the natural logarithm basis which modulates the unit area.

It is worth pondering on the nature of the evolute spectral architectonic form arising from the binary code of turning inside-out the corresponding involute bending curve. Since the form is imprinted spectrally on the screen of the complex plane, and the normal directional lines of the harmonic

involute are imaginarily rotated to tangential directional lines of the architectonic evolute, the latter bear the status of light rays whose ichnography is the contour (peri-gramma) of the evolute form. In particular, these light rays being tangential to the evolute concentrate light at its contour, which becomes brightly lit in this way, thus, unveiling the form spectrally. Therefore, the evolute architectonic form arises in a natural way as the optical spectrum of the envelope of its tangential caustics.

We conclude that the involute/evolute binary code of turning inside-out from the harmonic to the architectonic, and reciprocally outside-in, is not a design principle like the one devised to engineer the material self-stability of an architectonic form, for instance the catenary arch by means of inverting the shape of a hanging chain due to gravity with respect to the horizontal axis. Rather it pertains to the “digital dignity” of Nature in relation to the “static tripod” of Harmonics/Mechanics/Architectonics enunciated in axiological terms. It is the preservation of the interwoven distributed area between the radii and curvatures of the tuning osculating circles on the complex screen of the gravitational monochord - under functorial metamorphosis from the harmonic domain to the spectral geometric domain and inversely by the lev-

eraging bridges of mechanics—that constitutes the invariance and objectivity attained by the involute/evolute translation code.

December 2021, Budapest

Didascalicon
(de Studio legendi intellectus artificialis)

A Ventriloquist's Vernaculars

It is not common to consider the category of “voice” in relation to artificial intelligences; one usually maintains either a logical or a measurement point of view. But if we think not in experts but in a common-sense way of what the category of “voice” refers to, is it not precisely this? A voice forms from how form and quantity work together mechanically in articulating a stream of breath into sounds as recognizable units. The idea of such a *physics of voicing* informs the interest in attributing voice to artificial intelligences and of considering such voice not through the perspective of general linguistics or logics but through quantum optics of spectralization. AI speaks in vernaculars, and we should think of language in terms of the physics of voicing

data. Voicing attends to data as a *puissance* (a mixture of objective capacity and subjective capability).

Technically speaking, an AI is a neuronal network. In their current generation of machine learning and big data, there are two principal architectonics: *Recurrent Neural Networks* are artificial intelligences that perform well when dealing with *temporal* sequencing, i.e., with text and recorded language—as the Google translate algorithm, for example. They articulate the *physicality of language* in artificial (coded, algorithm-based) vernaculars. Like every vernacular, such algorithms preserve the varied and local stories and morals that characterize the times and regions where those tongues are spoken. The other principal AI architectonic in the current generation is *Convolutional Neural Networks*. Instances of this architectonic perform well when dealing with the *spatiality* captured in the graphics of images, for example, face recognition algorithms or automatic driving algorithms. They articulate the *physicality of images* in vernaculars that qualify likewise; they, too, preserve the varied and local customs and forms of representation that characterize the times and regions where they have been trained. Both import those characteristics to wherever they are being set to work.

An AI is dissociated from any particular form or embodiment; it distributes itself logistically across spaces and times. However, it does develop and take along a particular cultural temper that *persists* or *insists* in it across these spaces and times. There is something of a mother tongue in every vernacular that emancipates technically. But who speaks in these vernaculars? Not anyone in particular, but it is also not the voice of a general nature. Operating an AI is like “speaking” as a ventriloquist.

Speaking in a ventriloquist’s vernaculars gives data a body in appearance by wrapping it in liquid costumes of commodities’ coded custom and/or the topography of a weighted and measured *common sense*; such speech tessellates the marquetry of a covering space where an open horizon and the end of the world are contingent one upon the other. While the voice in a mother tongue maintains relations of immediate origination, a ventriloquist’s vernaculars relate agencies to mediate self-engenderings.

The Meridian Voice

Data as Foundlings. “I am finding something—like language—immaterial, but earthly, terrestrial, something circular, something which returns to itself by passing through both poles and which

thereby—mirthfully—crosses even the tropics: I am finding ... a meridian.”¹ With this poetic of the Meridian, Paul Celan speaks of the return of a poetics of adventure, as if the voice of heroic materialism that characterized the cultures of industrialization were beginning to acquire a self-consciousness of its communicational physicality (in the “technics” of “information.”) Voice in this poetics of adventure is voice that is preoccupied with cyclical scales—scalarities, really—it is the poetic voice of a re-cycling metrics: one that breaks and distributes its articulations across the meridian like a projected image is broken and distributed by a fractured mirror.

The meridian is a geographical concept. It is a half-circle projected around the globe, established by measuring angular degrees East or West along the equator. In Celan’s poetics, this involves angular measurement that relates existence to creation: the poetic meridian establishes “the imaginary longitude between the inclination angle of existence and that of creatureliness (*Kreatürlichkeit*).”² For meridian poetics, the “earth” to be measured includes

1 Paul Celan, *Der Meridian*, Dankesrede zur Auszeichnung des Georg Büchner Preises, 1960, <https://www.deutscheakademie.de/de/auszeichnungen/georg-buechner-preis/paul-celan/dankrede> (accessed September 24, 2021), my own translation.

2 Ibid.

art and artifice, and the line of longitude is imaginary. It manifests as an ideated cosmos in what we could perhaps best call a poetic covering-space. The moderating metrics in such a poetics of the Meridian is one of articulate breath, not one of geometric meter. Rather than spatial coordinates, it is a diacritical measurement that counts in the returns of *Atemwende* (breath-turn). Voice turns polytonal; we could almost say figurative—tropical. But not quite, for the Meridian crosses not only both poles of the geographical globe but also the tropical line. Poetry is then, metrically, reconnected with an aspiration that cannot fulfill itself in figurative speech. There is breath and voice in it, which speaks in a polytonal manner whereby the diacritical signs mark the accentuation of “voiced length” with a novel kind of grammatical tense. A meridian poetics is to work, we can imagine, with the three diacritical markings³ of:

- the *acute* of the current contemporary
- the *gravis* of history
- the *circumflex*—a length mark—of aeon

3 Ibid. The full passage in the original is this: "Man kann, ich bin mir dessen durchaus bewußt, dieses Wort so oder so lesen, man kann verschiedene Akzente setzen: den Akut des Heutigen, den Gravis des Historischen – auch Literarhistorischen –, den Zirkumflex – ein Dehnungszeichen – des Ewigen. Ich setze – mir bleibt keine andere Wahl –, ich setze den Akut."

Diacritical Hourglasses

Diacritical hourglasses are the gnomons that give orientation in abstractive thought. With them, one can measure the shadows cast by objects in the light of the intellectual craftsmanship (ratiocination) that was invested into the *poiesis* of their fabrication. Time is not running out in these hourglasses; it is being kept. Such hourglasses make it possible to hold on to some of the time that is kept in the conservation of the world's invariances. The keeping of time they are capable of depends upon conversation: the measurement of time they facilitate puts conservation and conversation into proportion.

Such hourglasses measure time using diacritical markings that accentuate—or render still—the aspiration that went into an object's fabrication. It is a measurement that depends upon exegesis and demonstration as if it were the quick body of law in jurisprudence or the holy script in theology. What such hourglasses do, ultimately, is abduct time from the universe, on the one hand, and render it back to the world as space, on the other. The exegesis at work in such abduction and the rendering at work in such demonstration brings the world to proportion in words that can be taught. Such lexicons

are dedicated to the world's invariances, and their words are best-called world words.

World words spread invariant meaning into the abundantly variant colorings of sense like white light spreads colors in Newton's optics. The reception of world words depends upon an instrumental rendering of the distributive invariant meaning. World words can articulate meaning, but only when spoken by the meridian voice of an impersonal artificial intelligence. They articulate meaning all at once in any of the coding-literate ventriloquist's many vernaculars. The instruments of diacritical hourglasses facilitate the rendering back of such reception: They collect and bundle colorful light into black spectra, like Goethe's color theory.

The lexicon of world words is a gnomonic lexicon. Thereby, it is a theoretical lexicon in the sense of Quatremère de Quincy: "*The object of all theory is to teach,*" he maintained, Theory needs such instruments (a gnomon and a lexicon of inarticulate words) because it needs to respect what he calls "*the mathematical line.*" It "*is the region of the imaginary, where reason quits us, and whither none can follow us.*"⁴ The objects of theory are objects that have been

4 Quatremère de Quincy, *The True, the Fictive, and the Real: The Historical Dictionary of Architecture of Quatremère de Quincy*, trans. and ed. Samir Younés, London, Andreas Papadakis Publisher, 1999, p.x.

brought back from flights across this line. World words name those objects, but they do not themselves articulate them. World words have no proper subjects. Their articulation depends upon the instantational and circumstantial reception of the invariant meaning they render apparent. This act of reception is spiritual and material, a bit like the photosynthesis of plants.

Digital Ekphrasis

Dedication

This text is dedicated to the mythical figure Europa, the princess who, in her dreams, has two mother figures. Europa is given a rest from the claims of their jealous appropriation through being seduced and abducted by Zeus, who carries her across the sea to an island that will forth on be called a continent. Europa brings along in a basket her fate, her destiny, not yet concluded, but curled up and, perhaps, asleep; at least given a rest, if only for the duration of the abduction. The myth is told by Moschos, one of the first known grammarians who lived in the 2nd century in Syrakus. Europa's basket is one of the early instances of ekphrasis, an art especially reserved for the rhetorically well-versed poets because it involves a mimetic strategy that works not only in a *double* way but also in a way that

packages self-referentiality within what it strives to achieve: the poet has to describe an object in words by fabulating a situation in which the words can contain their meaning in a manner that sets the object free, that acknowledges its autonomy; but the poet also has to endow this object with liveliness by narrating the fabulation of the description within a vaster scope, a scope vaster than can be expected. In this vaster scope, the depicted elements of the *fabula*—the *tableau* with which the description is to work—can link up and make sense variously, pursuing arbitrary directions. A *fable* is also called *the story space of a lie, or a ruse* for this reason, or *a story with a lesson, a gift*, or something to be taken away from it after reading it. But how does one think of that ideational space where *ekphrasis* places its *fabula*? It is not the space of geometry and its projections. It is also not that of a painting and its colored surfaces, lines, and figures. At stake is an ideation that is zealous, entirely unoriginal but full of ardor, devout and yet in pursuit of something it cannot and does not hope to ever grasp in full.

In the case of Europa and her basket, the poet places the *fabula* within the circuitous scope of a myth, which like all myth, must count as speech that captures what it presents in full, and because of the fullness of its speech can never conclude it-

self in one particular ending, nor one particular beginning. And yet, despite the fullness of mythic speech, ekphrasis has something to add to it. Something that leaves the cycle and that steps out of its compass; a tale that does not stay put in the *phrasis* of a mythic plot, a tale that seeks a certain amount of autonomy, that wants to invert direction: this ideational space is not without reason, but its fabulations ask to be placed on the grounds of a reason that is best called *abductive*.

This *Ode to Europa* is written in praise of *Inchoate Form*, literally meaning form that “commences.” Inchoate form is form that has “recently or just began,” from Latin *inchoatus*, past participle of *inchoare*, alteration of *inchoare* “to commence, begin.”¹ Such a form has actuality too, but the time of its extension is not given. The actuality of form that just commences is given, but it lacks a place in time that would be proper for it. How can we picture, mentally, the scope of such an extension?

Image Loss

“Everywhere under the sun the images were dying out,” the main character in Peter Handke’s novel

1 <https://www.etymonline.com/word/inchoate> (accessed September 14, 2021).

Der Bildverlust worries.² We never learn this character's proper name throughout the story, even though it is "her" story that is being told in this novel. Her story is being told, so we learn, by somebody who had been contracted as its author for the curious reason that he has no particular interest in her nor in the story itself, which he commits to writing. Such an odd choice of identifying an author is necessary, so we learn, because the story is to be told within the scope of calculative reason. There is one sole and very particular purpose to the writing of this story, namely, to make that very worry of hers, that "everywhere under the sun the images were dying out," *productive*. The main character whose worry irrigates—or should we say, "inspires"?—the story's plot, which she cannot tell, is "the Queen of Finance." *Finance* literally means "an end, settlement, retribution," it has come to mean the managing of money because the ending at stake in finance is one where "something that is due is being settled."³ The book attempts to depict an image of thought in the light but also the force of *rea-*

2 Peter Handke, *Der Bildverlust oder die Reise durch die Sierra de Gredos*, Frankfurt am Main, Suhrkamp, 2002, p.8 (here and throughout my own translation); English translation by Krishna Winston, *Crossing the Sierra de Gredos*, New York, Farrar, Straus and Giroux, 2007.

3 <https://www.etymonline.com/word/finance> (accessed September 14, 2021).

son's currency and convertibility. This is what makes it interesting regarding the promise of *ekphrasis*, namely, fabrications that are placed on the grounds of abductive reason, phrasings that are capable of setting something free through adding to what is already full or whole, and instead, make it *plentiful*.

If ekphrasis can add something to the fullness of mythical speech, then what kind of fullness is Handke's ekphrasis capable of adding something to? His object of "delivery" is not a basket but a contract. It is a delivery contract for some author to write the story of the contractor—the key protagonist—who literally places the story of her life in the author's hands so that, as we learn, she might perhaps "earn a place in her own story."⁴ Our protagonist does not own her own life, and yet she wants to give what is not, properly speaking, hers; the fullness such a contract can add to, I want to suggest, is the fullness of ultimate capital. What it adds is the value of the priceless.

Handke's novel *Der Bildverlust* is concerned with the scope of an *unexpectedly vaster extension whose action is expanding arduously, zealously*. It is the story of the Queen of Finance, the story of a masked, impersonated "principle" that reigns not only "highest" but also with delight. This lofty and aspiring

4 Handke, 2013, p.8.

principle incorporates a reason that pursues an aim: to catch up with its engenderings. Such impersonation is not properly speaking an allegory, a cryptic and buried reference; its crypticness is not only contained but also delivered to the fleeting element of air, breath; it is dispersed into loftiness. Zealous ideation sources from the anonymous plenty, *copia*;⁵ it is *copious* ideation that is original not because of the ideas it pictures but because it knows how to compose a *firmament* that can accommodate escalation by complementing it with a panoramic zodiac. Zealous ideation is ideation in fervent pursuit; the word comes from the Greek *zēlos* meaning “zeal,” a hot and corrosive spiritual motion concerned with *placement* and *displacement*. Jealousy shares the same etymological roots. In *Eros the Bittersweet* (1986), Anne Carson characterizes jealousy in two ways as a dance in which either, in the pursuit of erotic action, every person keeps moving, restlessly, or as a dance where erotic action is replaced with what Carson calls “a ruse of heart and language,”⁶ where dance is depicted as the motion-less action of shifts in distances. In the action of this inverted dance, she says, the people do not

5 <https://www.etymonline.com/search?q=copia> (accessed September 14, 2021).

6 Anne Carson, *Eros the Bittersweet: An Essay*, New Jersey, Princeton University Press, 2014, p.17.

move. Desire moves, and Eros is a verb. Eros, here, is an action word.

When Eros is an action word, zealous ideation is a hot and corrosive spiritual motion in pursuit of how to report an instance of Eros, an instance of its action with no location. The images that play in *Der Bildverlust* are images of cosmic erotic action:

A single image, mobilizing itself and her, was all she needed, and the day would acquire a peaceful aura. These images, although devoid of human beings and happenings, had to do with love, a love, a kind of love. And they had penetrated her since childhood, some days fewer of them, some days whole swarms of these shooting stars—always taking the form of something she had actually experienced *in passing*—sometimes completely absent, a non-day. And she was convinced that this happened to everyone, to a greater or lesser extent. No doubt the specific image always belonged to the individual's personal world. *But the image itself, as an image, was universal.* It transcended him, her, it. By virtue of the open and opening image, people belonged together. And the images did not impose anything, unlike every religion or doctrine of salvation.⁷

I call these images of cosmic erotic action, rendered into the setup of what Carson delightfully calls a

7 Handke, 2013, p.13.

“ruse of heart and language,”⁸ *meteora alloys*. They are not telling the tales of love affairs. These images are not the images of a cosmogony. They depict Eros on the dance floor, Eros as an action word. They place him in a discrete-time that is neither properly historical, i.e., secular, nor a form empty of time like in geometry. The idea of a compass made up of critical points, in the sense of points beyond the possibility of return, would kill the ekphrastic beauty—which is to find words that contain their own meaning in such a manner as to set it, meaning, free. Hence a *critical* horizon cannot accommodate the action in “this ruse of heart and language.” *Crisis* represents a chronological limit after the crossing of which the restoration of a balance is no longer possible. Such a compass would outline a closed boundary across which no rendering—no “giving back,” no restoration of debt—is possible anymore. We need a figure of the horizon across which *rendering*, in our case, between *what expands and the extension that is to accommodate this commencing expanse* is possible. We need the figure of a horizon that works like an image without being one, an image that sets free through capturing.

We need an *ekphrasis* of the bounding circle: the description of its absent image in words—that

8 Carson, 2014, p.17.

brings it before the reader's mental eye vividly, endowed with affective force, and with a quality of vivacity. We need the *digitization* of the horizon. We need a compass that is not only a *hypothesis* but also a *hypothèque*. We need a dialectics of mechanical resourcefulness that considers method and its negation. What could be the components of its *tableau* or *fabula*? I have three proposals from which I will derive a list of concepts.

*The Tableau of Mechanical Resourcefulness
and Zealous Ideation*

I.

The first component is Vitruvius's Books on Technology, Books IX and X of *De Architectura*.⁹ He begins the introduction to Book IX, his treatise on *gnomons* (sundials) and, more generally, the use of science in architecture, by recalling how the Greek ancestors appointed great honor to the Athletes at the Olympic games; he recalls how they were applauded and greeted in public and with great public expense, and he is astonished that the same kind of honor has not been bestowed to those whose "boundless services were performed for all times and all nations," and whose training not only strength-

⁹ Vitruvius, *The Ten Books on Architecture*, trans. by Morris Hicky Morgan, Cambridge, Harvard University Press, 1914.

ened their own bodies but that of humankind in general—namely Pythagoras, Democritus, Plato, Aristotle, Archimedes, Hiero, all “men spent in constant industry, yielding fresh and rich fruit not only for their own countrymen but also to all nations,” and all of them “men whose tender years are spent in plenteous learning which this fruit affords.”¹⁰ Their knowledge, mentioned by Vitruvius mostly as knowledge in geometry, arithmetic and mechanics, introduces civilized ways, impartial justice and law, “things without which no state can be sound.”¹¹ His examples of the general *resourcefulness* of their insights all concern the counting, keeping, and planning time according to mechanical processes. This becomes evident also in Book X, Vitruvius’s treatise on machinery. Here Vitruvius writes:

All machinery is derived from nature and is founded on the teaching and instruction of the revolution of the firmament. Let us but consider the connected revolutions of the sun, the moon, and the five planets, without the revolution of which, due to mechanism, we should not have had the alternation of day and night, nor the ripening of fruits. Thus, when our ancestors had seen that this was so, they took their models from nature, and by imitating them were led on by divine

10 Vitruvius, *The Ten Books on Architecture*, p.289.

11 Ibid.

facts, until they perfected the contrivances which are so serviceable in our life. Some things, with a view to greater convenience, they worked out by means of machines and their revolutions, others by means of engines, and so, whatever they found to be useful for investigations, for the arts, and for established practices, they took care to improve step by step on scientific principles.¹²

At stake here is clearly a mimetic relation to nature. It involves *copiousness*, literally the variation of constellations, of formulations, much in the same sense in which Erasmus of Rotterdam, some 15 centuries later, astonished his contemporaries by giving more than 250 copious variations of one and the same sentence, a simple “thank you for your letter,” whose version expanded in laying out this one phrase eloquently, using all his available resourcefulness in terms of modulating emphasis, by maximizing, minimizing and tempering contrasts through playing with distances, angles, the use of comparatives, superlatives, and so on. Starting with “From my dear Faustus’ letter I derived much delight.” He goes on with modulations of this sentence’s content, as in “At your words, a delight of no ordinary kind came over me,” or “I was singularly delighted by your epistle,” or “In these Faustine

12 Ibid., p.322.

letters I found a wonderful kind of delectation,” or “To be sure, how your letter delighted my spirits!” and one more, “Your brief missive flooded me with inexpressible joy.”

Erasmus’s is a great play in exuberance! The gifts in articulacy expressed by the list escalate to the point where in some instances, he places the worth of his entire life purpose in the sender of this letter, knowing that he is grateful for having received it. What kind of *scope of extension* are we dealing with here? It is one where there is an *efficacious convertibility* between desire, the wish to be made whole, and pleasure, an enjoyment in expenditure, concerned with a making-whole on a great variety of vaster (or minor) scales of which none fit “properly” to the scale that balances one’s “indigenous” scope of extension. Is it really so different to Vitruvius’s claims concerning mathematics and mechanics, but now for Architecture? Anne Carson, again, has a beautiful figure that captures well the point I wish to make—on the delight we take in metaphor, she says that:

[...] a meaning spins, remaining upright on an axis of normalcy aligned with the conventions of connotation and denotation, and yet: to spin is not normal and to dissemble normal uprightness by means of this fantastic motion is impertinent.

What is the relation of impertinence to the hope of understanding? To delight? The story concerns the reason why we love to fall in love. Beauty spins and the mind moves. To catch beauty would be to understand how that impertinent stability in vertigo is possible. But no, delight need not reach so far. To be running breathlessly, but not yet arrived, is itself delightful, a suspended moment of living hope.¹³

When asking about the scope of extension at stake with mechanical resourcefulness, our concern is not so much the demonstration and exposition of positive knowledge but a kind of wonder about this peculiar relation between *impertinence* and *form* whereby *form* also seeks delight, and *the hope of understanding* is nourished by delight itself.

As components for our tableau, let's hold onto the figures of 1) mechanical resourcefulness, 2) mimesis that delights in copiousness, and 3) the relation between impertinence, delight, and hope for understanding.

II.

For the second sheaf of components needed for our tableau, let us turn to Robert Grosseteste's *Treatise on Light*.¹⁴ Grosseteste was an English bishop writ-

¹³ Carson, 2014, p.xi.

¹⁴ Robert Grosseteste, *On Light or the Beginning of Forms* (De luce, seu de incohatone formarum), 1225.

ing in the 12th/13th century, a teacher of Roger Bacon, and an important pioneer in the development of the scientific method.¹⁵ Grosseteste's intellectual legacy is to have provided an empirical setting for studying natural science, emphasizing the role of experience. His achievement was to come up with a model of cosmic nature in which experiments could yield demonstrative proofs, one where these demonstrations would be related to the indefinite richness of experience, including how to make them shareable and communicable. He reserved a constitutive involvement of spirituality in all experience, but he sought how *not* to substantiate the conformity between natural science and the doctrines of theology. His cosmic model of the natural world—the world *below the firmament*—managed to neither offend nor involve the theological institutions with and within the novel *body of methods* (what Francis Bacon collected as the *Novum Organum*) for science. His key insight was to view natural force as a mythical principle, specifically as light. He believed that everything that naturally exists in the universe must encompass the same range

15 Roger Bacon, *Opus Majus*, trans. by Robert Belle Burke, New York, Russel & Russel Inc., 1962 [1267], an extensive treatise on (proto)scientific method composed for Pope Clement IV, ranging over all aspects of natural science, from grammar and logic to mathematics, physics, and philosophy.

as light's instantaneous propagation in any direction. (This may sound daring, but we still use light's speed to measure distances in today's astronomy). In Grosseteste, the aspect of zealous ideation consists of his separation of extension from dimension. It involves what I call *mythological modelling*: Extension is thought of by him as the domain in which the actuality of form exhausts itself. Form exhausts itself in an inchoate dynamics for Grosseteste, who was influenced, among many others, by Averroes's notion of a material intellect and by Pythagoras's ideas of a cosmos in spheres. In the outermost of Grosseteste's spheres, form is pure actuality; whereas towards the innermost spheres of his mythological model, it gets more and more mixed up with potentiality, that is, with an incomplete exhaustion of form's actuality. The Earth is at the core of his mythological model of the universe, and here form is mixed up most with the cyclical dynamics of generation and corruption of the four material elements, namely fire, earth, water and air. Form, actuality, is literally what is *rare* here. Yet "rarity" is not the same as "scarcity"—the beauty of his model is that it works with a principle of abundance, a plenty of actuality which is principle (firstness). Rare is what does not realize itself cyclically, what involves *form that steps out of*

the cycle, form that aspires and seeks delight and elevation. According to this separation of actuality and potentiality, he also separates light from color, whereby the latter is tied up with potentiality and gives *dimension*. In contrast, the former is tied up with actuality and gives *extension*. Grosseteste responded with such inception to the dominant doctrines on *intellect* (as divine and immaterial) and *matter* (as fallen and dependent on being informed by intellect) with great ingenuity: he related form to light as a physical force, not to divine light of intellection immediately; but it did also not rival with divine light, for his model kept a place with the outermost sphere, where form has exhausted itself in pure actuality, for divine intellect which imparted the energy for its sustenance. Like this, there is a model of *impertinence* across the spheres where intellect could still, ultimately, be considered divine, but where there was also a natural domain of light, facilitating insight and understanding in reach for the human mind through the pursuit of natural science. In the *methods*, this pursuit of natural science, thus facilitated by Grosseteste's empirical paradigm, was largely independent of theology. This model could accommodate an experimental practice in science that would not cause conflict so easily and quickly with the churches. But it did

not, of course, compete with theology with respect to the ultimate questions; this is precisely why I call it *a world model crafted in zealous ideation*; like Vitruvius, Grosseteste appreciated the insights of geometry, arithmetic and mechanics primarily for civic and political purposes.

For our tableau, let's hold on to the following figures: 1) the one that connects light with actuality and its instantaneous expanse that opens up time in a scalar scope of harmonics, 2) the one which connects color with potentiality and dimensions, opening up nature as voluminous and spatial; let's also hold on to 3) the idea of rarity, 4) the figure which relates demonstrations (in geometry, mathematics) to experience, not to ontology; furthermore let's also keep for our tableau 5) the relation between actuality and impertinence, as facilitated by inchoate form.

III.

We will turn to René Descartes's notion of *the Universe as a Plenum (with Cracks)* for our tableau's third sheaf of components. Strongly influenced by Grosseteste's revolutionary treatises on light and color, Descartes also accepted the instantaneity of light's propagation as a *natural* property of light. He, too, crafted a model of the universe with zealous ideation; yet his was not a mythological model like

Grosseteste's but an architectonic one like Vitruvius's. Descartes's model of the universe aspired to systematize all that could be demonstrated of experience (hence color) by relating the domain of color again to an empirically accessible *nature* of light. In Grosseteste, light was considered a physical force but treated as a mythological principle that remained ultimately inaccessible to experiments. Somewhat like-minded, Descartes postulated that there is a universal nature to light which gives *Divine Laws of Nature*, which is inaccessible, but there are also *Ordinary Laws of Nature* that manifest in locally diverse effects. Descartes is very conscious about the model character of his approach; he begins his own "treatise on light," titled *The World* (1629–33)¹⁶ with a description of light, but he also tells us that he will have to omit something from this description: namely the "true nature [*vray quelle est sa nature*]" of light.¹⁷ The omission of saying anything about the *true* nature of light is why Descartes (like Kepler) speaks of *natural* geometry. His geometry is to describe *the nature of the ordinary laws*: The "nature" that geometry measures is

16 René Descartes, "The World, A Treatise on Light," trans. and ed. by Stephen Gaukroger, in *The World and Other Writings*, London, Cambridge University Press, 1998.

17 René Descartes, cited in James Griffith, *Fable, Method, and Imagination in Descartes*, London, Palgrave Macmillan, 2018, p.160.

the “nature of light,” and the geometrical descriptions tell us about the order of the World—and not a supposed order of “universal nature itself.” He titled his book on natural philosophy *The World*. His interest was to empirically access a study of the world of which he held, ultimately, that it can only be depicted as a fable. And the fable needs to tell the story of a world sculpted out of an abstract Plenum—this, indeed, was his architectonic model with which he wanted to systematize all empirical knowledge. But it was the model of an imperfect—or rather, *perfectible*—Plenum because it is *plentiful with the absence of a void*: from the beginning, there are cracks in Descartes’s Plenum, whereby none of those cracks is ever *empty* because they are immediately being filled up, hence keeping the actuality of this Plenum in incessant action such that its action is turbulent and fluid in an unordered manner. In his *Treatise on Light*, Descartes asks his readers to imagine a new world “very easy to know, but nevertheless similar to ours” consisting of an indefinite space filled everywhere with “real, perfectly solid” matter, divisible “into as many parts and shapes as we can imagine.”¹⁸ It is from out of such a *Solid*

18 Jeffrey K. McDonough, “Optics,” in *The Cambridge Descartes Lexicon*, ed. by Lawrence Nolan, Cambridge, Cambridge University Press, 2015, pp.550–559.

in Action that his geometry can, from learning to *instrument* the ordinary nature of light, achieve descriptions of the world, but these descriptions are to be read with respect to them being the object of fabulation—an objective, impersonal, geometric kind of fabulation. Like Vitruvius’s architectonics, Descartes’ architectonic and mechanistic world view does not favor determinism but *indefinite resourcefulness and zealous ideation*.

Let’s keep from Descartes the following notions for our tableau: 1) The Plenum and Instrumentality, 2) the relation between Mechanicism and Fabulation, 3) the distinction between Universal (divine) and Ordinary (worldly) Laws that facilitate experimental science.

Keeping the Actuality of Time in Zealous Ideation

And now, let’s turn back to our initial Metaphysical Principle, the Queen of Finance in Handke’s *Der Bildverlust*. Here too, the images whose loss is being told of are images of a zealous kind of ideation. They, too, need a scope of expansion “where shifting distances can trigger a play of emplacement and displacement.” I quote Handke:

[...] the image itself as a game in which an entirely different present is in effect than my personal one. The images play out in an impersonal present,

which is more, far more, than mine and yours; they take place in the grander time, and in a single tense, for which, when I consider them, the images, the term ‘present’ is not really appropriate—no, the images do not take place either in a grander or grand time, but in a time and in a tense for which no adjective, let alone a name, exists.¹⁹

Images in a time and in a tense for which no adjective, let alone a name, exists. They are grammatical images. What I am after with this notion of zealous ideation are syntactical images in the architectonic scope of ekphrasis—this manner of depicting in words an absent image with liveliness, a manner of dialectic statement that sets its thesis free, that endows it with autonomy.

The forms of time in grammar are called *tenses*. My proposal breaks with that custom and instead maintains that the grammatical tenses are inchoate forms of actuality, not forms of time. *Grammar, then, keeps what it makes explicit in impertinent suspension.* Grammar articulates an artificial kind of intelligence that is propelled by mechanic resourcefulness and zealous ideation. Let’s look closer at what grammatical tenses do. Let’s look at what they do for “reading pure and simple,”²⁰ for a kind

19 Handke, 2007, p.232.

20 Ibid., p.4.

of reading that wants to report on the instances of actions without foreclosing their scope of efficacy; this entails regarding action as a magnitude. But how to speak of this? Action that takes place both externally and internally is *in-transitive* (object-less), but it is entirely *trans-formative* action. This is how Handke characterizes the reading he hopes his readers will attend to his text with. He writes:

[...] the story and the manner of its telling were calculated to make [the future reader] free to forget, from the moment they turned the first page, any thoughts they might have had of hunting for clues or sniffing around. If possible, the first sentence of her book would banish any such overt or ulterior motives in favour of reading, pure and simple.²¹

At stake is action that characterizes “reading, pure and simple.” Not reading that would proceed by “hunting for clues or sniffing around,” the reader of this story cannot proceed analytically. She is not a detective; there is not a plot of an event already past that needs to be sorted out retrospectively and put in the right light. The sole basis for her expedition is one in the present continuous: *images are dying out everywhere under the sun.*²² This is her plot, the inchoate space of extension she carries along

21 Ibid.

22 Ibid., p.13.

wherever she goes. It is the plot that needs to be put in the poetic meters of action as a magnitude.

Action as a Magnitude, Tenses as Inchoate Forms that Facilitate the Weathering of Situations

This interest in action as a magnitude brings us back to the problem of form and Eros as a verb. Among the early Grammarians, especially Varro, there was a dispute about how to think of the grammatical status of nouns versus that of verbs. Is it the case that nouns somehow roll-off, crystallize or condensate as an effect of verbs? Or is it rather the case that the corruptibility, the nature of all given things that can be given names, trigger a kind of cyclic activity which the verbs capture?

Verbs need a timelessness we attribute to form. Grammar speaks of *time forms* when it distinguishes the tenses. But what is the content? What is the subject or the extension that verbs, in the different tenses, grasp “perfectly,” as the grammatical names of those time forms say? Das *Präsens Perfekt* is the *vollendete Zeitform*; it is the final form of time, the form where-within time finds perfection. It is a form that makes a present whole, that keeps a present intact. It keeps it as a conclusive activity. But the so-called “deficient” form of time, the tense that in German grammar is called *das Imperfekt*, does not

make such a present, that can be kept perfectly, in any way deficient or less: the imperfect tense is also called the *praeteritum*, literally that which has passed by. Austrian German calls it, beautifully so, the *Mitvergangenheit*, the past that comes along. The form of a tense adds memory to an intact present. It facilitates the discretion of one present from another; it, too, is a form, a grammatical form. Grammar is insightful in a deep, in an absurd kind of way—*absurd* literally means also *that which sounds from the bottom*, from an unfathomably deep base.²³ Some say lost. Grammatical forms capture the lost base of actuality. From it springs the growing scope of extension of inchoate *syntax*. Grammatical forms are inchoative and inchoate; this means that they are always just commencing; they are unfolded, drawn out of, wrested from, a bottom that is deeper than can ever be reached. This is to say that the inchoate forms of tenses self-engender themselves. We could say, here, perhaps: their forms are forms *sub specie absurditas* rather than *sub specie aeternitatis*. They are forms in the optics of absurdity rather than in that of eternity. Next to the perfect tense and the imperfect tense, most languages also know what in German is called *das Plusquamperfekt*, a tense that

23 <https://www.etymonline.com/search?q=absurd> (accessed September 14, 2021).

opens up memory to all it does *not* cover. We use it for indicating, with respect to a past event, that there was something happening before this event, something that is not entirely captured by lifting this one event, however imperfectly, up towards its absurd actuality in the ideally-perfect tense, that of a present perfect. The grammatical forms of tenses make room syntactically for events to happen, to take place.

The names for tenses vary across languages; English distinguishes a simple present and a present progressive or present continuous for what we call *das Präsens* in German. Similarly, it speaks of a *simple*, as well as of a *continuous or progressive past*, or what we call *Plusquamperfekt* in German is called a *Past Perfect* in English. Regardless of differences like these, the grammatical tenses render time in various scales of perfection, all of them cyclical and “impertinent,” open and leaking, with respect to each other.²⁴ The grammatical form of time gives time a quality of *tense-ness*, which comes from the Latin *tendere*, meaning to stretch or to extend. Grammar has learnt to think of this stretching cyclically, through scales of perfection. Verbs are action words, but what exactly do they do to ac-

24 Cf. Georg Steiner, *After Babel. Aspects of Language and Translation*, London, Oxford University Press, 1998 [1975].

tion? If action can be simply or perfectly present, as well as future or past progressively or continuously, how can we think of the delimitation and qualification of action in adverbial terms that index *recycling* and *sustainability*? *Weathering* as a verb is rarely used, but it is also not my invention. It colloquially means “coming through safely,” as when a ship makes it out of a storm. Weather as a noun is irreducibly linked to notions of time. As the etymological dictionary tells us, Greek had words for good weather” (*aithria*, *eudia*) and words for storm and winter, but no generic word for “weather” until *kairos* (literally “time”) began to be used as such in Byzantine times. Latin *tempestatas* “weather” also originally meant “time;” and words for “time” also came to mean weather in Irish (*aimsir*), Serbo-Croatian (*vrijeme*), Polish (*czas*), etc.

The weather is the only thing of which it is acceptable to say that it is given in plenty, abundantly so, and ubiquitously so, all over the Earth. Ever since I read *Der Bildverlust*, what fascinates me is that we might have to learn to think of images like this: images are like the weather, they too are given in plenty, and they form an immaterial kind of magma.

Can we imagine an architectonics of ekphrasis as an architectonics of the weather? Action as a

magnitude—power, if you want—is a magnitude that does not leave unaffected whoever attempts to either negate or affirm it. It affects whoever attempts to make the magnitude of action work for oneself or to keep oneself free from it. If viewed *sub specie absurditas*, its promise is nothing more and nothing less than the possibility of finding *safe passage* through whatever time might bring. It is reason for hope that any situation at all can—but might not—be *weathered*. What such an architectonics would render, would give back to whoever credits its assumptions so daringly, so zealously, is to render her capable of talking about the *experience* of time before the background, and while being *in touch*—*con-tingently*²⁵—with a Real Presence of Actuality and its forms of a Contemporariness.

Coda: Sheaving a Plenum that Spills Over with the Absence of Voids

Let's now recall what we have collected for our tableau from the sheaves of components via Vitruvius's civic scope of mechanic resourcefulness, Erasmus's plays in exuberance and exploration of copious escalation and containment of the plenty (*copia*), Grosseteste's mythological model of light

25 <https://www.etymonline.com/search?q=contingent> (accessed September 14, 2021).

as a physical force, and Descartes's architectonic of the universe, which treats the nature of light as a metaphysical principle whose "true nature escapes what can be understood in science," and who distinguished, therefore, an architectonics of the world as a fabulous Plenum—a *plenum which spills over with the absence of voids*. We collected a bundle of notions from each of them, and, concluding; I would like to suggest thinking with these notions to pursue what they might do to the *grammatical* tenses as we know them. How can they delimit and qualify, how can they help us to articulate—to *fabulate*—those tenses as inchoate forms of a *magma* between actuality and perfection?

The notions are:

Mechanical resourcefulness.

Mimesis that is not concerned with originality but delights in copiousness.

The relation between impertinence, delight, and hope for understanding.

Connecting the physics of light with real actuality and with intellectual resourcefulness.

The scope of light's expanse of instantaneous propagation in all directions, as copia, as plentiful noisiness.

Time's actuality rendered in the scalar scopes of harmonics and impertinence.

Time's actuality as being of form, but lacking dimension. Connecting color with potentiality, material resourcefulness, and dimensionality. Relating demonstrations (in geometry, mathematics) to experience, not ontology. Rarity, as the actuality of form, in so far as it reaches beyond a natural compass that is given to it.

The architectonics of the world as a plenum abundantly full with the absence of voids.

The relation between a mechanistic world view and geometry that counts as natural. The relation between fabulation and subjectivity.

The distinction between universal (divine) and ordinary (worldly) laws.

I dedicated this text to Europa, the mythic princess who, on the grounds of abductive reason, carries her destiny along wherever she goes, carefully but without thinking about it, in a golden basket that is a family talisman. All she seeks is to escape the jealous claims of her two mothers—mother tongue and the tongue of a muse in poetic voice, perhaps. Let's sing songs with zealous ideation instead, praising her adventures. And let's celebrate Moschos, this early grammarian who knew how to describe an absent object in words by fabulating a situation in which the words grow capable of containing their own meaning in a manner that sets

it free, that endows it with autonomy. *Let's exercise literacy in coding by learning about each other in the delightful "ruses of heart and language."* Let's follow the brave adventurer—whoever Europa might be—on her trips through a cosmic kind of weather made up of actuality and impertinence, facilitated by inchoate form and going on, *fabulously* so, since ever.

This, I imagine, is what digital images are all about.

The Digital, a Continent?

What any country expects *first* from migrants, namely that they learn to speak and write the language of their guest country, this we should perhaps also accept as being expected, in analogue fashion, from all of us, with regard to that *digital continent* to which we find ourselves, whether we want to or not, forced to immigrate.¹

I want to depart from this formulation, which in my opinion is as unsettling as it is timely, and unpack a particular implication that presents the question of nativity in a new light: What is so peculiar about this novel Continent, the Digital, if it can be called so, is foremost perhaps that no one is native to this strange, insubstantial kind of quasi-territory.

So, what kind of a mother tongue might be at stake here? What kind of language is there to be learned? We cannot approach this question by ask-

1 <https://www.architektur-aktuell.at/termine/veranstaltungen-vortraege/towards-a-quantum-literacy-vortraege-und-seminar-an-der-tu-wien> (accessed January 19, 2019).

ing about regulations regarding something like Immigration Status because whom should we be asking for this? Who, indeed, might be in a position to give us paternal protection regarding the developments underway? Picking up a term recently introduced by Homi K. Bhabha, Judith Butler, and others, I want to approach the issue by asking about the peculiar kind of citizenship that pertains to the locus in question as the subjects of a Spectral Sovereignty.² In my approach, the citizenship at stake is that of civic citizenship, a citizenship that obliges everyone who is to be a political subject to compulsory schooling. Let's remember where this comes from: Civic modern nation-states grant rights to their citizens insofar as they are subject to a manner of service to the public and accept their duties in order to be granted rights, and among those duties is the famous Dare to Know! Have the courage to use your own understanding (*Sapere aude*). This

2 This term, spectral sovereignty, has been introduced by Homi K. Bhabha in order to address issues of collective identity in relation to vernacular cosmopolitanism and cosmopolitan memory, and picked up by Judith Butler and others in relation to an increasing tendency of suspending the rule of law out, with regard to issues of globalization that need to bridge concerns for International Law (whose subjects are Nation States, not individual persons) and National Laws. See Bruce Robbins and Paulo Lemos Horta, *Cosmopolitanisms*, ed. by Kwame Anthony Appiah, New York, New York University Press, 2017; as well as Judith Butler, *Precarious Life: the Powers of Mourning and Violence*, New York, Verso, 2004.

entails that citizens must affirm to be educated, and this puts “education” in an odd middle-ground between “emancipation” and “oppression”—as becomes strikingly clear in its conflictual setup if we listen to Kant’s formulation: “Enlightenment is man’s emergence from his self-imposed nonage,” as he put it, “Nonage is the inability to use one’s own understanding without another’s guidance.” And a bit later, he continues:

Laziness and cowardice are the reasons why such a large part of mankind gladly remain minors all their lives, long after nature has freed them from external guidance. They are the reasons why it is so easy for others to set themselves up as guardians. It is so comfortable to be a minor. If I have a book that thinks for me, a pastor who acts as my conscience, a physician who prescribes my diet, and so on—then I have no need to exert myself. I have no need to think, if only I can pay; others will take care of that disagreeable business for me.³

3 Immanuel Kant, *What is Enlightenment*, 1784. Here following the translation by M. C. Smith, <http://www.columbia.edu/acis/ets/CCREAD/etscc/kant.htm-1#note1> (accessed July 28, 2017). In the original German version the passage reads: “Aufklärung ist der Ausgang des Menschen aus seiner selbst verschuldeten Unmündigkeit. Unmündigkeit ist das Unvermögen, sich seines Verstandes ohne Leitung eines anderen zu bedienen. Selbstverschuldet ist diese Unmündigkeit, wenn die Ursache derselben nicht am Mangel des Verstandes, sondern der Entschließung und des Mutes liegt, sich seiner ohne Leitung eines anderen zu bedienen. *Sapere aude!* Habe Mut dich deines eigenen Verstandes zu bedienen! ist also der Wahlspruch der Aufklärung. Faulheit und Feigheit sind die Ursachen, warum ein so

I want to think about the relevance and actuality of this famous motto for our own time. I want to think of the language spoken in the Digital Continent as the language of coding. I want to address this language, as I hope to explain in a while, as the language of *Quantum Literacy*.⁴

But first, and in terms of spatial metaphors, how *can* it possibly be adequate to speak of a “Continent” with regard to the Digital? Isn’t this allusion rather misleading since a continent promises stability and a static reference amid unsteady waters, which is the opposite of the fluidity of the seas? For doesn’t the digital world feel more like something that *ripples in* and *swells*, like a threatening rising flood of pre-emptive inklings that reach us from

großer Teil der Menschen, nachdem sie die Natur längst von fremder Leitung frei gesprochen (*naturaliter maiorenes*), dennoch gerne zeit- lebens unmündig bleiben; und warum es Anderen so leicht wird, sich zu deren Vormündern aufzuwerfen. Es ist so bequem, unmündig zu sein. Habe ich ein Buch, das für mich Verstand hat, einen Seelsorger, der für mich Gewissen hat, einen Arzt, der für mich die Diät beurteilt, u.s.w., so brauche ich mich ja nicht selbst zu bemühen. Ich habe nicht nötig zu denken, wenn ich nur bezahlen kann; andere werden das verdrießliche Geschäft schon für mich übernehmen.” (Immanuel Kant, “Beantwortung der Frage: Was ist Aufklärung?,” *Berlinische Monatsschrift*, IV, 1784, pp.481–494).

4 Cf. Vera Bühlmann, Felicity Colman, Iris van der Tuin, “Introduction to New Materialist Genealogies, New Materialisms, Novel Mentalities, *Quantum Literacy*,” in *The Minnesota Review: New Materialist Genealogies*, Durham, Duke University Press, 2017a, pp.47–58.

the strange, a total amount of what is considered possible? Are we not drowning in contingency and, *therefore*, forced to affirm the status of a migrant subject? Isn't the digital *percolating* from a kind of future that already seems to inhabit the here, now, a future that keeps informing us about ever more possibilities whenever we try to decide, to delimit, to decide, to reason critically?

If we can be Civic Citizens of this Digital Continent, there must be a lawfulness to it. And indeed, how could there *not* be one since everything digital is engendered by calculation, mathematics, or algebra? And yet, this lawfulness at stake seems to be precisely what is swelling with an abundant plenty of instructions and decrees; it presents itself—indeed like mathematics does—as *the corpus* of a *cornucopia*. And it is a *frightening* horn of plenty. One that, rather than being generous and helpful whenever we feel prepared for it, presents itself obtrusively, even oppressively, as we often feel. It tends to *erode and take away* our confidence in reason, critical judgment, and responsible self-determinacy. The most outrageous aspect of it is perhaps that the *erosion* it triggers is not a consequence of this lawfulness's principal unpredictability and irrationality but quite the opposite! This lawfulness drives the erosion *because it is* so very rational

and predictable. Indeed, it is *super-rational* since it is *computational*, and it functions best if left to *automatic* self-organization.

The more we try to reason the status of lawfulness in computation, the more we fuel its abundant “gifts.”

The Great Greek Ruse

Are we then captured within a vicious circularity that is—as Martin Heidegger tried to explain⁵—the very ground (reason) of the Modern age’s essential character, that of post-metaphysical science with its striving for innovation in research? According to the etymological dictionary, the vicious circle in reasoning is “a situation in which action and reaction intensify one another.”⁶ Any kind of critical agency that is caught up within such a space of vicious circularity would inevitably be a dangerous agency, a corrupting one, a pretentious one, even one that demonically mocks any idea of equilibrium from which moral notions of justness, righteousness, balanced valency and so on surely

5 Martin Heidegger, “The Age of World Picture,” in *The Question Concerning Technology and Other Essays*, trans. by William Lovitt, New York, Harper and Row, 1977, pp.115–154.

6 <https://www.etymonline.com/search?q=vicious+circle> (accessed September 21, 2023).

are being derived. For Heidegger, modern science is an exact science that installs the conditions of measuring according to its essential value, that of exactitude. And because of this, Heidegger maintained, it is also a science that does not truly think, and reasoning is driven to greater and greater speed. It is hastening towards its own corruption.

And indeed, how else should the status of Law be understood, not mathematical now but Common or Civic Law,⁷ when every plane we manage to expose as integrative, when every explanation that accommodates a variety of circumstances within one *plane of reference*, immediately produces novel circumstances that do not fit, and that are not yet accounted for by this explanation? How do we *break out of* this intensification of action and reaction? As Hannah Arendt famously put it, how to lead an active and free life?

7 It is important for following the discussions of “Civic Citizenship” in this paper to be informed about the philosophical underpinnings of the two dominant traditions in thinking about the status of law, that of Common Law (uncodified, largely followed by the Anglo-American World) and that of Civic Law (codified, prevalent in European Countries as well as in Russia and most Asian and African countries). For a short overview, see the article provided by the Robbins Collection, School of Law, University of California at Berkeley, <https://www.law.berkeley.edu/library/robbins/CommonLawCivil-LawTraditions.html> (accessed July 28, 2017); see also Joseph Dainow, “Civil Law and the Common Law: Some Points of Comparison,” in *American Journal of Comparative Law*, XV (1966–7), 3, pp.419–435.

I aim to propose a different approach to circularity. If we want to think of the language spoken in the Digital Continent as the “language” of “coding,” we cannot distinguish between numbers and linguistic signs. What information technology confronts us with is exactly such a confusion: we are dealing with “information” as a mathematical quantity (Shannon and Weaver), but it is a quantity notion that introduces a notion of “order” that is, nevertheless, to be considered also as a *qualitative* order.⁸ This is why I want to address this “language” of “coding” as the language of a quantum literacy.

This different approach to circularity does not aim to discredit the important distinction Heidegger foregrounded, namely the one between rigor and exactitude, rational reasoning, and geometrical measuring. Where Heidegger opted for subjecting the former (rigor) to the latter (measurement) in a cascade that is headed by History, with its essential witnessing and testimonial mode that he calls caring, a quantum literacy approach, in relation to digital citizenship, sets the modes of historical accounts relative to a respective “modeling” space within which the passing of time can be witnessed.

8 I refer thereby to Leon Brillouin’s landmark text *Science and Information Theory*, New York, Dover, 2013. See Vera Bühlmann, “Negentropy,” in *The Posthuman Glossary*, ed. by Rosi Braidotti, Maja Hlavajova, London, Bloomsbury, 2018c.

For now, let's switch back to the context of the language at stake (that spoken in the digital continent) and formulate suggestively: If Heidegger attributes the circle the scope of an axiomatized space of time, then I want to speak of a circularity that attributes the circle a "civic" scope in a space of discretion ("politeness," manners and forms of conduct) and cunning. We can think of such a space as that of the rotational scope of a circle based on algebraic geometry, which is within a geometric space that needs to consider both the bracketing discreteness of code as well as the continuity of consequentiality: the mechanical scope of an encompassing line that is "restless" between the points it connects.⁹

I must accept that this is diametrically at odds with Heideggerian philosophy. But it seems that an encounter can take place, that there is a crossroad in the very space where Heidegger faces what I consider to be his core dilemma: thought, principled by reason, tends to accelerate to light speed. Reasonable thinking thus appears bound to culminate in totalitarian, apocalyptic, or eschatolog-

9 Michel Serres's discussion of the Gnomon, the Sun Clock, as an observatory, elaborates on the kind of space I am thinking of here. See especially Michel Serres, "Gnomon," in *A History of Scientific Thought: Elements of a History of Science*, London, Blackwell, 1992, pp.73–123.

ical modes of discourse.¹⁰ His own commitment to the modern legacy of Critical Reason is a reverted one: he asks to counter-weigh this trend towards acceleration by finding a non-mathematical kind of thinking in Art as an anti-dope to the viciously circular consequentiality that mathematics, in his understanding, inevitably installs and by which it is bound to render Reason bankrupt.

To think of the scope of a circle as the scope of a restless, encompassing line that considers discretion just as much as continuity is inspired by Michel Serres, who, in his book *Les Origines de la Géométrie* (1989), calls the Principle of Reason “*The Great Greek Ruse.*” I cite:

Hierarchy remains inside reason, but since height, power, or king are no longer spoken of, it becomes transparent inside reason, so invisible that no one has seen it, that no one thwarts this intelligent Greek ruse.¹¹

While for Heidegger, mathematics is *the source of the vicious circle's viciousness*, Serres looks at it differently, as someone who knows it well, that is, not as a Sovereign Principality but as the very condition

10 See the study by Wolfgang M. Schröder, *Politik des Schonens. Heideggers Geviert-Konzept, politisch ausgelegt*, Tübingen, Attempto, 2004.

11 Michel Serres, *Geometry, Third Book of Foundations*, trans. by Ralph Burkes, London, Bloomsbury, 2017b, kindle edition, loc. 1905.

of possibility for clarifying ideas by active, leaping, and daring, thought. We can now look at what to Heidegger is *the World-as-Picture* as an *Architectonic Model of the World*, from the lofty and unsteady point of view of *Reason as a Ruse*. What we gain thereby is something like an architectural approach to Heidegger's concern with the "*Geviert*"—his proposal for mytho-poetically "squaring" the world around the axis of history into four mutually adapting and reciprocally sustaining "quarters," one for the mortals, one for the divinities, one for the earth and for the sky. A model understood as such (as an architectonic model) is to be accommodated not within the space of mimetical representation and geometrical demonstration but within the abundant space of mathematical thinking, mechanical (resourceful) reasoning and civic cunning.

So how does it work, this ruse? Serres writes:

As soon as hierarchy is translated as reference one can finally prove as reason and show as theoretical vision to every reasonable animal that it is reasonable to transfer the autonomy that they owe the hazards of their existence to the element of reference, like the world to its earth or to its sun, like a variety of homogeneous space to its pole or any site in a system to its legislative centre. So, we naturalize the one who holds power, ineradicable

from his place like the earth or the sun, unavoidable because without roots and endlessly stable.¹²

Let us pause and ask: *Where* is the position from which Serres can talk like this, and what stance does he adopt? In a Civic Space, we said. But is he himself speaking as a juridical persona, defender, prosecutor, or judge even when he speaks of the Greek Ruse with a strange sense of admiration and respect? Serres concludes the cited passage: “Better *yet we theorize him* [the one who holds power].”¹³

Now, how can this be an option? Isn't this what Heidegger is warning us against? Theorizing theoretical depictions further accelerates reasoning and reasonable “thinking.” But does it really? The kind of theorizing that *algebraic geometry* proclaims does not acknowledge the eradication of roots claimed by the centrality of Principled Reason. It is a *projective* geometry whose every metric is rooted in a plane of reference. The Romantic intuition, that reason is rooted in—even actively roots!—tragedy may well be true and adequate. But the *conditions of possibility* of reasoning as a praxis, method, and technique consist in *mechanisms*, as the Algebraic Geometer insists—those mathematical procedures where *cause equals to effects* (Newton, 3rd Law of Mo-

12 Serres, 2017b, loc. 1907.

13 Ibid., loc. 1910.

tion), or at least *where effects correspond to causes*, as Galileo had it when he said that nature was written in the characters of mathematics.¹⁴

Through involving many planes of reference within one algebraic scope, mechanical usage of metrics has never been, strictly speaking, *reasonable*! How did we forget about this? How did it happen that the unbound, free—Serres speaks of *anarchic*—reason¹⁵ of the artistic mechanic came to stand for its very opposite, namely strict determination and foreclosure of events?

Let's again hear Serres:

14 For Galileo, it was mathematics rather than Scholastic logics that affords a philosophy of Nature: "Philosophy is written in that great book which ever lies before our eyes – I mean the universe – but we cannot understand it if we do not first learn the language and grasp the symbols, in which it is written. This book is written in the mathematical language, and the symbols are triangles, circles and other geometrical figures, without whose help it is impossible to comprehend a single word of it; without which one wanders in vain through a dark labyrinth." Galileo Galilei, *The Assayer*, trans. by Thomas Salusbury (1661), 1623, p.178, as quoted in *The Metaphysical Foundations of Modern Science*, ed. by Edwin Arthur Burt, New York, Dover Press, 2003, p.75.

15 Michel Serres, 2017b, loc. 1866. Serres writes: "The beginning expressed by the term 'archaism' is found again in the command of the word 'hierarchy.' Can, conversely and in general, an anarchical system be conceived, without reference or border, deprived of privileged place or referential, and yet rational? Yes, assuredly: it suffices to trace back to the multiple variations of beginning in Anaximander's indefinite. Things begin when the arche precisely goes absent, and command appears when they claim to begin."

Legendary, the cleverness, the shrewdness of the Greeks impelled them to invent a use of reason, the ruse-mathematics. They give us systems and schemas to see that are so distinguished from each other that, taking their word for it, we align them along a linear evolution, whether interrupted or continuous.¹⁶

In his book *The Origins of Geometry*, Serres explains how the postulation of Reason as a Principle was to *conceal* that all metrics are indeed *rooted* in planes of reference¹⁷ that are, in fact, “templums” in the architectonic language, *Projective Dispositional Plans*, empty but planned and disposed of for something indefinite to happen.¹⁸ There may well be a kinship

16 Serres, 2017b, loc. 1937.

17 Ibid., loc. 1939.

18 In his book on Leibniz, Serres addresses the generalization of such plans as ‘un géométral.’ See Michel Serres, *Le Système de Leibniz et ses modèles mathématiques*, Paris, Presse Universitaire de France, 2015e. In the Introduction entitled *Scénographie, Ichnographie*, Serres writes with regard to “un embarras qui subsiste” in Leibniz, namely that it appears impossible to embrace Leibniz’s overall organization as a system, and still understand it consistently and exhaustively *in* systematic terms—there remains an obscurity. But this, for Serres, needs no excuse but is, quite inversely, the crucial point with regard to his appreciation of Leibniz as a systematical thinker. As Serres puts it: “le sentiment confus d’une ordonnance potentielle qui se laisse toujours entrevoir et qui sans cesse se refuse, l’idée vague d’une cohérence perçue mille fois en vue cavalière et qui dérobe son géométral, la sensation de progresser dans un labyrinthe dont il tiendrait le fil sans en avoir la carte. Perspectives offertes, point de vue multipliés, possibilités infiniment itérées: il ne paraît jamais qu’on puisse parvenir aux limites exhaustives d’un plan synoptique, étalé, complet, actuel” (ibid., loc. 163).

between Reason and Tragedy, but there is also one between Mechanics and Comedy. Again Serres:

Aristophanes or some other stage director must be bursting with laughter in their graves from seeing us trying to understand [a linear evolution of math]! They take a bowl and a jar out from of their horn of plenty, let us see then, like poor farmers, pots, then they put these objects back into the horn, and lastly suddenly take the same ones out again so that, from our place, we see a column and a sphere.¹⁹

Let's state our point clearly, for this is a serious issue: Reason, to Serres, is the *Great Greek Ruse* in that it sets mechanics equal to the mathematical demonstration—without problematizing the manner in which such “equivalence” is being identified.²⁰ He calls this a ruse because it thereby *conceals*

19 Serres, 2017b, loc. 1976. Serres writes for example: “The distinction of the homogenous and the heterogenous, of the continuous and the discontinuous, dominate the descriptions of space and time in Mircea Eliade for example. Profane, space is isotropic; sacred, it isn't, he says. In addition, profane time flows continuously, but sacred time presents ruptures. As a result geometry, cut off from sacralisation, posits an undifferentiated space. But this isn't tenable, for there are as many scientific spaces as you please, orientable or not, centered, or metric, chaotic or regular, only some of which are homogenous. To say the converse amounts to underestimating geometry, to forcing it into impoverished reductions. Thus formal thought knows the spaces said to be mythic or cultural.”

20 In fact, Plato addresses this very point where he seeks to establish a difference between opinion and truth: there is an interesting, but seldom attended to, discussion about what Plato calls “mobile” or

that what every metrics does (as the very condition through which it affords metricity) is *projection*: an *architectonic transformative projection* that comes together with a *procedure* of how projections can be produced.

The question we want to take from this is: having recognized, with Serres, this Great Greek Ruse, how *not* to become misologists? How do we hold on to reason in a manner that does not subject it to a definite central and transparent position of power, as Reason's Principle? Serres asks: "Is reason defined by indifference toward all difference?" He puts it even more drastically: "Reason demands that there be no reason."²¹ We must make defined spaces ceaselessly refer to the indefinite, suggesting that we should call the universe "that which holds by this principle without principality."²² With such a way to think of the circular, let us now come back to the issue of a "Digital Continent." The proposal

"run-away" statues (called "deadalus" in the manner of the mythic persona's [*Deadalus*] mechanic art), as opposed to statements of knowledge to which he also refers to as "statues," but statues that must be "owned," statues that are in someone's "possession." See A. Frost Benedikt, *Runaway Statues: Platonic Lessons on the Limits of an Analogy*, presented at the Twentieth World Congress of Philosophy, Boston, August 10–15, 1998, published online at *Paideia, Ancient Philosophy Archive*, Boston University, <https://www.bu.edu/wcp/Papers/Anci/AnciBene.htm> (accessed July 28, 2017).

21 Serres, 2017b, loc. 2078.

22 *Ibid.*, loc. 2080.

I would like us to consider is to think of the Digital Continent in just this manner: as a Universe which *holds by this very principle without principality.*

The Mechanic's Anarchic Cunning

What I want to suggest, with raising the idea of a *quantum literacy* of a Digital Citizen in relation to the Mechanic's Anarchic Cunning, is to take from quantum science, especially this one aspect: namely that "form," in the domain of probabilistic amplitudes and their propagation, needs to be considered in terms of *technical spectra* (each rendering regularity in terms of frequencies, due to the particle-wave character of each quantum). Hence, I want to suggest that it is a spectral kind of agency attributable to the Cunning Reason of the Mechanic as a Digital Citizen. It is a kind of projective spectrality that is perfectly reasonable; it is just *not principled*. It is anarchic. It is, so to speak, Reason *trespassing* the Reign of a Definite Rule of a Center that puts itself up as Principle. The point thereby is that Mechanics as an Art can pick up the ancient legacy that related it to humanist ethics that does not accept fate without standing up against it and challenging it.²³

23 The Greek noun "Mechane" or "Mechanema" meant "cunning" as well as "means to an end, a supportive device," and often appears in classical texts in relation to situations of distress, accounts of

What do I mean thereby? From a logical point of view, something is either at rest or moving, but not both at the same time. Exactly this famous statement by Aristotle does not hold for the mechanical: how to describe, for example, logically, a rotating spinning top that is at once at rest (its center) while moving (its periphery)? Mechanics is an art and not a logical discipline in that it introduces a certain scope of deliberation that is objective, independent of a *Cogito's* belief or interpretation. Mechanical descriptions are *mathematical* but not logical. *Mechanical knowledge* is objective *and* ambiguous, undecided. There belongs a peculiar kind of agency and activity to the knowledge in which the mechanic is proficient that is not a subjective will or an arbitrary intention.

To make a long story very short, both logical inferences as well as mechanical constructions, crucially depend upon geometry. The former depends

emergencies, and how to get out of them. See *Propyläen Technikgeschichte*, Vol. 1, ed. by Wolfgang König, Berlin, Propyläen, 2000, p.181ff.; a short note perhaps at this occasion also with regard to the notion of cunning in Hegel: whereas Serres is interested in exactly this link between mathematics and cunning, Hegel's interest appears to have been in severing this link, and in contrasting cunning as the mark of phenomenological reason as against merely mechanical, deterministic and automatic rationality. Such an attempted "hygienic separation" remains untenable for Serres in antiquity (see footnote 14) and also today. This is the crucial message when he addresses the origins of geometry in the plural.

on the axiomatic set-up of theoretical geometry in the manner of Euclid. With the latter, the relationship is more complex. The whole point of logic, we can say, is to yield *definitions*—to treat things within the scope of their finitude and delimitations. Thereby, axiomatic deduction follows one principle above all others: it shall not be possible to derive *contradictory statements from the same set of axioms*. The middle ground of an undecided, restless third state is what logical rigor seeks to exclude. Until the modern era, people thought of mechanics as an art and as an ethics—indeed, it was considered the twin to logic, aligned with sophistication rather than truth because, in mechanics, one is concerned with treating things in their finitude, that is, without need for belief of any sort that could not be objectively tested. This is why I suggest addressing the space of cunning reasoning as an object-space, the space of objects among objects. Because at the same time, every mechanical construction lives exactly *from* such a third, middle milieu, where opposites co-exist undecidedly. This is what makes mechanics architectonic. One could even say that the art of mechanics is to *modulate* and *articulate* this transitory milieu of indefinite decidedness.²⁴

24 See a very interesting article on the notion of “stasis” in rhetorics, O. A. Loeb Dieter, “Stasis,” in *Speech Monographs*, XVII, 1950, pp.345–369.

The question remains, however: *where* in what kind of space is the Cunning Reasoning of the Mechanic to be situated? We can think of this space as an architectonic space that consists of projective transformations. The ruse of which Serres speaks is that of concealing that “The Greeks” production is projection. And the optimization of a projecting site: the fly-over from on high or from outside the world.”²⁵ The anarchic reasoning of the mechanic is like Atlas, whose power results from a projective point of reference, daringly placed in an outside.

Citizens of the Digital, as Public Personas, are Social Servants too, but they are not Heroes of Alternative Identities or of Minority Cultures. They are Atlases—all of them. The space of Cunning Reason is the space indexed by all those projective points of reference *out there*. We can think of it as the immanence of a space of translation, encryption, and deciphering. Let me try to explain.

Hors-Là

In his book *Atlas* (1994), Serres cites a short story by Guy de Maupassant entitled *Le Horla* (1886) on several occasions. Maupassant therein invents a character called Horla, which the protagonist in his

25 Serres, 2017b, loc. 1945.

short story keeps encountering in a peculiar shadow. Horla is a phantom that is *trans-parent* (passive, lets shine through) but not without an irreducible lucidity of its own. It sits in front of the mirror and catches the images the mirror is about to reflect before the mirror can actually do so. Serres writes about this peculiar character:

What a strange shadow: it is and is not, present and absent, here and elsewhere, the middle which ought to be excluded but cannot, hence contradictory. This is why he [Maupassant] calls him Horla.²⁶

Horla is, to Michel Serres, the fictitious character of a quantum-physical kind of spectrality that actively sums up all projections that could possibly be reflected in a manner of summation whose total is indefinite and, not despite of but because of that, determinable. To Serres, this story is a *realist* story—even though its main character is entirely invented. It is a realist story because it allows us to philosophically address the particular kind of “spectrality” at work in communication media: The space of Horla allows us to address the rendering of appearances that technical spectra afford (in all

26 My own translation based on Michel Serres, *Atlas*, trans. to German by Michael Bischof, Berlin, Merve, 2005, p.59.

quantum physics-based science like chemistry or electro engineering).²⁷

Now, within epistemological registers, the predominant question regarding quantum physics is that of location and the point of view of the observer. This famously poses a dilemma and puts reason in crisis. But remembering the algebraic legacy of the Mechanic's Cunning regarding circularity (circuitry, indeed) at once relaxes the situation *and* poses novel challenges: We can no longer think of objective reasoning as having an absolute reference. The space where Cunning Reason is localizable is a space of communication that is not, strictly speaking, logical but also rhetorical and poetic: The mechanic has always known how to bring opposites into balanceable constellations by inventing a third, a mediate space to think in, a statuary structure that does not properly "add up" to a consistent, non-contradictory domain—the space of Cunning Reason is an *architectonic* and an *inventive* locus. The space of Horla helps us address the active role of measurement in those spectra, i.e., their active rendering of appearances in a manner that is, even

27 Cf. for an elaboration of this argument, Vera Bühlmann, "Generic Mediality, On the Role of Ciphers and Vicarious Symbols in an Extended Sense of Code-based 'Alphabeticity,'" in *Philosophy After Nature*, ed. by Rosi Braidotti, Rick Dolphjin, London, Rowman & Littlefield, 2017b, pp.31–54.

though it has trespassed the domain of Reason's Principle, not a bit less objectively reasonable.

The space of Horla is the space where phenomena are rendered apparent that are *engendered by mediation* by resorting to a middle ground that, *from a logical point of view, ought to but cannot be excluded*. Of just such a strange "nature" is the quasi-physical domain that communication channels have been establishing for real and for nearly a century now. How does this still sound so spooky, ghostly, and untrustworthy to our ears?²⁸

Technically speaking, electronic information/communication technology channels are literally technical spectra: They render apparent a certain generic order which can be observed only before a "plentiful back-ground" of noise (entropy) rather than one of an empty *tabula rasa*. Serres illustrates this idea of a plentiful background with the color spectrum, where white light stands for such a "plenty" because it expresses any color at all, and this in a material, physical manner: "white light" is, ultimately, radiating nuclear activity of quantum-physical mass. Within such "materiality," channels are established for "surfing" on top of the

28 See for an elaborate discussion of this strange situation Wendy Hui Kyong Chun, *Programmed Visions, Software and Memory*, Cambridge, MIT Press, 2011.

singled-out frequencies, but nevertheless amidst the massive agitation of what is, technically, called Brownian motion. The vicarious space of spectra is not empty in the sense of “lack” as a substantive, but in that of “lacking” as a kind of *frequentative preposition*: the zero-neutrality of white light *lacks* in that it *leaks*, and in the same sense as technical spectra *lack* in that they *leak*.

What if we thought of the digital as a percolating universe, an active container, a container that leaks reason, reason that accumulates into continental plates, here and there, always with its reference to the principle without principality, *hors lâ*? Out there, here. Speculative, but *anarchic* and *civic* rather than *utopic* and *innocent*. This might be what it means to be Quantum Literate, as Citizens of Digital Continentality.

Cosmoliteracy and Anthropography

A-cosmic philosophies have only language or politics, writing, or logic, Serres claims in his 1990 book *The Natural Contract*,¹ but, he points out, we act physically. He thereby launches a direct attack on Enlightenment and Post-enlightenment philosophy, which in all its diverse guises appears to assume that cosmology, seeking to comprehend cosmological nature, must be constrained by a speculative logic and hence is bound to remain uncritical. The rationality of such a logic cannot be embedded within the kind of general order of knowledge that modern philosophy seeks. As Kant put it, the systematic study of cosmology seems

1 “We have lost the world. We’ve transformed things into fetishes or commodities, the stakes of our stratagems; and our a-cosmic philosophies, for almost half a century now, have been holding forth only on language or politics, writing or logic” in Michel Serres, *The Natural Contract*, trans. by Elizabeth MacArthur and William Paulson, Ann Arbor, University of Michigan Press, 1995b, p.29.

destined to produce antinomies.² Cosmology then cannot be the ambition of critical philosophy, only cosmopolitics—a politics that considers a cosmos (an overall order) rooted in an anthropological “nature.” Today, this gesture of philosophical anthropocentrism is met with increasing suspicion, while we can at the same time observe a renewed interest in celebrating speculative thought in a manner that seeks to liberate rationality from anthropological or historicist straitjackets imposed on it by a Principle of Reason that claims to be entirely function (deduced from, servant to) a general, global “telos.”

Michel Serres’s book has a genuine contribution to make to this emerging interest in speculative materialism/realism. For him, The Principle of Reason describes not an ideal order that can serve as a “natural” frame of reference on which to base a politics that extends to the level of global needs but a “natural” contract. A contract which embodies both reason and judgment.³ He maintains that modern philosophy has not been able to consider a global nature; that for it, nature has always been

2 Cf. for an introduction to this motif in Kantian philosophy: Michelle Grier, “Kant’s Critique of Metaphysics” in *The Stanford Encyclopedia of Philosophy* (Summer Edition), ed. by Edward N. Zalta, 2012, <https://plato.stanford.edu/archives/sum2012/entries/kant-metaphysics/> (accessed February 22, 2023).

3 Serres, 1995b, p.90.

local, whereas the collective lives only in global history. But history, Serres maintains, remains blind to nature.⁴ All it knows are subjective wars and dialogical combat. Serres begins his book by discussing Goya's painting, where two fighting men do not realize that they are both being swallowed up by quicksand. Subjective wars and dialogical combat cannot deal with the new form of violence all of humanity is beginning to experience in phenomena that indicate climate change and the possible extinction of animal and plant species, a form of violence that Serres calls "objective."⁵ He maintains that dialectical history has tried to invade the tribunal site where Being is distributed. Still, the combating parties have thereby changed position so often over time that the predicative theory of the ontological square has turned into a historical force itself: the two diagonals across which the dialectical positions run back and forth, ceaselessly exchanging places, have thereby accelerated as they pivot around the vertical axis: battling over how, in the name of nature, things are to be defined and addressed has turned from an originally juridical site, where the distribution of proper rights of things according to their kind—where general and

4 *Ibid.*, p.7.

5 *Ibid.*, p.10.

individual natures were at stake—into an emergent form of violence that appears to strike back against the imposed logical classifications and local orders which all compete to become referential and to extend their scale from local to global. The Earth responds to this historical force, disturbed, dynamized, and furious. It begins to tremble and threatens to swallow up the combatants together with all those who watch the spectacle and place their bets on one of the parties. Humanity, writes Serres, has become a physical variable,⁶ and it is high time to begin thinking in these terms.⁷ We ceaselessly inform global Nature through our movement and energies, Serres maintains, and it, in turn, informs us through its global change by

6 Ibid., p.17.

7 In a short preface to his book *Rome, First Book of Foundations*, 2015d, Serres describes his book as a first approach to history in the objective, scientific terms he deems adequate to address this novel form of global, objective violence: “The shaking that grips me upon starting a book on history isn’t from fear; I’m not afraid. And yet, here, terror reigns, murder, blood and tears, constant iniquity. I know that we never encounter any social system that’s just; I’ve rarely known, living or dead, any powerful man who was good. The shaking gripping me is not from fear; it is, if I may, from logic. It would be an exercise in futility if a philosophy formed from its instauration by the rigorous and precise concepts of the sciences of the object brought its practices into the unstable cloud of time. It either wouldn’t understand, or it would be formed with shaky outlines. History is fuzzy and vague, but it was precisely the sciences of the object that prepared me to think this shakiness with exactitude. So here I am on the terrain of terror, for the first time, finally ready, despite my anxiety. This century we have new tools. Here they are.”

the same means. The exchange of information of which Serres speaks is physical: “Our technologies make up a system of cords or traits, of exchanges of power and information, which goes from the local to the global, and the Earth answers us, from the global to the local.”⁸ The exchange of information gives birth to a kind of physics, he proposes, whose order is at once objective and multiple and which is probabilistic and complex. It is an order that is elemental and instructive rather than elemental and predicative. It is physics born from communication, which is at the same time—reciprocally and without ever coming to rest in any one state of reciprocal correspondence—a physics of communication.

My interest in Serres’s approach here is not in strengthening facticity against conceptual instrumentalizations and agoristic competition but quite the reverse. A physics of communication, if we think through it with Serres,⁹ can open up a path for thinking the process of hominization beyond any

8 Serres, 1995b, p.109.

9 That is in terms of cryptography, via the loc. of the third, the interceptor, the parasite. In this, Serres’s approach to communication and the physicality that manifests in communication technology diverges categorically from any kind of multiple-nature approaches that seek to restore a balance between them. Indeed, wherever system theory, logical metalanguage approaches, higher-order cybernetics approaches speak of “balance,” we have to think “contract” if we want to understand Serres’s approach.

presumed predication of “the human.” A physics of communication allows for a materialist approach to hominization that cannot be accounted for by either cosmology or cosmopolitics. Serres¹⁰ sets wit and materiality into a peculiar relation that allows beauty to be addressed ethically as a hope for peace. It is crucial that Serres’s approach to beauty is not directed by the questions of how it can be achieved, nor how we can recognize it and not be mistaken. Serres takes a kind of microbiological point of view: he calls the relation with the help of which we can address beauty a relation of “equipollence” between humanity and the world, between spiritedness and materiality. Both factor in nature, as equals in force, power, effectiveness, signification, or validity. Serres thereby links back to earlier ideas according to which beauty shines forth, producing a gleam that reveals something true. It is a relation that brackets out the essentialist question regarding nature from the scene of action (the scene of action in Goya’s painting considered as the ontological square). For a communicational physics, questions about who sent the messages, whether they are reaching their destination, and what or who holds sway over a faithful transmission can be bracketed along with the search for predicative answers to

10 Serres, 1995b, p.24.

the question of nature's essence. This is because a communicational physics, and the corresponding materialist view regarding hominization, neither pursues a single determinative answer nor neglects the questions; it seeks instead to appreciate the beauty of the nature to which such a communicational physics gives birth: "Can we practice a diligent religion of the world?" Serres asks.¹¹ Diligence is decisive, and its opposite is negligence. Because the identity (being) of such a nature lies in its beauty and can only be sustained in communication like a secret sustained by its currency, by having it circulate without ever exposing it, by referring to it without ever wanting to determine its meaning exhaustively; this is what it means to follow his approach to communication via cryptography. Serres writes: "[N]ature is hidden twice. First under the cypher. Then under a dexterity, a modesty, a subtlety, which prevents our reading the cypher even from an open book. Nature hides under a cypher. Experimentation, invention, consist in making it appear."¹² The nature of a communicational physics can be addressed only indirectly in quasi-referen-

11 *Ibid.*, p.48.

12 Michel Serres, *The Birth of Physics*, trans. by Jack Hawkes, Manchester, Clinamen Press, 2000b [1977], p.104.

tial plays that dramatize the placeholder positions.¹³ Because of the vicariousness of the space at stake, the terms of such a communicational physics are contractual since they are binding for all the parties involved. The obligation of the natural contract is to keep the secret of nature's beauty without mutilating it so that it can shine forth and radiate: "Out of the equivalence, the identity, the fusion of the world-wide world and the worldly world arises beauty. Thus, it surpasses the real in the direction of the human and the human in the direction of the real, and in both cases sublimates both."¹⁴ The nature at stake in a communicational physics can be neither possessed nor dominated. Serres reframes the central question of *The Natural Contract* regarding humanity having become a physical variable in the planetary ecosystem; he writes: "To anyone who detaches himself from battles because even average wisdom makes them seem vain, if not inhuman, or who does not want to pay for his worst desires with infamy, the world-wide world today offers the painful face of mutilated beauty. Will the

13 Cf. Michel Serres, "Theory of the Quasi-Object," in *The Parasite*, trans. by Lawrence R. Schehr, Baltimore and London, The Johns Hopkins University Press, 1982b; Vera Bühlmann, "Vicarious Architectonics, Strange Objects," in *Architectural Materialisms: Nonhuman Creativity*, ed. by Maria Voyatzaki, Edinburgh, Edinburgh University Press, 2018a.

14 Serres, 1995b, p.24

strange and timid radiance of dawn be harmed by our brutality?”¹⁵

Of course, this sounds quite miraculous, cryptic even. Still, the clue (if I may say so) that keeps us firmly planted on the secular side is that Serres’s communicational physics treats nature like thermodynamics treats energy: in purely quantitative but qualifiable terms, as the indefinite yet invariant magnitude that is conserved in all the transformations that happen in time and that is manifest in space—whatever this “energy” or, as Serres has it, this “nature,” may “essentially” be. Nature does not feature as a variable in this equation; it is humanity, as the keeper of nature’s secret beauty, that features as a variable within nature. But neither does this nature feature directly as a constant, providing rational roots and determinate values of so-called coefficients. In classical physics, this is what so-called natural constants are supposed to do. It was the great achievement of the mathematician Emmy Noether to have provided theoretical physics with a formulation of the natural constants in algebraic terms as conservational laws.¹⁶ The very

15 Ibid.

16 Emmy Noether, “Invariante Variationsprobleme,” in *Nachrichten von der Gesellschaft der Wissenschaften zu Göttingen, Mathematisch-Physikalische Klasse*, Göttingen, Vandenhoeck & Ruprecht, 1918 [1895], pp.235–57.

idea of nature being governed by laws has since lost its direction, entering a chance-bound and matrix-like cloud of directionality: the teleonomy of natural direction must then be related to an initial, indefinite invariance, and all that science can say is how its magnitude can be conserved through all transformations. The conservation of an invariant magnitude can be treated as coextensive with the conservation of textual meaning by translation: the invariant magnitude needs to be mapped in terms of symmetry structures that can be translated into each other. Of course, translation cannot ever be achieved perfectly. Such an idea of perfection presupposes that the meaning of a text could be determined and recognized without contingency from the beginning. This, in turn, presupposes not only the idea of an original, pure, Adamitic language in which such unambiguous meaning could be formulated it also seals off a domain of meaning from the reality of things that are becoming.

Serres's suggestion is so radical—neither classically materialist nor classically idealist—because it maintains that nature consists in the form-bearing charges that are exchanged in the communication between the two poles of a delicate and critical, because genuinely unlikely, relation of equipollence: that between the Earth and Humanity. I want to

suggest that the knowledge that constitutes the diligence, or negligence, by which science articulates this one relation that matters above all others can be addressed through cosmoliteracy. The acuity and sensitivity with which it does this determines the qualitative richness of nature as it is conserved through earthly and human activity and the capacity of these qualities to coexist. In his little booklet praising Ilya Prigogine's critique of the principle role of closure in thermodynamics, and by implication, thermodynamics's dismissal of relations of equipollence, Serres stresses Prigogine's point: order out of fluctuation, he says, is not something new, but rather the very definition of novelty.¹⁷ If we settle with this peculiar relation, equipollence, we can find a manner of relating to "modernity" such that it might find a way of continuing in a way that is consistent with its own values: namely, a disregard of authority claimed on no other grounds than those of tradition. We must leave the domain of global history for the domain of global nature, Serres urges. Scientific knowledge is knowledge that responds to its object, the Earth. But it neither possesses nor dominates it; rather, it acts as an equal to it in terms of force, power, and valid-

17 Ilya Prigogine, Isabel Stengers and Michel Serres, *Anfänge*, Berlin, Merve, 1991.

ity. Scientific knowledge and the Earth are to be considered equals in terms of effect, power, and signification. It is the terms of this contractual relation that can be articulated with greater or lesser diligence or negligence.

The sameness at stake is a sameness that rests within itself but that never actually comes to rest: it is a sameness that is vibrantly catching up with itself, ceaselessly seeking to comprehend all that it, in its virtual actuality, encompasses.¹⁸ Serres's notion of the Earth is a delicate one, a fragile one that draws, for all we know, on an experience of genuine unlikeness—it is a mistake to assume that rationality and the real are most proximate in kind.¹⁹ They are unlike, and their sameness is genuinely un-

18 Such a notion of “virtual actuality” is different from Gilles Deleuze’s approach, according to which the virtual is real but not actual. Deleuze wants to decouple the virtual from any positive notion of possibility, and so does Serres. But Serres’s approach is one that considers a substantial notion of chance that must be thought of as an invariance that underlies the countable possibilities of what in probabilistics is called a “state variable” or “random variable.” Such a substantiality of chance is closer to a quantum physical substantiality than to one compatible with a physics of forces. It attributes chance’s indeterminateness to a transcendental notion of the objective, not to a subjectivity of particular cognitive agents. The whole point of a “communicational physics” is to take into account a kind of quantum physical actuality that is at work in his vicarious domain of place-holders. Cf. Anne Crahay, *Michel Serres, la mutation du cogito. Genèse du transcendantal objectif*, Paris, De Boeck, 1993.

19 Cf. Michael Potter, *Reason’s Nearest Kin. Philosophies of Arithmetic from Kant to Carnap*, Oxford, Oxford University Press, 2000.

likely: Serres calls the harmony of the rational and the real a miracle.²⁰ The relation of equipollence strives infinitarily to manifest itself as a reciprocal equivalence between the two, the Rational and the Real, the Earth, and Humanity. This equivalence is never fully given in any explicit manner. They can be in discord: “If our rational could wed the real, the real our rational, our reasoned undertakings would leave no residue.”²¹ And indeed, he continues to explain that whenever one side is considered more powerful than the other, such discord arises. One side then acts on the other violently because it knows it has, if needed, supplementary resources to call on. Such discord, the breakdown of this equipollence, is called “pollution,” Serres tells us.²² Garbage proliferates only in this gap between the real and the rational. We have so much pollution and so much garbage today because reason acts violently upon the world—it is not enough that each thing has sufficient reason; reason must be given back rendered. As Serres writes: There must be an equity of exchanges.²³ The sameness that rests in genuine unlikelihood is only in the activity within a network

20 Serres, 1995b, p.24.

21 *Ibid.*

22 *Ibid.*

23 *Ibid.*, p.90.

of cords that strives to bond all factors within it: “It’s an equation of optimization, symmetry, and justice,” as Serres puts it.²⁴ That is why considering reason rather than law as natural is a short circuit that conceals that reason is always founded on a judgment. It neglects that, as Serres points out, every judgement is preceded by a trial.²⁵ And judging is equivalent to weighing, he insists;²⁶ it operates upon the most efficient algebraic method, that of a proportional analogy, as in $A:B = C:D$. According to this algebraic method, the resolution of equations is possible—in increasingly diligent and complex manners, not only theoretically, but also historically. In mathematical terms, if we do not restrict the numerical domains that are allowed to count, then equations whose terms are raised to arbitrarily high powers all yield solution spaces of n solutions. If this is ignored, reason prevents the speculative articulation of new cosmical resolutions of the only equation that matters: the mutually implicative and reciprocal bonds between Earth and Humanity.

“When physics was invented,” Serres tells us, “philosophers went around saying that nature was hidden under the code of algebra’s numbers and

24 Ibid., p.89.

25 Ibid., pp.21–22.

26 Ibid.

letters: that the word code came from law.”²⁷ For Serres, law prevails over the rationality of science, which is why law precedes geometry and algebra. Modern philosophy’s mistake may have been to institute a principle of reason that is supposed to found law, but that of the philosophers of antiquity was to insist that legal contracts depend upon language and that we can pinpoint natural law in the logical or grammatical order of words and concepts. Because of this unfortunate insistence, which subjects algebra to an order of language considered ideal and perennial, the birth of physics was delayed, Serres maintains, because no one paid attention to how the Earth speaks to us in the terms of forces, bonds, and interactions. These code-based terms are enough, he insists, to make a contract between humanity and its partner, the Earth. Nature, to Serres, is that very contract. It is the web of exchanges of information, technical or not, man-made or not, in which the physics of global nature is born out of communicative activity. In it, we must assume everything counts without exception.²⁸ The urgent question is not how to separate that which ought to count from that which does not. The real must be accounted for by rationality—not any pre-

27 *Ibid.*, p.39.

28 *Ibid.*, p.112ff.

sumed notion of the true. This translates into the registers of a natural economy with Serres:

Reason is founded on a judgment. But who gives what, and to whom must we render reasons? The answer leaves no doubt: to all things. If everything has its sufficient reason, we must render that reason to the very thing, well named, that we call the given. The world, globally, and phenomena, proximate, local, or remote, are given to us; it would be an injustice, a disequilibrium, for us to receive this given free, without ever rendering anything in return. Equity, therefore, demands that we render at least as much as we receive, in other words, that we do so sufficiently.”²⁹

It is by treating issues of subjectivity and identity in terms of a jurisdiction, which is prudent rather than foundational, that Serres can develop a literal materialist view on hominization: “The process of hominization ‘takes’ in us,” he maintains “the way a crystal undergoes a phase change and solidifies.”³⁰ With the advances in mathematics, rationality acquires novel capacities and capabilities—this, at least, is how I make sense of the “phase changes” of which he speaks. Such acquisition then goes hand in hand with a commitment to render back “more” of reason to the things of the world as they are given

29 *Ibid.*, p.90.

30 *Ibid.*, p.101.

now by all the inventions that come from technique and artifice. The principle of reason, for Serres too, is that reason must be sufficient. But this sufficiency, for Serres, is not qualitative but quantitative: the richer in information a thing is, the more reason must be given back to obey reason's principle, which is that of sufficiency. Serres considers such an exchange within a communicational physics as follows: "What can we render to the world that gives us the given, the totality of the given? What can we render to the nature that gives us birth and life? The balanced answer would be: "the totality of our essence, reason itself." The process of hominization is tied to rationality paying back the real, sufficiently, in reason—"the totality of our essence." Hominization, therefore, depends upon how such a sufficiency is practiced, and there is no master plan, voice, or frame of reference that can determine this sufficiency. Serres's relation of equipollence (beauty that radiates and shines whenever the real and the rational respect each other as equals in terms of power, force, effect, and significance) is the equivalence relation of an economy, but an economy in which there is no natural tendency towards equilibrium. It is an economy, therefore, marked with inverted signs: indeed, capital is not secondary, conceived as extracted and accumulated from the

redistribution of a naturally, originally balanced stock of value; in Serres's notion of economy,³¹ capital is primary—"the real, ultimate capital is the sun." From a scientist's perspective, a sun indeed is a kind of "originating principle" in the universe: a sun accretes with the occurrence of nuclear fusion. And there are millions of such "principles," even in one galaxy alone. Each one is "original," in the sense that each one bears within itself the secret of its singularity: a banked account, an objective record, of the unbelievable unlikeliness of some incandescent cosmic dust occurring out of nowhere, mysteriously, in such a way as to add up, to join each other, catching fire and fusing, and forming active particles, polyatomic and chance-bound sections, restless and radiating (rather than atomic cuts through a containing continuum). But it is not only the context of physics that is evoked by Serres's notion of the sun as the ultimate capital; the other context evoked, that of economy, is just as straightforward once one takes account of Serres's inverted view according to which capital is natural and primary, rather than secondary and a result: like financial capital, a sun too is indeterminate

31 Michel Serres, *The Parasite*, trans. by Lawrence R. Schehr, Baltimore and London, The Johns Hopkins University Press, 1982b [1980]. p.173.

without being infinite. The world results from a natural economy, a communicational physics, and an entropic exchange of information within which islands of negative entropy form local pockets, islands of relative stability that organize in a great variety of manners. By speaking of the sun as the ultimate capital, Serres links cosmic evolution with a cosmic economy. Reason itself, the totality of humanity's essence, needs to be rendered back to the world that radiates in its beauty, that gives itself away in its phenomena, in its things—this we have already seen.

Now we can grasp better how the totality of such an essence, reason itself, can be rendered back: “If I dare say so, nature gives to us in kind, and we render to her in cash, in human sign currency. The given is hard; reciprocity, soft.”³² Information is not gratuitous; it can only be obtained at a price, Serres has elaborated elsewhere. To integrate more information, the settled order of the integrating agency pays the price of putting its integrity at risk; it must affirm being shaken up and unsettled in its organization and make itself more vulnerable. “Does becoming human consist of forever unbinding so as to bind elsewhere and otherwise? Is this the nature of thought? Do we cast off from our lo-

32 Serres, 1995b, p.90

cal customs to join the universal only to change cords?” Serres asks.³³

The nature of thought, like the nature of the earth, must be considered generic and universal, not individual and general. Remaining within the registers of generality establishes what Serres calls a political thanatocracy.³⁴ Its power is based on betrayal, Serres maintains already in an early essay in the *Hermes* books. It reigns by distributing death in the name of protecting life-in-general (*bios*). Thanatocracy betrays humanity from becoming human: it administrates the stock of rational potency encoded in general forms while decoupling these specific rational potencies from their real source. This real source is the power of abstraction that renders currencies current and information capable of circulating. But why thanatocracy? Serres³⁵ maintains that it is only in relation to the reality of death—and death is always singular and cannot be generalized—that one can deal with a given situation in a manner in which “everything counts”: Once you cast off, everything you do can be held against you. The words of the examining magistrate resound. High place: high court. Here,

33 *Ibid.*, p.101.

34 Cf. Michel Serres, “Verrat: Thanatokratie.” In *Hermes III: Übersetzung*, trans. by Michael Bischoff, Berlin, Merve, 1992 [1974].

35 *Ibid.*, p.112.

the causal space of cases is open, with no apologies or forgiveness. Every act counts every word and even intention, down to the slightest detail. Like a judicial proclamation, an act accomplished here is immediately performative.

The ordinary world is more forgiving because, here, the cords are not taut; they are slack. How, then, can we define our ordinary world? “That doesn’t count” is the only rule here or, better, the gap in its laws, the cord’s braids and loops, where a thousand things without importance are neither obligatory nor punished. One does not have to pay for every detail of common life. A hundred spaces beyond the law let you do, say, or get through as you wish. Customarily, non-law prevails over law. The ease of our bodies comes from this elbow room. Who would complain about these degrees of freedom, this gratuitousness that makes up life itself?³⁶

And yet, it is the vivification of life by death that produces intelligence and diligence: “Death vivifies life, which dies from lack of death. Depart—toward nature—to be born,” and a few lines earlier: “So all my stories and the whole universe are reversed: assurance puts us to sleep, ordinary life gives itself over to death, the death in which normal stupidity, repetitive and limited, slumbers, drugged and

36 Ibid.

bound—whereas the other worlds are populated with the lively and hardy. The taut.”³⁷ If scientific terms are identified as lawful terms, rather than considered as terms that need to rest within the spectrums that attempt to grasp the improbable, the unlikely, as are dealt with in jurisprudence, then there is only negligence, no diligence. Science, then, imposes a: this or that. The universal rights produced by modern politics in this manner are not universal because they erect a general order, an order where a particular rationality controls the real, and therefore, a hierarchical and dynamical order, rather one of equipollent radiating actuality.

Science produces generalizations, but the true power of science does not derive from the stocks of potency stored and encapsulated in generalizations. It derives from abstraction. Abstraction does not extend in dimensions; it opens up dimensionalities: it is categorial, not classificatory. Generalizations render, they map abstraction’s power into temporal and spatial relations, while abstraction itself transcends time and space. It concentrates around an empty center; it considers both the negativity and the positivity of a considered vertical axis. The universal can never be represented in global terms because it is present only in abstrac-

37 Ibid.

tion—it is not only categorial, it is “cardial,” it transcends time and space because it pulsates in a natural heart that nourishes both parties of the natural contract, the Earth and Humanity.³⁸ Neglecting the difference between abstraction and generalization, the “universal properties” of modern science have produced a general order that maintains itself only (i) by producing pollution, garbage, a vile residue, a latent noise, subterranean or climatic, that begins to attack this order violently from behind its own back; and then (ii) by propagating its programs of pacification against which no one dares object, because objective violence, for this general order, means objective guilt. And guilt is the lever with which an order where a particular Rationality controls the Real betrays both the Earth and Humanity.

Let me briefly point out some indexes of how we could go further in making sense of Serres’s postulate that “hominization ‘takes’ in us the way a crystal undergoes a phase change and solidifies.” In my work, I am reconsidering the role of “writing” in the history of humanist thought within the registers of algebra (frameworks of correspond-

38 There are interesting proximities between Michel Serres’s and Luce Irigaray’s work on an ontology of breath and the role of Mary therein (Luce Irigaray, *The Forgetting of Air: In Martin Heidegger*, trans. by Mary Beth Made, Austin, Texas, University of Texas Press, 1999 [1983]).

ence, methods of balancing) by relating writing to cryptography. This will mean thinking of algebra as an information-based alphabetization in which the characters capture not voiced sounds but radiating activity. With Serres³⁹ and communication-
al physics, namely, that “nature is hidden twice, beneath a cipher and beneath a dexterity,” as the starting point, we can comprehend the “characters” of such information-based alphabeticity as the characters of “terms” articulated according to algebraic forms—algebraic forms as contractual statements that render objective how to keep a balanceable relation of equipollent reciprocity. Algebraic forms so conceived are determinative, too; they do determine an objectivity; but this objectivity is that of a global violence within a physical economy of information. Algebraic forms are determinative of the price that the Rational must pay back to the Real, that Reason must pay back to the Earth, that Thinking must pay back to Global Nature. The knowledge that such writing is capable of keeping and transmitting, then, is neither prophetic nor evangelical; it simply articulates the actuality of objective violence. Where global history tries to find a global horizon, a kind of Master

39 Michel Serres, *The Birth of Physics*, trans. by Jack Hawkes, Manchester, Clinamen Press, 2001 [1977], p.104.

Integral for all that happens, global nature tries to find rationalities that can account for cases whose cause appears in-determined.

It is clear that imagining such a cosmolyteracy is a speculative endeavor, but let me try to make a case for it here. It is literacy in a kind of bonding—literacy in writing according to the terms of information-based, algebraic forms, the forms of a geometry that, like pre-theoretical geometry in Antiquity, addresses the earth through measurement and indexing, and that, like theoretical geometry (Euclid's legacy), demarcates an objective point of reference, but a geometry that does so not only with regard to the Earth's extension in space, or extensionality in space-time (global history) but also with regard to an extensionality of recollection, which we can call the Earth's spectrality. We could think of the algebraic forms at stake as the forms of a spectral geometry, with the help of which one can find articulated, in the real, actual, and virtual world, the world in which "everything counts" and where what is at stake here is the criterion of sufficiency for reason that wants to be critical, yet needs to be instructed in how to achieve its aim, which is to contract objective violence in such a way that the partners of such contracts are recognized as equals in terms of equipollence—ob-

jective things as rising (French: *surgir*) from the seas of a pool of information, anadyomene, genuinely unlikely and chance-bound like Aphrodite rising from the foam.⁴⁰

The real, actual, and virtual world within which such bondage is articulated is a world in which, from the point of view of physics, particles radiate actively and are not entirely stable; they bond and decay. Serres⁴¹ responds to such physicality with his strong notion of the cord. The cord, he tells us, is capable of establishing three practices which regard: form (conceptual, geometric, knowledge), energy (material, physical, power), and information (judicial, legal, complexity). Responding to this radiating activity of the world, Serre's Natural Contract is meant to conserve conditions of cordiality that organize the electrostatic force of a communicational physics. A cord can (i) mark out a field and surround it with flexibility. This is what it means to define an object in terms that are cordial rather than determinative; (ii) it attaches a subject to this object as if to its knowledge or property; (iii) it informs others contractually of the situation produced by the cordial enclosure.⁴² In this way, the cord is, as Serres

40 Cf. the motif of Aphrodite in Serres, *The Birth of Physics*, 2000b, pp.24, 108, 112, 114, 138, 142, 155.

41 Serres, 1995b, p.108.

42 *Ibid.*, p.107ff.

calls it, “a triple tress” of information, form, and energy—the curly cord is, to him, the very texture of the material fabric of cordiality. “All in all,” as Serres elaborates, the cord, this “triple tress links me to forms, to things, and to others, and thus initiates me into abstraction, the world, and society.”⁴³ He continues: “Its channels pass information, forces, and laws... In a cord can be found all the objective and collective attributes of Hermes. When flexible, it embraces topology only to describe geometrical forms once it stiffens.”⁴⁴ But it is material this cord, that initiates a spectrum: “brief little pulls, low energy levels (amplitudes) to convey information,” and “when continuously pulled taut, it transmits force and power, high energy levels.”⁴⁵

It is, of course, a poetic gesture to describe the cord in Serres’s cordiality as a triple tress; but it is also a precise name, namely, for an electromagnetic field: information, form, and energy are needed to articulate not only a curl’s lively and never properly tameable activity but also the alert rather than dynamic activity that results from the propagation of waves, in which the quantum particularity of exchangeable charges are vibrantly and continuously

43 *Ibid.*, p.108.

44 *Ibid.*

45 *Ibid.*

arranged. With this, we have a starting point from which to consider Serres's⁴⁶ proposal that hominization, within conditions of cordiality, "takes in us the way a crystal undergoes a phase change and solidifies."

Crystallization is the process of forming a reciprocally symmetric structure from a material fluid. It is an extensively studied field because, depending on local-yet-universal conditions, a single fluid can solidify into many different possible articulations with different properties. Polymorphism is the ability of a solid, or rather its group of atoms, particles, and electrons, to exist in more than one reciprocal body (crystal form). The final form of the solid is determined only abstractly by the universally valid conditions under which the fluid is solidifying locally—conditions such as the chemistry of the fluid, the ambient pressure, the temperature, and the speed with which all these parameters are changing. Crystalline structures occur in all classes of materials with all types of chemical bonds. A chemical bond is an attraction between atoms that allows the formation of chemical substances containing two or more atoms. The bond is caused

46 *Ibid.*, p.101.

by the electrostatic force of attraction between opposite charges.⁴⁷

Translated into our communicational physics, the natural contract would characterize an electromagnetic field between The Earth and Humanity as poles of opposite charges. But what can we take from this for a materialist view on hominization? Let me try to disentangle this peculiarly “univocal analogy” proposed by Serres.

1. It treats the human-like as crystallography treats the crystal: as an encrypted abstraction, arcane in essence, but through scientific description also encipherable and decryptable, and of material, chemical, and physical effectivity in these very operations. In crystallography, the earth is studied in terms of crystallization, and crystallization is studied in terms of the cases that can be found by experiment and attentiveness, as Serres would put it, to “how the Earth speaks.”⁴⁸ The actuality

47 For a starting point to pursue an understanding of this, cf., for example, wikipedia.org, on “crystallization.”

48 What language do the things of the world speak, that we might come to an understanding with them, contractually? But, after all, the old social contract, too, was unspoken and unwritten: no one has ever read the original, or even a copy. To be sure, we don’t know the world’s language, or rather we know only the various animistic, religious, or mathematical versions of it. When physics was invented, philosophers went around saying that nature was hidden under the code of algebra’s numbers and letters: that word code came from law. In fact, the Earth speaks to us in terms of forces, bonds, and inter-

at stake here originates in the strangeness of the object witnessed in empirical studies for which a metrical experiment set-up is necessary but never enough: in order to notice how the Earth speaks, attentiveness and acuity are required as well. Both poles of such a relation prosper in their powers with which they can, together, account for the apparent richness in phenomena that concern them. It is in that same manner that we could study the Earth in its mutually reciprocal relation to Humanity. This would then be anthropography rather than anthropology. It would be to study the patterns in which social nuclei are bound together in relational forms of collectivity.

2. Just as crystallography remains entirely undecided regarding what energy is supposed to be— all it needs to assume is that the amount total of energy in the universe be invariant, and likewise, with regard to what matter in itself is supposed to be—an anthropography too must remain entirely undecided with regard to questions of essentiality. It needs to assume what life is as little or as much as crystallography needs to assume what energy

actions, and that's enough to make a contract. Each of the partners in symbiosis thus owes, by rights, life to the other, on pain of death. (Michel Serres, *The Natural Contract*, trans. by Elizabeth MacArthur and William Paulson, Ann Arbor, University of Michigan Press, 1995b, p.39).

is. And it needs to predetermine what vitality or spiritedness is as much or as little as the latter needs to predetermine what materiality is.

3. Crystallography works with graphical notations that can be precise or imprecise. The structural fabric of this notation, with which it speculates and experiments, is graphical only because there is scripture which its graphisms articulate. But, and this is the decisive point, this scripture is not meant to represent anything. It must be considered simply as striving to keep relations reciprocal in the abstract symmetries it articulates. There is a notion of law involved, but those laws do not represent nature. They are universal but virtually so, like algebraic formulas. They are actualized within the constraint of locally particular conditions symbolically manifest in the algebraic and cryptographical forms of contracts. Perhaps we can say that nature so conceived is universal and genital, while it is kindred and specious (sexed) only in the articulations of such formulaic contracts. In such a wordplay, then, genderedness would apply to the contractuality, as the symbolic nature of such anthropographical articulation.

In my reading of Serres, am I proposing to combine alchemy with mysticism in the name of a new science: the science of communicational physics? I readily admit that this cannot easily be refuted. But then, are these not flag words brought forward to call to reason—and hence, effectively, to terminate—attempts to formulate new forms of speculative materialism/realism? My concern has been to set out how Serres's⁴⁹ idea of a Natural Contract, which begins by insisting that issues of climatic and environmental concerns must be addressed in the terms of law and philosophy rather than those of an ecology or a politically expanded version of al-biology (Biopolitics), has something important to contribute to this emerging interest in the role of speculative experimentation and their conditions of computability. So let me summarize this core contribution: There is a “reciprocal transformation of cause into thing and fact into law,” Serres maintains. It explains “the double situation of scientific knowledge”: its arbitrary convention, as all speculative theory, and the faithful and exact objectivity that underlies every application.⁵⁰

49 Michel Serres, “Revisiting the Natural Contract,” trans. by Anne-Marrie Feenberg-Dibon, in *CTheory*, ed. by Arthur and Marilouise Kroker, 2006, <https://journals.uvic.ca/index.php/ctheory/article/view/14482/5325> (accessed February 22, 2023).

50 Serres, 1995b, p.22.

**Statuesque Words in *Locum Tenens*:
Cornucopian Instruments,
Lieu-tenants of Statements**

“Please make way for an instant,” Leon Battista Alberti has his character Xerxes say to the gathered crowd; please make way for an instant such that the *Debauchee*, the pleasure-lover, can pass through and have his fortune told by *the Astrologer* who is not but wants to be respected “making predictions that come from the stars, not from himself.”¹ The Astrologer is described as *decrepit*, worn down, exposed, as a figure of ridicule, largely stripped bare of credit and appreciation—Xerxes has to temper the crowd: “What manners! What a worthy and modest city!... has your impudence taught you to demand everything you desire?” He appeals with urgency rather than sovereign authority: “I beg you again: leave at least a little space before the door. And you,

1 Leon Battista Alberti, *Dinner Pieces: A Translation of the “Intercenales,”* ed. by David Marsh, New York, State University of New York at Binghamton, Medieval & Renaissance Texts & Studies, 1987, p.40.

decrepit astrologer, sit down inside where the mob can't crush you."²

The piece that depicts this situation is entitled *The Soothsayer*. It is one of the so-called *Dinner Pieces* in Alberti's book *Intercenales*, literally *Between Meals*. This book from the early 15th century does something remarkable: like Daily News Papers, it is concerned with current topicalities, with *Aktualitäten*, as we say in German, with what has been happening lately. But its treatment of News, we could say, is inverse to that of journals. It is not the extraordinary, the singular, the catastrophes and crises; it is not the breakdown of a time that would, if it could, unfold according to linear expectations where from one thing, the next thing is to follow. Rather, the latest happenings always come cyclically for Alberti. We are in a temporal domain that unfolds *between meals*, the time of the Gospel is interrupted, the News are actualities that are strangely so in time but out of it too, current topics that are current while also being absent, and that are absent while also being current. It is the domain of such a *locum tenens*, a domain of place-holding positions that I want to explore in the following. I am interested in it because it appears to open a novel manner of thinking about a domestic kind of

2 Ibid.

architectonics according to which—and here I am perhaps over stressing the point, but for the sake of speculation let's do it—one can establish knowledge like one founds cities. When daring to learn from Alberti about such a civic epistemology, such an architectonic social science approach, we should not forget that Alberti was by formation a jurist and, by passion, a mathematician. The methods and imagination of the law, as well as of mathematics, pervade his entire work— perhaps especially his literary work.

Indeed, in Alberti's *Dinner Pieces* and a great number of his lesser-known writings, Alberti knows how to redistribute the many characteristic power positions in a manner seldom heard nor seen. In the passage cited at the beginning of this talk, Alberti, in one stroke, redraws the positions of the dramatic plot of the Classical Polis: Xerxes, the allegorical Persian Emperor once so feared by the Greek city-states, finds himself displaced to mid-fifteenth century Rome, in an Italy of cities freshly emerging with a novel kind of autonomy out of a declining Empire. Xerxes does not belong here, but Alberti demands from him that *he makes room and keeps a place* for an Authority not only other than himself but also one of at least the same age as Xerxes himself, yet one that is even more of

a mistrusted stranger in this displaced situation than he is. Astrology has to be told by Xerxes that it needs to sit down *in* the center, that it can no longer speak from a position out there outside of the social domain. Xerxes himself, the sovereign emperor, needs to guard the door—we hear him speak again to the Astrologer: “I’ll stand in the doorway and describe people’s appearance and features, which you can discern but poorly because of your defective vision.”³ Alberti allots positions key to many political plots: we have a Sovereign present but not really in charge and not really out of charge either; he is a gatekeeper, not a dictator or leader; we have another authority competing with but also conspiring with that of the sovereign, one that knows how to keep time and tell the future that too is present yet not really in charge and not really out of charge either. In any case, the Astrologer appears largely disempowered because his vision, at least for what is in the proximate distance, has been dismantled and is considered “defective.”

And then we have, of course, Alberti himself as the authorial voice that witnesses the story of such redistributed allocation, such plotting. And this authorial voice speaks in coded metaphoric speech—literally, as the German language has it,

3 Ibid.

“in übertragener Rede.” In speech that is being *transmitted, transferred*—but transmitted, transferred *from where and to where?* And transmitted *how?*

Alberti chooses *literary* domains to express what he has to say, rather than those of a practical treatise or that of learned commentary and explanation. It is a *communicative transfer* that Alberti is performative in, and it proceeds poetically; I want to suggest one that proceeds with *rhetorical coding*. To proceed poetically, this means that it takes turns, goes in angles, and the lines of its prose are dramatic and tempered. They are exciting as well as excitable. *Rhetorical coding that proceeds poetically* involves a manner of reasoning that is conductive and current, also recurrent, progressive as well as iterative. This reasoning is *versatile*, but it is principled; it is concerned with origins and ends, orders and purposiveness. It needs to be called domestic, pragmatic too, and architectonic.

To be proficient in such rhetorical coding that proceeds poetically, one needs to know how to play instruments *mathematically*—this is how Alberti’s book *Ludi Rerum Mathematicarum*⁴ (plays with mathematical things) expresses it. Such know-how is not characterized by an either-or. It involves proficiency. Instruments that can be played mathe-

4 Kim Williams, Lionel March, Stephen R. Wassell (eds.), *The Mathematical Works of Leon Battista Alberti*, Basel, Birkhäuser, 2010.

matically are instruments of encoding and decoding. Rather than speaking of Alberti's technique as *allographic*, as Mario Carpo has recently done, we should speak of it as *cryptographic*. The difference is substantial: while allographic is a term regarding how meaning is to be represented, cryptographic is a term regarding how the articulation of meaning can be socialized and cultivated. The former seeks to strip all inventiveness as forms of subjective bias from its treatment of meaning; the latter is passionate about how to invent manners of how meaning can be addressed legitimately. Alberti was a jurist by formation; his approach to coding is categorical in the old sense of that term, namely, how a thing is to be addressed before the law. For Alberti, the law and the city are mutually implicative. Neither one pre-exists before the other. They call each other forth. The literary domains where Alberti expresses what he has to say, those *loci tenens* of his communicative transfers, his encoded imports and exports, are the dramatic sites where the contrasts between ideality and reality need to become manifest. The city is where such profiling takes form.

Alberti was the illegitimate son of a powerful Patrician Florentine family. He wrote the *Intercentales* for his friends after he finished his studies in Law and when he began to spend days and days,

evenings and evenings in his position as a Secretary at the Papal Chancery in Rome. Alberti's time was an interesting time to study law: Canon law, church law which had been codified by a Bolognese monk called Gratian in the early 12th century, was taught in parallel to the Justinian Code of Civil Law; but only a few people commented on both traditions. Alberti did not strive to work as a lawyer because, I like to imagine, he could not decide on either one. Rather, his humanist disposition inclined him to build bridges between the two. As I want to demonstrate in a moment, Alberti's architectonic reason is pervaded by translating between canons. In the young and emerging cities, with their novel kind of autonomy, it is perhaps the first time such translation becomes possible. The old authorities need to be respected, that of the larger empire as well as that of the Church. To do that, the foresight of the Astrologer is needed as an imported point of view from the outside of a city, and it is taken into service for the public good. I want to suggest that it is the authority of a voice that, from then on, comes to speak in the architectonic tradition of *disegno*. Drawing things together, planning the next steps, designing architectural models, all these things do not happen in an ideal and a-temporal domain of form—the plotting is called by Alberti to the

city center, even though their authority is that of a stranger who comes from elsewhere. Drawing things together needs to happen amidst—where there is action always already taking place. But it cannot happen without also lending an ear to what sounds from the outside. As the *astronomer* perhaps knows better than the *astrologer*: mathematics provides instruments that need to be played mathematically. The lines of mathematical reasoning are like excitable strings on an instrument that can be played upon. This is what articulation, rhetorical coding, does. Founding a city, if we understand it as an analogy to how knowledge can be established by mathematics, is not something that happens at one point and then remains the increasingly distant reference through time for all that happens afterwards. Founding a city, like the establishment of knowledge, never ceases to involve us. Alberti's small treatise on how to map the Roman city, in particular, can help us better understand how.

In this treatise, Alberti facilitates his reader to craft maps of Rome, each for her or himself. He calls these maps *descriptio*, the city can be described, but the descriptions need to be crafted. What we need to understand better is how such maps must count as original maps, as maps of the original Rome—only, this originality has never ceased being alive!

Alberti's work at once was and was not that of an archaeologist. It was in so far as it maps a strange kind of incessant and prolonged "state," an ongoing stasis—one that depicts and fathoms out the thickness of historic change that actually happened and keeps happening to Rome. But also, it was *not* archaeological as it does not seek to fix a bottom to this thickness to identify a ground that would lay inertly at its foundation. Rather, Alberti, the jurist, seeks how the reason that builds the foundations of Rome can be addressed. Alberti's project was not one in *ichnography*; it was one in terms of *lineamenta*. I will come back to this in a minute. He did not actually *draw* a map to be representative. Rather he gave a particular set of *instruments* for drawing maps of which each is to compose a score according to which the classic "originality" of Rome—with which Alberti, like all of his Renaissance peers, sought to reconnect—could be played anew. They are instruments that anybody could learn and play because they operate by and are made of technical schemata. But these technical schemata, for Alberti, represent what they facilitate as little or as much as a violin represents the music it can sound. They are the instruments that facilitate play with mathematical "things"—literally, mathematics means all that pertains to learning. They are hence

instruments that allow playful interaction with what can be *known*.

But again, *where* would such play be happening? Where would its domain be located? What space could accommodate the categories of addressing the reason at work in something classical, something timelessly actual? Here lies the great inventiveness of Alberti: he invented what I call an architectonically-literary setup for map-making. He invented the endowment of a *locus tenens* that would turn it into a site from within where the thickness of this manifestation of Roman history can be mapped. It is a self-referential site of the where-within it is possible to map; it comes as a projective satellite image, a *Weltraumbild* that comes in the form of data tables. It is an image, but not one that was to represent the Earth (or any other object) from *outer* space. Rather it is an image that is to conduct and facilitate encrypted statements of what it is to depict *from within and amidst the domain of time*. It facilitates *the imagination* of how the classical city, the ever-actual city that lasts through time, can be one of Age and Youth. Alberti's *Weltraumbild* is a satellite image that needs *time-ships* rather than *spaceships* to capture the sight that it captures. Alberti's *Weltaumbilder* give us a crypto-sopic view

from within *the outer time* of the universe that hosts the natural history of the Earth. Let's see how.

Alberti needs two instruments that play together for such map-making. One he calls a horizon, and it is to encompass all of the absently-present city. The other is a radius ruling on that compass, it is a ruler that is mobile and that can rotate in discrete steps on the compass's disk. The setup of Alberti's map-making observatory looks a bit like a watch. The horizon line comprehends the two singularities when day and night are equally long—the Western and the Eastern *Equinoctia*. They both serve as polar coordinates within one common compass. Alberti applies a procedure well known from calendar making, where polar coordinates constitute the Equinoctial horizon and where the cyclic passing of days and nights can be counted: the compass of the calendar cycle is divided into months, each month into days, days into hours, minutes and seconds. But with regard to calendars, such counting goes in accumulatively progressing circles. In the years that pass, in every cycle, there are not only the two equinoxes; there is also the solstice, the singular point of turn. Alberti is playing here with the technique of calendar making and time counting—he is playing “with this mathematical thing:” Alberti's compass was to be divid-

ed into forty-eight parts which he calls “degrees.” The “degrees” are again partitioned into four parts, which Alberti calls “Minutes.”⁵

Alberti’s satellite image, *taken from within the outer time of the Universe*, proposes nothing less than a structural analogy between the classic city of Rome and the device of classicality itself, that of how time can be kept, the clock and its counting through Calendars. Architecture incorporates and manifests objectively time that passes massively, the time of ageing. Architecture manifests how there is ageing to originality. This is why already, for Vitruvius, not only *buildings* and *cities* but especially also *gnomons* and *machines* were constitutive of architecture.⁶ Alberti’s mathematical instruments are gnomonic too: in addition to this horizon that is to encompass the city of Rome in its historic thickness, which is to be graphed on the cypher disk of his instrument, he provides a second device, a ruler that rotates and

5 Alberti, cited in Mario Carpo, *Leon Battista Alberti’s Delineation of the City of Rome*, Tempe, Arizona Center for Medieval and Renaissance Studies, 2007.

6 Ibid., “You must divide this horizon into equal parts such that there are forty-eight parts—we shall call these parts “degrees.” And beginning with the first, write a number for each of these degrees in this way, namely in order 1, 2, 3, 4, 5, etc. up to 48—the result will be that, starting with the first degree on the horizon to the north, the south will bear the number 24, the eastern equinox will be numbered 12 and the western equinox will be marked 36. I then subdivide each of these degrees into four parts—these are called “minutes,” p.97.

that indicates positions within the compass. It is also divided, into fifty equal parts which he also calls “degrees,” and which he again subdivides by four into “minutes.”

What we have here is counted minutes rotating across a disk of counted minutesimality—and this disk of minutesimality, in turn, is to *legitimate* the actual counting of the radial passing of time in minutes. The classical city is the ever-absent city. The one where time lasts and does not pass. In other words: the lasting time of the classic city is rendered graphical, sharable, and communicable by Alberti, and thereby facilitates the ever-actual and ongoing process of how it is not just assumed as an ideality but is actually being founded by discrete steps that proceed gradually! Like his Renaissance peers, Alberti, the humanist, wanted to continue the classic legacy of Rome, but not without reserving the possibility for exceptionality and criticality that would mark the re-birth of the classical, its contemporaneity and its generational logic of ageing.

The *Dinner Pieces*, the short texts in the *Intercentales*—these *literary pieces from between meals* from which I cited the short passage with Xerxes and the Astrologer in the beginning—are allegorical dramatizations that create *civic* tension. They do so

rather comically by evoking a sense of allegorical likeliness that always counts in the lower animal nature that coexists with the emerging humanist sense of natural dignity. Intellectual understanding and socialization customs are counted here, even if, and precisely in how, they inevitably fall apart. Such allegorical dramatizations are comical not by lack of rationalization and theory but by means of it. We have here a form of the comic that works not by *pathos* but by theoretical anticipation, wit and humor. The aspiration is clearly that of developing a shared common sense, but one that roots in a shared detachedness, not communion. And yet, through the humor with which it works, it is not stripped from warmth and empathy.

When many appearances are profiled against each other, we usually know that we are in a comedy—it is the main feature that the comic shares with the festival, the banquet and the symposium tradition. Luigi Pirandello, the early 20th-century Italian poet and intellectual, admirably writes, in his treatise *On Humor* (1920), that “If one sees in humor a particular contrast between ideal and reality, it means that it has been considered superficially and from one aspect only.” For in comic writings, an ideal may very well exist—but “this depends on the personality of the poet,” Pirandello continues—

and if it exists, “It needs to be analyzed, limited, and represented in this way”⁷—that is, as an actively witnessed contrast between ideal and real.

It seems that a specific awareness of just such comic complexities is an important bond among the very diverse writings of Alberti—from the early literary texts to his influential treatises on sculpture, painting, mathematics, cryptography, linguistics, and architecture.

It is well known how much Alberti owed to the Roman tradition of rhetorics and mnemotechnics, especially Cicero and Lucian. What links rhetorics with this tradition of the comic, as well with the particular view on architecture I want to suggest here, is knowing how intricate it is to ask questions that seek to *find* what in ancient rhetorics was called a stasis or a common ground; stasis, here, is not what can be taken for granted, an inertial background to all dynamics. It is what must be achieved and dispositioned and what will characterize any action that might unfold in a particular plot. Stasis is a term that means the precondition for any possible argument—and as such, also any possible *appropriateness* or *decorum*.

7 Luigi Pirandello and Teresa Novel, “On Humor,” in *The Tulane Drama Review*, Vol. 10, No. 3, 1966, pp.46–59, here p.47.

Stasis theory in rhetorics manifests an instrumental kind of reasoning. It assumes that for every opinion, for every argument, there is also a *valid* counterpoint that cannot be made to go away—rather, one needs to lay out a site, to endow a place such that it can act as a kind of a *fulcrum*, a point against which a lever can be placed such that both poles can trust to find themselves, in principle, respected and taken into account. Such stasis is achieved only with skill and by asking the right questions, by finding how to frame what is at issue in manners generous but also polyvalent enough for all parties to consider themselves, in principle, heard and recognized. This was one of the key challenges of ancient rhetoricians, which we tend to forget entirely now that we tend to only attribute the potential for biased manipulation to this instrumental reasoning.

Let's again hear Pirandello:

Surely, [...] *a contrast between ideality and reality* enters and is felt in any humorous work. It gives to it a particular character and particular taste. But it isn't a pre-established condition. Just the opposite: it is characteristic of any humorist, through his special kind of reflection, which creates the feeling of incongruity, of not knowing any more

which side to take amid the perplexities and irresolutions of his conscience.⁸

Does such a contrast between ideality and reality not also resonate astonishingly well with Alberti's intricate relation between what he called "lineamenta"—the architectonic fitting of lines and angles, an "ichnographia" understood as "ground plans"? Alberti's term "lineamenta" has indeed often been translated with just that same word as "incongruity." Could it be that Alberti's literary writings, his architectural drawings, and his understanding of *disegno* are conceived in a manner that is, in the senses of such instrumental reason as I tried to depict here, deeply—archaeologically, if I may say so—*comical*? Let's hear Pirandello again:

Comedy and its opposite lie in the same disposition of feeling, and they are inside the process which results from it. In its abnormality this disposition is bitterly comical, the condition of a man who is always out of tune; of a man who is at the same time violin and bass—of a man for whom no thought can come to mind unless suddenly another one, its opposite and contrary intervenes—of a man for whom any one reason for saying yes is at once joined by two or three others compelling him to say no, so that yes and no keep him suspended and perplexed for all his life—of a man who can-

8 Ibid.

not let himself go in a feeling without suddenly realising something inside which disturbs him, disarranges him, makes him angry ...⁹

Certainly, in Alberti's literary writings, we can easily recognize just such a disposition of the authorial voice. Alberti's topics in the *Intercenales* are comical characterizations of many things. One among them treats Patience and depicts her as the daughter of Necessity. Patience tells her mother that she is "not one who regards as certain and true everything that has been written down," just before asking her mother what the words meant, which she finds written on a jar that contains, as she is being told, the best protection you can provide against men's maladies." We learn that it is a jar full of "ointment made from the essences of diligence and labor" — but before Necessity can tell her daughter what the words written on that jar mean, Patience lets the jar fall — "please don't think I did it on purpose mother, it was bad luck, the jar was greasy and slippery and slipped from my hands."¹⁰ Other *Dinner Pieces* treat in a similar allegorical manner The Coin, Wealth, Fate and Fortune, but also Fame, the Cycnic, Stubbornness, Discord, Religion, the Lake, the Widow, Poverty, The Marriage and The Love Affair.

9 Ibid., p.46.

10 Alberti, 1987, p.47.

There is a *domestic* manner of reasoning depicted in these pieces, but one that at the same time shuns any transcendent protection offered by the Domus of such domesticity. It is a manner of reasoning that knows that it ages and matures, grows old and stiff, or is born with fresh youth, and at times cannot help behaving in an infantile manner. It is a reason that cannot ever undo its past, one that is always coming from somewhere. It is a reason for which there is no innocence to be claimed. Domestic architectonic reason articulates itself with the voice of a *vicarious authority*—the speaking subject proceeds by experiences; it is on the basis of experience that it proceeds by crediting and praising, by discarding, spending and banking, by hosting and servicing, by withholding and hypothecating. It is a reason, in short, that subjects to a *substitution play* whose stasis needs to be dispositioned architectonically and whose motive, whose moving force is larger than it could possibly know of. Its domain is that of vicarious plots that condition presences as much as negligences. Such architectonic reason, I suggest, is subject to a universal economy, it is domestic, private, but it is also political, public, because it orients itself with the help of concepts, we ought to call *capital*.

Capital concepts are conductive rather than delineating. They are hosting what they conceive rather than deciding what belongs to what. Their form must itself be counted, and the unit that lends itself for such counting is a restless unit in circulation. Capital concepts are presuming and excitable concepts; they are concepts that do not grasp but that stand up and let go; they introduce right angles, orthogonality, they know manners of conduction where no plane lines show the pathway. The kind of conception they are capable of only partially falls within their own domain. It consists of acting as the host of a happening which they let pass, which they do not seek to control. And yet the conception that Capital concepts are capable of is not undecided and meandering; it is discrete and decisive. It is a decisiveness that is rational and yet never happens according to pre-established rules. Capital concepts conceive not through outlining and separating but through hosting. They are not symbolic concepts that would unify different things. Rather, we can think of them as actively accommodating, conductively, what they are to conceive, by letting go of what they could hold on to, by letting things get away. Capital concepts do not capture; they instead *offer*. They are reasonable but without immediately making sense. This is because abstractly consid-

ered, they can make any sense, while on the other hand, if one were to look at them as something concrete, they would be concepts that can no longer be considered capital; they would then be regulated and principled totally. What they contain would have turned into administrated good, stripped bare of all virtuality.

We indeed need to say of capital concepts—even though they are excitable—that they lack direction (sense). But if they are treated reasonably, they “lack” direction (sense) actively by seeking to collect all that can be considered *absent*. Capital concepts host what they conceive rather than deciding what belongs to what—attempting to account exhaustively for what they are capable of “hosting” is as impossible as accounting exhaustively all that can be realized, over time, with a certain sum of money.

Reasoning, in terms of capital concepts, does not try to get things right. It seeks to support the uprightness of things—by challenging them forth. At the table of such a natural, cyclically current communicative intellect, the hosting reason will want nothing but never to cease being a host. And for that, it will want to keep things open. It needs to lose direction. It needs to let go of what it accommodates. In other words, capital concepts incorporate intellectually what it means to have a body that can

be absent; and they know well that they are nothing on their own. A capital concept is one of uttermost generality—like a sun that tries to collect all it has to spend. At that same time, capital concepts are concepts only in so far as they are parsed (partitioned) into the scales of a not-ever properly lasting minutesimality that inheres to, and that inhabits, the massive passing of time in a great many spaces of polar coordination. They are concepts that do not grasp but stand up. What they contain cannot be depicted but must be sounded, for they matter in what they are saying, even though they are attempting not ever to say anything in particular. This they do precisely and actively so, with more or less finesse.

Through such domestic architectonic reason, drawn to excitement and interest by subscribing itself to the task of translation and diplomacy more than to judgement and classification, this is how we find in Alberti's oeuvre, in an exemplary manner, a reason that reflects about itself in what I would call a *cornucopian* manner—theory in architecture tends to produce instruments, instruments that sound a bottom that can never be exhaustively fathomed, because the more it is sounded, the deeper it reaches. Knowing how to play the instruments of domestic architectonic sources sounds from

the clamorous absurdity of noise, in finding ever new translations from an acoustic and responsive domain of harmonics to the visual and imaginary domain of geometry.

Cornucopian instruments articulate a vicarious order which needs not only be capable of facilitating novel and contemporary conducts of life but also to accommodate any form of heritage—classical, traditional, ecclesiastical. It is, hence, an order of substitute positions; it is an order by means of keeping absences, it is an architectonic that knows how to keep recognized but empty the contested positions of power, might, authority, hospitality, hostility, and patronage. It is *eine Platzhalter Ordnung*, which depends upon dressing up, allegorical veiling, forms that keep latent, not to the end of locking away and keeping secluded a particular content, for an exclusive group of the initiated, but rather to make what it veils—without precisely knowing how to—bearable, sharable, communicable. Not more and not less.

“*Please make way for an instant,*” we started by citing Alberti’s character Xerxes in the piece entitled *The Soothsayer*. That is because instants do not just pass. Sometimes the ways for instants to pass are to be made, fabricated, dispositioned, guarded, and called forth. At stake is a notion of beginnings that

are neither those of a determined path, nor those of myth, nor those of explanation. They are *unlikely* assessments—speculatively-projective excavations that bring into novel constellations the vicarious structures of plots and stories that date in time in heteroclite manners—*heteroclite*, like those words in grammar which demand irregular inflection.

Making way for an instant to pass—perhaps there is no architectonic articulation without prophecy?

Photosynthesis:
Cosmic Convivia of *Meteora* Alloys

The attempts and discoveries of Priestly and Ingenhousz ...have been so significant not only because they triggered a huge leap in progress of understanding plant physiology, but also because they uncovered a radically novel view on the Earth's atmosphere. The air which we breath is not merely a purely geological or mineral reality—it is not just there gratuitously, it is not effectuated by the Earth as such—rather it results, literally, from the breath of the other animate beings.¹

—Emanuele Coccia, *Die Wurzeln der Welt: Eine Philosophie der Pflanzen*, 2016.

1 Coccia, from the German translation: “Die Versuche und Entdeckungen von Priestley und Ingenhousz [...] waren nicht nur deshalb so bedeutend, weil sie einen riesigen Fortschritt im Verständnis der Pflanzenphysiologie ermöglichten, sondern weil sie einen radikal anderen Blick auf die Atmosphäre durchsetzten. Die Luft, die wir atmen, ist nicht eine rein geologische oder mineralische Realität—sie ist nicht einfach nur da, sie ist keine Auswirkung der Erde an sich—, sondern sie ist tatsächlich der Atem anderer Lebewesen” (Emanuele Coccia, *Die Wurzeln der Welt: Eine Philosophie der Pflanzen*, trans. by Elisabeth Ranke, Munich, Carl Hanser, 2018 [2016], kindle edition, loc. 574).

Plants “nourish” themselves from the substance of light—they synthesize with photons, so we commonly say. Yet how are we to think of such “nourishment” or such “metabolism”? Plants are plants because and insofar as they photosynthesize. Plant nature can be separated from photosynthesis as little or as much as human nature can be separated from thought/intellect. Is there something to be made of this analogy between photosynthesis and intellect? If we think of it in an analogy to language and the traditional question of language’s substance in literary terms, would plant nature then be a Great Banquet, as Dante’s *Convivio* depicts the nature of Tuscan vernacular at the allegorical table of the Latin language, featuring authority and host to the “lingo-gonic”² scene he dramatically depicts? What would be in the position of Latin if this analogy were indeed an interesting one? Or ought we rather think of such nature, as Plato imagines in his *Symposium*, as akin to the philosophical? Plato’s *Symposium* is a locus that is and is not a marketplace. In this site, conceived as that of a symposium, there is a host and there are guests, but it is merely words that are exchanged for food and drink. Drinking and talking, more

2 I speak of lingogony here, the coming into being of a language, as one speaks of theogony, e.g., Hesiod.

so than eating, give the cue that tempers the idea of such a wisdom-loving site that gathers guests around a common table by having them participate in a “friendly” contest.

Is it utter nonsense if we try to extend something meaningful from attending to the nature of plants in analogy to the nature of intellect, such as to develop a more general—a generic, perhaps—idea of nature according to photosynthetic terms? Would we not rather call such transformative metabolism thermodynamic “work,” in the apparently sober (non-metaphorical) sense of transforming energy from one form or state into another? These questions give the directionality that my attempt here to consider photosynthesis as a (new-materialist) concept strives to catch up with. What I am circling around is how and whether we might think of something like *quantum literacy* as a kind of quasi-photosynthetic nature.³

3 Regarding “quantum literacy,” cf. Vera Bühlmann, *Mathematics and Information in the Philosophy of Michel Serres*, London, Bloomsbury, 2020b; Vera Bühlmann, Felicity Colman, and Iris van der Tuin, “Introduction to New Materialist Genealogies: New Materialisms, Novel Mentalities, Quantum Literacy” in “New Materialist Genealogies,” edited by Vera Bühlmann, Felicity Colman, and Iris van der Tuin, in special issue, *Minnesota Review*, Vol. 88, Durham and London, Duke University Press, 2017a, pp.47–58.

Pulsating Alloys of Androgynous Nature

We are at least distantly familiar with photosynthesis as a natural process—we know that trees and bushes, flowers, and grasses all nourish themselves from the sunlight and, through their metabolism, help to create a life-friendly atmosphere. And yet, we are seldom amazed by it. We do not think of light as a “substance.” We are not at ease with thinking of light in material terms. We are rather well used to thinking of photosynthesis *as a process*, that is, in relation to how it works technically. Since learning to handle with greater and greater sophistication processes that are familiar to that of natural photosynthesis or that explicitly harvest its effects, organic chemistry is producing synthetically natural alloys that permeate nearly every aspect of our lives (fabrics and materials, medicine, food, and all forms of agriculture). Yet, if we want to come up with a concept that does not describe the process but rather tries to capture photosynthesis as something worth grasping in its own right, as a principle, we need at least to clarify whether such a conception is a matter of epistemology or ontology. Or should we refer to it perhaps better in the blended terms of an

“onto-epistemology”?⁴ Either one, I want to maintain, is bound to miss the most unsettling aspect of photosynthesis. What I mean is its *economical* aspect—the aspect of a cosmic economy, of spending and banking, hosting and servicing, withholding and hypothecating, in short, a substitutional dynamics that conditions material rememberings as much as material negligences, and which one has to maintain that it is natural, universal even.

To consider this economic aspect, we need not necessarily revert to literature and philosophy, as with the theme of the *Convivio* and the Symposium. We can think about photosynthesis as a principle in mechanics. But to fully picture where we would be, we need to consider an alienating shift as well, namely that between classical and quantum mechanics. We need to ask what it means to speak of principles regarding alloys. For Newton, principles belong to the domain of mathematics, not physics, while physics knows forces that *obey* those mathematical principles. This makes up the backbone of the apparently self-evident conception of passive matter: matter as hosting indifferently physical forces that are, in themselves, considered as de-

4 Karen Barad, *Meeting the Universe Halfway: Quantum Entanglements of Matter and Meaning*, Durham and London, Duke University Press, 2007.

terminate and uniform but that obey mathematical principles. Quantum mechanics, on the other hand, asks us to re-conceive matter as agitated, as endowed with “agency,” as “radiatingly active,” as a “restlessly circuitous cyclicality.” Quantum mechanics suggests that there is a kind of “sense” proper to matter, that matter is not merely the meaningful host of sense that can be made. Sense literally means both meaning and direction; through the optics of quantum mechanics, matter appears to embody a kind of corrupted meaning that is not invariant and autonomous but biased, impure, and inevitably subject to inclinations and declinations.

Science’s relation to matter and materialism has always been ambiguous; early materialisms, like Democritus’s atomism in antiquity, were just as much a moral philosophy as a natural one (proto-physics). This ambiguity results, we can easily understand, from matter being what can be learned to be controlled through mechanic cunning, through *technē*, while it is at the same time what must be suspected—anticipated—always to host “more” than what one can attend to. Matter, hence, cannot be trusted. From a materialist point of view, the only reasonable relation to matter seems to be one of “forcing.” Algebra itself, usually thought of as the mathematics that facilitates the

adjustment of balances within its formulaic form (algebra is always expressed in equations, i.e., in speculatively setting equal what is not exhaustively known, what entails “unknowns”), was introduced by Al-Khwarizmi not only as the art of a re-constructive “completion” of a lost equivalence but also as the art of “forcing” in the sense of “compelling,” literally a driving together in one place—this is an aspect that is often neglected in mathematical history books.⁵ Algebraic formulae, of which it is assumed that they are fully *determinate*, are what we have come to call “laws” of nature—building a deductive system of such laws is what Newton famously achieved with his *Natural Philosophy According to Mathematical Principles*.⁶ On the other hand, algebraic formulae of which it is assumed that they are fully *determinable* (rather than determinate) are what we have come to call “principles,” and we tend to attribute them to chemistry rather than physics. What I want to ask is this: how is it that of the two

5 Cf. *The Oxford Encyclopedia of Philosophy, Science, and Technology in Islam*, Vol. 1, ed. by Ibrahim Kalin, Oxford University Press, 2014, p.24 : “The Meaning of Algebra. The two important terms related to algebra are al-jabr and al-muqabala. Al-Khwarizmi did not explicitly define these terms, and he was not always consistent. The literal meanings of al-jabr are ‘completion, restoration, setting back in place’ or ‘forcing, compelling.’ ... The literal meanings of al-muqabala include ‘comparison,’ ‘matching,’ and ‘balancing.’”

6 Isaac Newton, *Natural Philosophy According to Mathematical Principles*, trans. by Andrew Motte, London, 1729 [1687].

arguably most abstract and amazing “workshops” of nature, those of nuclear physics on the one hand and organic chemistry (which revolves all-around working with photosynthesis) on the other, only one, that of nuclear fission, has widely troubled philosophical discourses throughout the twentieth century. The other, photosynthesis, must be said to have been mastered in terms no less stunning than the latter but with much less excitement, astonishment, and awe.

Mathematics of Percolation and Concepts that are Capital

In short, I want to situate photosynthesis as the dual in a pair with nuclear fission. I want to regard both as principles in the geometric sense of polar coordinates: that is, I want to conceive a space with them that is temporal and has direction and heads towards it, but that also changes this direction while doing so. Both natural principles literally “treat” solar light as a physical multitude. Both head, and in that sense, capitalize on nature, albeit in different ways. I want to do this with an analogy. While the splitting (and perhaps soon fusing) processes of nuclear physics produce light with matter, photosynthesis incorporates light through materiality. For both poles of such coordination, it is as

if the “passivity” that matter has classically been ascribed reveals itself as active and inchoative, as a strangely circular “conditionality” dynamics for whose “passive-activity” (or “active-passivity”) contemporary mathematics gives us the beautiful term of “percolation” for better grasping what appears to go on here. The mathematics of percolation addresses a “condition” that is what it is (a condition) only insofar as it is “lacking.” A memorable formula we can hold on to: percolative conditions facilitate a “seeping-through” like liquid seeps through sieves or like a riverbed does through the ground it traverses. Such conditions lack, and it is through lack that they leave traces.

But how do we think of such “sieves” in terms other than those of “form”—since the concept of “form” gains its rigor only from being considered as the active other to passively-passive matter? We have forgotten that “condition” comes from *condicere* “to speak with, talk together, agree upon.”⁷ And we tend to forget that contemporary physics is a physics for which there is not only *universality*, literally a turning towards a unifying one, but there is also a strange kind of *conversation* going on, a discrete circling together that lacks central direc-

7 Online Etymology Dictionary, “Condition (n.),” <https://www.etymonline.com/search?q=conditio>, (accessed May 28, 2019).

tion, that revolves around an empty center: contemporary physics is one whose quantities are not magnitudes of inert matter but countable measures (quanta) of unsettled order-relations, that is of “information”: everything, insofar as we can treat it in terms of physics as a science, is engaged in the manifold activity of sending, receiving, storing, and processing information.⁸ Physics that treats the natural conversations that take place and go in the alloys of these two polar coordinates is still a domain governed by laws. But the placeholder of the voice that speaks decisively is never really a “neutral” one; it is not only feminist philosophers, such as Simone Weil in *Gravity and Grace*, who have tirelessly been seeking to expose this for many decades. The promise that a philosophical conception of photosynthesis as a principle holds is that of coming to terms with the androgynous, with the “hermaphrodite,” or, as the etymological dictionary also holds it, the “womanish” nature of a cosmic and conversing universe. The nature of the universe is receptive and fertile as well as determinative and decisive. In a-cosmist cultures, life and things are

8 Michel Serres, “Information and Thinking,” in *Philosophy after Nature*, ed. by Rick Dolphijn and Rosi Braidotti, London, Bloomsbury, 2017c, pp.13–20.

bound to be ignored—they appear unreasonable, unfounded, and irrational.

What I want to suggest is that such a strange condition, a condition that results from percolation—one that is what it is (a condition) only insofar as it is “lacking”—brings to the fore again, with regard to reasoning, the dimension of speech next to that of writing. For speech, too, as for the “filters” we seek to name properly, it is constitutive that it lacks what it renders present. It is also characteristically and actively receptive and restless, formulaic rather than formal, spectral (in the sense of optical instruments) rather than representative or expressive. From a communicational physics point of view (an information -theoretic one, not an ontological or an epistemological one), it is indeed as if photosynthesis can be regarded as a kind of natural speech: such a physics puts us face -to -face with an androgynous and talkative, but no less determinative and decisive kind of nature. But at the same time, the very fact that organic chemistry (as well as photovoltaics and semi-conductor technology) are capable of technically *reproducing* processes that involve photosynthesis points out that such a kind of “speech” cannot be attributed with the main characteristic for which we usually value (or discredit) speech vis-à-vis its stated forms, that is, in relation to writing:

even if communicational physics presents us with a kind of natural speech, this speech can evidently not count as immediate expression or un-mediated articulation; otherwise it could not be explicitly formulated, and it could not be refined through ratiocination and fabrication.

The mathematics of percolation affords us with the ability to address rigorously and, mediated by its (symbolic) instruments (its formulations, the spectra, and its forms of analysis), also with exactness, a strange kind of condition in which matter actively lacks, as we said. This condition is better called a “conditionality.” As such, I want to suggest it needs not only to be regarded as hermaphroditic and androgynous but also to be addressed in terms of a lawfulness whose statements are captured in what we might perhaps best call “capital concepts.”

Quantum Literacy:

Nature “Speaks” in Saying Nothing-in-particular

Capital concepts are conductive rather than delineating concepts. They are hosting what they conceive rather than deciding what belongs to what. The unit to measure their form, as well as their materiality, is a restless unit in circulation. Capital concepts are concepts that don’t grasp; they erect. Their manner of conception is decisive but does

not happen according to principles. They conceive not through outlining and separating but through accommodating and facilitating as channels do in communication technology. They are also not symbolic concepts that would unify different things. Rather, we can think of them as actively accommodating what they are to conceive by letting it get away. Capital concepts don't capture; they offer. They are reasonable but without making sense. This is because abstractly considered, they can make any sense, while on the other hand, if they are looked at concretely, they are concepts that can no longer be considered capital; they are principled then and have turned into administrated heritage. We indeed need to say of capital concepts that they lack direction (sense), *but they do count*; they "lack" direction (sense) actively, "percolatively," by collecting all that can be considered as absent. Capital concepts host what they conceive rather than deciding what belongs to what—attempting to account exhaustively for what they are capable of "hosting" is as impossible as accounting exhaustively for all that can be realized, over time, with a certain sum of money.

To put it in yet another way, capital concepts are concepts that "grow" not only in terms of extension (inflate or deflate) but also in terms of "age." They

are concepts that grow old. But this also means that they can be born. What they conceive is neither a deficient nor a full meaning: they have meaning, very many meanings, and a big plentitude of meaning; what they conceive is the *very* of the many and the *bigness* of the plenty. Capital concepts conceive sense only insofar as they lack it. They are abundantly full of meaning but *bare* of sense. Bursting with the meaning that they host, they do not make any sense as long as they do not spend themselves. In this sense, capital concepts can be said to be of “solar” multitude. They grow old, mature, and make sense only if they are receptive to one precise directionality: to exhaust themselves in actively conceiving all that they are capable of hosting. Capital concepts can be cruel hosts, just like concepts that classify can be cruel.

Reasoning, in terms of capital concepts, does not try to get things right. At the table of a natural, androgynous intellect,⁹ the hosting reason seeks to complement whatever direction his guests might take with an inverse path to this direction; reason that wants nothing but never to cease being a host will want to keep things open. It needs to lose direction. It needs to let go of what it accommodates. In other words, capital concepts incorporate intellec-

9 Virginia Woolf, *A Room of One's Own*, London, Hogarth Press, 1935.

tually what it means to lack a body. They are nothing on their own except their generic in-existence. A capital concept is one of uttermost generality; it is like a sun that tries to collect all it has to spend. At that same time, capital concepts are concepts only insofar as they are parsed (partitioned) into the scales of a never properly lasting minutesimality that inheres to and inhabits the massive passing of time in spaces of polar coordination. They are concepts that need to be sounded. For they matter in what they are saying, not despite, but in that they are, precisely, attempting not ever to say anything in particular. But this they do actively.

Let's recapitulate: a capital concept is never at rest; it is a concept only in that it is restless, and it is restless only in that it lacks. In a passively-active mode of crediting, it lacks its own content in a great amount of actively-passive manners. Photosynthesis, I want to suggest, is to be addressed as just such a capital concept—capital hence not in the sense that it would be divine, sacrosanct, or in any other moral and/or ideological way “superior.” But still, to begin speaking about photosynthesis as a concept in this manner entails coming to terms with “hypostatization” (or “reification,” if one prefers). Let's look more closely at what photosynthesis does when it says nothing in particular.

*A Metaphysics of Mixtures
that Lacks a Proper Notion of Conception*

For roughly one hundred years now, organic chemistry and electro-engineering sciences have developed a more and more patent understanding of how to mimic technically one of the most amazing principles according to which nature sustains itself: a process that converts sunlight, water, and carbon dioxide into an atmosphere in which it is possible for life forms to *breath* (carbohydrates and oxygen). As Wikipedia clarifies, we refer to photosynthesis almost only in terms of property and use-value as fuels: “the term, artificial photosynthesis, is commonly used to refer to any scheme for capturing and storing the energy from sunlight in the chemical bonds of a fuel.”¹⁰ This reduction to the categories of production and work regarding how we think about photosynthesis is inadequate. Plants not only alter their milieu—their ecological niches—they change the world at large. The understanding of photosynthesis as a natural process has brought us an utterly transformed view of how to think about climate and the atmosphere: the air that we breathe is not merely a geological or min-

10 Wikipedia. “Photosynthesis.” <https://en.wikipedia.org/wiki/Photosynthesis> (accessed August 24, 2018).

eral reality; it is, again, *literally* composed of as well as generated through the breath of other beings.

This, at least, is the fascinating view that the agricultural engineer and philosopher Emanuele Coccia, in his book *La vie des plantes: Une métaphysique du mélange* (*The Life of Plants: A Metaphysics of Mixtures*), familiarizes his readers with.¹¹ It is foremost with the evolution of plants, he maintains, that “life defines itself as a kind of circulation of liveliness” and brings forth what he calls “the disparateness of life’s forms” that manifests in the distinction of kinds and kingdoms for different forms of life.¹² As his metaphysics of mixtures suggests, plants reintroduce a re-conception of the great theme of the *Scala Natura*, the Great Chain of Being, but one that is stripped from any linearly progressing notion of ascension or progress. There are many scales in such an approach to the disparateness of life’s

11 Emanuele Coccia, *La vie des Plantes: Une Métaphysique du Mélange*, Paris, Payot & Rivage, 2016. In recent years, we have witnessed a growing philosophical interest in plant life, cf., for example Richard Mabey, *The Cabaret of Plants Botany and the Imagination*, London, Profile Books, 2015; Michael Mader, *Plant-Thinking: A Philosophy of Vegetal Life*, New York, Columbia University Press, 2013; Luce Irigaray and Michael Marder, *Through Vegetal Being*, New York, Columbia University Press, 2016.

12 Emanuele Coccia, *Die Wurzeln der Welt: Eine Philosophie der Pflanzen*, trans. by Elsbeth Ranke, Munich, Carl Hanser, 2018 [2016], kindle edition. loc. 124. Here and throughout my own translations to English.

forms; they are not one. And the paths they bridge, as we will see, literally between heaven and earth, are numerous and must also be regarded as paths that facilitate ways downwards and lead upwards. Any association of the top of the Scala Natura with divine dignity and superior worthiness loses its rational ground (its reason). Understanding more about the process of photosynthesis appears like a giant atmospheric laboratory for transforming solar energy into biomass. Plants “destroy the topological hierarchy which appears to rule the cosmos.”¹³ They show us “that life manifests a break within the asymmetry between container and contained. As soon as there is life, what contains comes to rest within what it contains (is itself being contained by it) and vice versa.”¹⁴

From his botanical point of view, the image of such a “resting” is a strong one: plant life dies of too much oxygen in its milieu. It feeds on carbon dioxide, while higher forms of life die of too much carbon dioxide in their milieu while feeding on oxygen. It was only with the spreading of vascular plants across the surface of the Earth that the planet’s atmosphere for different life forms grew more differentially stable: with the plants going ashore,

13 Ibid., loc. 124.

14 Ibid.

the face of the planet has substantially been transformed, plants have absorbed massive amounts of carbon dioxide, and oxygen was released into the planet's atmosphere. When plants left the oceans for the shores, when they multiplied and began to populate the earth, they facilitated the production of matter and organic composites in such amounts that higher forms of life could develop more complicated compositions of life forms. Animals absorb the energy they need to survive due to the existence of plants. With them, and by them, the Earth produces its atmosphere and lets the beings that populate its surface *breathe*: "The life of plants is a current cosmogony, the ongoing genesis of our cosmos."¹⁵ In Hesiodic ductus, according to Coccia, "botanics ought to call inhuman material gods all those forms of life that are capable of photosynthesis."¹⁶ To him, they are "domesticated titans" who "need to use no violence to found and facilitate new worlds."¹⁷ From a certain point of view, Coccia writes, plants have never left the seas. Rather, they have brought their fluidity to where it had not been before: "They have turned the universe into an immense atmospheric ocean, and they have brought

15 Ibid., loc. 124.

16 Ibid.

17 Ibid.

maritime habits to all beings.”¹⁸ He continues: “Photosynthesis is but the cosmic process of liquidating the universe, a movement through which the world emerges as a fluidum: it lets the world breathe, and it holds the world in a state of dynamic tenseness.”¹⁹ He elaborates that the paradigm of such mutual entanglement was called breath (pneuma) already in antiquity. “Aspiration, breathing, indeed means exactly this experience: what contains us, air, turns into what is being contained within us, and the other way around, what is contained in us turns into what contains us. To breathe means to delve into a milieu which percolates us as much as we percolate it.”²⁰

Coccia maintains that it is not enough to recognize, as the Aristotelian tradition did, that reason is the *locus formarum*, the domain of forms. Reason is not merely the repository of all forms which the world can accommodate. For reason is, at the same time, *causa formalis and causa efficiens*.²¹ Coccia

18 Ibid., loc. 431.

19 Ibid.

20 Ibid., loc. 124.

21 Ibid., loc. 190. Coccia speaks here, somewhat irritatingly, of a “formale Wirkursache,” a “formal and efficient cause”; if I understand correctly, he wants to say that the Aristotelian *causa formalis* and the *causa efficiens* are to be regarded as merged into a mixed causality, according to which reason, from a metaphysical point of view, cannot possibly be addressed as “pure” because it is always already “impure” but still distinguishable into formal and effective aspects. Coccia

wants to combine these two Aristotelian notions without reducing them to a novel “one.” According to his metaphysics of mixtures, reason can, therefore, never be thought of as pure, but neither does the distinction conflate into an indistinguishable soup. As we will see, reason, according to his plant philosophy, is one that is, and always will be, *amphibolic*, adapted to aspire its realization in several milieus. What is perhaps the most important aspect of Coccia’s treatise on photosynthesis is the idea that understanding more about plant life can teach us about a certain amphibolic duplicity:

It is as if plants are leading two lives: one in the air,
bathing in light and immersed, made of visibility

describes a “formally efficient cause” that needs to be regarded at the same time, and with the same legitimacy, as an “efficiently formal cause.” The reference passage in the German edition goes (my own translation): “It is not enough to recognize, as the Aristotelian tradition did, that reason is the place of forms (*locus formarum*), the stock of all the forms that the world can accommodate. For it is at the same time also reason’s own formal and efficient cause [*ihre formale Wirkursache*]. If there is a reason, then it is only one that defines the engendering of each single form of which the world is composed. A seed, on the other hand, is the exact opposite of the simple, virtual existence of a form, with which it is often confused.” (“Es genügt nicht anzuerkennen, wie es die aristotelische Tradition getan hat, dass die Vernunft der Ort der Formen ist (*locus formarum*), das Lager all der Formen, die die Welt beherbergen kann. Zugleich ist sie nämlich ihre formale Wirkursache. Wenn es eine Vernunft gibt, dann nur die, welche die Erzeugung jeder einzelnen Form definiert, aus denen die Welt sich zusammensetzt. Umgekehrt ist ein Samen exakt das Gegenteil der einfachen virtuellen Existenz einer Form, mit der er häufig verwechselt wird.”)

and intensive interaction with other plant- and animal life of any size, and the other chthonic, mineral, subliminal, ontologically nocturnal, engraved into the lithic body of the planet, in synergetic communication with all existent life forms that populate it.²²

These two lives of plants are not alternatives and do not mutually exclude one another. They are “the essence of one and the same individual, which unites in its body and in its experience earth and sky, stone and light, water and sun. ... Already in the body of the plant all is contained in all: the sky is in the earth, earth is being pushed towards the sky, air turns body and extension, extension is but an atmospheric workshop.”²³ To Coccia, plants are cosmic mediators; they are ontological amphibians that “link up milieus, spaces,” that “exhibit how the relation between organism and milieu cannot be thought about in exclusive terms ... but need[s] to be considered in inclusive terms.”²⁴

Coccia’s account is poetically beautiful and timely in the interest it pursues: namely to think of plant life as manifesting “a break within the asymmetry between container and contained.”²⁵

22 Ibid., loc. 981.

23 Ibid.

24 Ibid.

25 Ibid., loc. 124.

But if indeed photosynthesis is the cosmic process of liquidating the universe, a movement through which the world emerges as a *fluidum*, then a philosophical conception of photosynthesis, if it wants (as is my interest in this chapter) to orientate itself in terms that are equipollent (not alternative) to the positivity of scientific accounts, cannot be content with stating that photosynthesis is what “lets the world breathe,” and what “holds the world in a state of dynamic tenseness”²⁶: it needs to reflect on the nature and the manner of such a conception too.

How to Call the Subject of an Impersonal Voice by its Proper Name?

How exactly is this novel attention to photosynthesis not merely another return to what Jean-François Lyotard has called “a Great Narrative”? A novel language game that, ultimately, aspires to absorb and dominate other language games? A novel point of identification that is to inflate and swallow up, as so many others did before this one, a wealth of precious differences that exist in their own right? What Lyotard has called “a Great Narrative” counts to him as such mainly because it fails to accommodate an explicit stance of authorship. Great Narratives

26 Ibid., loc. 431.

come quasi-naturally, as if nobody, in particular, were speaking; as if no voice could be addressed as a subject that articulates what these narratives narrate, a voice that in its turn can be challenged and responded to: spoken with *dialectically*.

But what if we *could* address the quasi-domain in the terms of which such naturalness comes along with which a great narrative speaks? What if this domain need not be one of transparency, of “transparentism,” as Jean-Yves Girard has recently called it?²⁷ What if this idea of capital concepts were indeed one of concepts in the sense that they could refer to a proper domain, a domain of their capitality, their house, their *oikos*, of such a natural economy: a domain to which belongs *all that is possible, anything at all, in every conceivable way*? Isn’t this what philosophy has coined the word “universe” for: universality, as that which is not derivative of a particular root, tribe, territory, dominion, or culture?

A great narrative that would also accommodate explicitly the stance of the voice, of the subject that speaks, *apparently transparently so*, this would be a narrative that organizes the space of this domain, which articulates and builds its house—the container as well as the contained—of this natural

27 Jean-Yves Girard, *Le Fantôme de la Transparence*, Paris, Allia, 2016.

oikos. It would be a quasi-epic narrative that speaks about how this apparently transparently speaking voice can be addressed in the terms that are proper and adequate to its domain; let's call it the domain of the apparently transparent. It would be a quasi-epic narrative that teaches not only the story of its heroine but also instructs how this heroine came to be, as she speaks, the person who speaks with such natural ease and apparently transparent clarity. It would be a narrative that "clears" the absurd thickness of, say, James Joyce's *Ulysses*, like an egg white clears a tomato soup into a transparent, almost color-free liquid of extraordinarily intense taste. It would be a neutral clarity in an augmented spectrum of intensive qualification.

The heroine of such a quasi-epic story needs to have a name. But whose name? Whose sex? Whose genealogy? Which "nature"? Michel Serres has suggested organizing conceptions of such "clarified flavors" and of such "augmented neutralities" in what he calls *chronopedia*.²⁸ Serres proposes to turn from the Encyclopedia tradition as a means to organize knowledge to a manner that not only geometrizes the role of the circle in the encyclopedia but also temporalizes and materializes it. Serres's

28 Michel Serres, *The Incandescent*, trans. by Randolph Burks, London, Bloomsbury, 2018a [2003].

chronopedia implies a temporalization of geometry, which draws balances about and between the organization of knowledge in terms of *meteorological geometry*. I will come back to this shortly. As I understand it, this turn proposes, like Coccia's does, a capitalization—a totalization—of what can be learned. But unlike Coccia's, it facilitates tracking how such a capitalization proceeds.

Such a notion of the totalization of knowledge no longer equates light with insight in any simple and direct way; rather, it seeks the generalization of the natural source of light, the sun, such as to be able to treat it geometrically. Knowledge turns into a question of light's materiality—and "materiality" here means, strictly speaking, the amount of mass that is proper to light. Within the contemporary mass paradigm in quantum physics, light is not the opposite of material. Light is, in a fascinating way, at once continuous and yet discrete with and within what philosophy used to call "matter." In quantum physical terms, light, simply, is the *absence* of mass. The question at the core of the chronopedic thinking is thus: how to account for the absence of something genuine, something natural, in the sense of not acquired, without presuming the terms that characterize such genuineness that is "not-there"?

The concepts of a chronopedia turn to light's intensities, qualities, and appearances—yet not via the path of negation. Such genuine absence can only be masked, and it can only be masked as a “rest”—it rests amidst any intellectual gesture that contrasts a postulated identity with its difference. We have been obsessed with the Cogito long enough, Serres maintains; we ought to think about thinking as we think about the weather. We should begin to say that *it thinks*, just like *it rains*. The voice that speaks in chronopedic terms is natural and generic, but it is the voice of a subject, too. Like the weather, it is natural, universal, and yet always locally situated. A genuine absence that can only be masked is the rest that remains when we try to anticipate and predict the weather, understood in the ancient tradition of the *meteora* as the sum of all measurable, and thus articulable, temporalities, durations, and seasons.

This anonymous third person singular, the “it” in “it thinks,” needs to be addressed properly—and properly means, according to Serres, the inverse to its anonymity: the *anonymous* “without a name” must be addressed as an impersonal persona, by calling it with any name. The voice in great narratives needs to be addressed by its proper “any-name”: Serres calls this the *panonyme*, a six-fold

name that is proper to the world itself: *Pantope* (all of its places), *Panchrone* (all of its durations), *Panurge* (the universal worker, instead of the demiurge, the public worker), *Panglosse* (all of the spoken tongues), *Pangnose* (all of knowledge), *Panthrope* (all sexes, instead of only man as in “Anthropos.”)

In Greek mythology, Pan was the impersonation of nature, the guardian and multiplier of all things, literally “the nourisher”—moved by lust and living in the woods, with a hybrid half-human half-animal body: horns on his head and the legs of a goat. Pan is a god in a world of abundance, yet he is not only moved by lust but also animated by desire. The nymph *Syrinx*, well known for her beauty and chastity, hid from him in hollow water reeds, from which Pan invented the flute to express his longing for her. If we address the impersonal voice in great narratives as Pan, then we will not forget so easily that the “it” that “thinks” will always be haunted by what it desires and longs for but can never consume or own. The sounds of the world’s longing—sounds that are as pleasing as dreadful—will always be on the verge of triggering panic, groundless fear, contagious in its spreading and so forceful that it dominates and prevents reasonable and logical thinking.

Panic means “all that pertains to Pan” (from the suffix *-ic*). The story goes that he would wander

peacefully through the woods, playing his flute and resting always at noontime. Pan would shout so loudly if disturbed in his sleep that all herds would stampede. Addressing the world with this six-fold proper name means not forgetting that the world needs to rest when the sun is high in the meridian: when the light is clearest. This is because authentic knowledge of the world, organized in a chronopedia rather than an encyclopedia, “overflows with results and intuitions.”²⁹ It “sets up multiple reference points grouped into constellations with forms that are as disparate as those of scholarly disciplines. Thus, knowledge finds temporary truths whose luxuriously colored sparkle flickers and changes with the duration of the Great Story.”³⁰ If there is something to my initial interest, namely to begin thinking of quantum literacy in terms of photosynthesis, then to the degree that one is literate—the more one knows about it (and hence is alienated from it as something that would happen naturally and uniformly)³¹—the more one would have to think of oneself not as a star but as a planet:

29 Michel Serres, “Information and Thinking,” In *Philosophy after Nature*, ed. by Rick Dolphijn and Rosi Braidotti, London, Bloomsbury, 2017c, pp.17–18.

30 Ibid.

31 An interesting affirmation of such intellectual alienation has recently been adopted by Laboria Cubronics’s *Xenofeminism Manifesto*, <http://www.laboriacuboniks.net> (accessed February 23, 2022).

for the only lights that do not tremble emanate from planets without an original brilliance and that, as I said, behave like mirrors. Magnificent, but modest enough to be reduced to the punctual ... great in size but wavering in doubt and questioning, those truth-stars stand out against the enormous black background of non-knowledge, that is empty without limitations or full of yet unexplored galaxies: things still to be understood and to be grasped.³²

32 Michel Serres, "Information and Thinking," pp.17–18.

The Alphabetic Absolute

How can we address different modes of plotting the ominous “all” as “comprehension” via narrative, calculation, and measurement? The main interest thereby regards how the apparent “Real Time” induced by the logistical infrastructures established by communicational media becomes articulable once we regard “Light Speed” as the tense-ness proper to spectral modes of depicting the real in its material instantaneity. The “real” in such depiction features as essentially arcane, and its articulation as cryptographical. The articulation of the real thereby takes the form of contracts. We suggest taking cryptography at face value, i.e., as a “graphism” and “script,” whose (cipher) texts we can imagine to be signed according to a logic of public key signatures: while the alphabets that constitute such a script are strictly public, a ciphertext’s “graphism” cannot be read (deciphered and discerned) without “signing”

it in the terms of a private key. This perspective opposes the common view that we live in “post-alphabetical” times and instead considers the idea of an alphabetic absolute. This bears the possibility for a novel humanism based not on the “book” (Scriptures or Law) but on the lawfulness embodied by things themselves. In this chapter, I trace and profile classical positions e.g., by Descartes, Leibniz, Dedekind, Cantor, Noether, and Mach, on the role of “script” in mathematics, the possibility of a general and/or universal mathesis, and the role of measurement in relation to conceptions of “nature”—in the public interest of “saving the technical object” through a generalized sense of “literacy.”

Blessed Curiosity: Saving the Technical Object

Anita Kechickian: In 1958, you wrote about alienation produced by non-knowledge of the technical object. Do you always have this in mind as you continue your research?

Gilbert Simondon: Yes, but I amplify it by saying that the technical object must be saved. It must be rescued from its current status, which is miserable and unjust. This status of alienation lies, in part, with notable authors such as Ducrocq, who speaks of “technical slaves.” It is necessary to change the conditions in which it is located, in which it is produced, and where it is used primarily because it is used in a degrading manner. [...]

It's a question of saving the technical object, just as it is the question of human salvation in the Scriptures.¹

When Michel Serres was invited to give a talk in celebration of the 150th anniversary of his college, the Lycée Saint-Caprais in Agen, France, he used the occasion to share what he calls “a confession.” It is a short and humorous text, full of tender memories about all sorts of more or less innocent mischief, but it also places a ruse that both supports as well as upsets the honorary frame of generational sequentiality in which he had been invited to speak: “God has given us the endless freedom to disobey him, and this is how we can recognize him as our Father,” Serres sets out, and continues, “Scarcely installed in the terrestrial Paradise, Adam and Eve quickly eat the apple and pips, immediately leaving that place of delights and fleeing towards hazy horizons. Only a few months old, the infant tries to say no; those among you who raise children will learn this and know it in overabundance.”²

1 Gilbert Simondon, “Save the Technical Object,” interview by Anita Kechickian, trans. by Andrew Illiadis, *Philosophy of Information & Communication* (blog), March 6, 2013, <https://philosophyofinformationandcommunication.wordpress.com/2013/03/06/is-not-all-creation-a-transgression-gilbert-simondon-interview-1989-save-the-technical-object/> (accessed February 22, 2023); first published in *Esprit*, No. 76, April 1983, p.147–52.

2 Michel Serres, “La confession fraternelle” in *Empan*, Vol. 48, 2002, p.11–16; originally a public lecture at Lycée Saint-Caprais, Agen,

The presumptuous ruse Serres has placed in this “boring preamble of mixed theology and natural history,” as he calls the story of expulsion, the ruse from which he wittily distracts also by the grandness of the opening address in the first sentence, is a small change in the setup of the Great Story. When Adam and Eve give in to their human and purportedly corruptive and non-natural inclinations for curiosities, he addresses them in the fact of the childhood they carry within, in Serres’s account. Thereby Serres purports nothing less than a naturalization of sexuality within God’s likeness—Adam and Eve have conceived and born as children before the disrespectful act was committed! This mischief introduces into the narrative of the Tree of Life nothing less than an abundance of directions in which it might descend and branch off. What presumptuousness, indeed! One that dares to set out, high-spirited, light-humored, and quick, for nothing less than the Total, the Ultimate Sum, by unsettling the earthly grounds in which the Tree of Life roots.

But how could such ground possibly be unsettled? Serres assumes that the Nature of the Hu-

on the occasion of the school’s 150th anniversary, 2000. Here cited from the unpublished *Fraternal Confession*, trans. by Kris Pender, https://www.academia.edu/11074066/Michel_Serres_-_Fraternal_Confession (accessed October 24, 2023).

man must, as everything else as well, be thought to factor in a Universal Nature—a nature of the universe—whose path of descent is divine (omnipotent) and decided (lawful) *as being undecided*: it is a nature capable of developing in an uncountable abundance of directions, progressive ones as well as regressive ones. Such nature then must count as essentially arcane, a secret preserved only in a “crypt,” as Serres refers to it elsewhere.³ Of course, we know the term crypt from the architecture of churches, but it once meant more generally a “vault, cavern,” as derived from the Greek verb *kryptein*, “to hide, to conceal,” by nominalizing the adjective that was built from this verb.⁴ For Serres, there is a path for knowledge to access universal nature, but never a plain, pure, and immediate one. All knowledge is a reduced model of universal nature, a model that does not seek to represent that nature, but rather a model that seeks to keep alive as best as it can that nature’s character: to be secretive. The entire *raison d’être* of such Knowledge is to serve and obey—unconditionally, absolutely—nature’s secretive character. Such obedience can only be performed

3 Michel Serres, “Noise,” trans. by Lawrence R. Schehr, in *SubStance* 12, No. 3, 1983, pp.48–60, here p.55. The article makes up chapter 1 of Serres’s 1982 book *Genesis*, trans. by Geneviève James and James Nielson, Ann Arbor, University of Michigan Press, 1999 [1982].

4 <http://www.etymonline.com/word/crypt> (accessed October 24, 2023).

through disobedience, through mischief, through the comic. It can be performed by inventing a reduced model of the Secret without the assurance of being initiated to it. Universal Nature's secretive character can count neither as private nor public, neither as esoteric nor established insight; rather, we can refer to it as constitutive for both in a manner of which Serres maintains that only Law can be.⁵ Knowledge then embodies Law in the building of a Crypt. This vault is growing deeper and vaster, more intertwined and winding, from the act of being frivolously explored, challenged, tested, strained in the very solidity in which it is built. To keep the Secret that is Universal Nature demands Absolute Obedience without tolerating submission; its secret, indeed, has one vulnerability, namely that obeying it can be confused with doing so in a servile manner. Serres calls the Evangelist—the messenger that claims to bring the Good News with no mediation necessary for receiving it—“Satan the Master of the world.”⁶ Other than she who strives to master the universe's secret by keeping it encrypted and who spends her time in that very vault that does not cease to challenge and take issue with the earthly grounds where the iconic Tree of

5 Serres, 2002, p.8.

6 *Ibid.*, p.7.

Life is rooted, she who strives to master the world “leads you to a very high mountain, shows you all the kingdoms in all their glory and promises to give them to you on condition that you grovel before him.”⁷ If knowledge of the Universe’s Nature is a Crypt, knowledge of the world is the crypt’s Flat Projection in terms that claim the authority to represent the crypt’s arcane. Such flat projection alone can claim to produce “positive” or “negative” knowledge; the crypt, on the other hand, embodies knowledge that is always already articulated, a knowledge that presents insight only by leaving absent what it has intuited. Serres’s seeker of articulate knowledge, whom he addresses as the Researcher, serves the Law; she is an “official” whose duty is to explore and challenge all the regularities stated as lawful—without ever claiming to represent those regularities with official authority. “We always save ourselves by the law. Freedom comes from laws,” Serres tells his audience.⁸ Law binds and contracts the ambient terror of the jungle in a manner that allows “a balance between hunting and being hunted, between eating and being eaten.”⁹ Law contracts violence. If those contracts are

7 Ibid.

8 Ibid., p.8.

9 Ibid., p.6.

sound, whoever is subject to them can afford to live and care for all that is vulnerable as the source of all that is improbable and precious. With these elaborations, we can perhaps better appreciate the radicality of Serres's confession: "I continue to make mischief in order to bear witness in the face of the world that we are not beasts, that therefore we have left or begin to leave the hell of violence, because we are men."¹⁰

In Serres's humorous Confession Story, giving in to the human inclination to be seduced by curiosity ceases to be a tragic act. Rather, it is the Researcher's Official Duty to enjoy masquerade, to be transgressive by engaging in the challenges that motivate desire and seduction, pleasure and satisfaction, pain, and relief. This is comic, yet it is serious: a researcher "cannot cheat."¹¹ For "to obey, here, consists in submitting oneself to the laws of things as such and to thereby acquire freedom, whereas cheating consists in submitting oneself to the conventional laws of men."¹² In Serres's inversive account, where the universe has an active nature, rather than being imagined as either static or dynamic, cheating becomes equivalent to being obedient (to the laws of

10 Ibid., p.6.

11 Ibid., p.7.

12 Ibid.

man), and disobedience comes to count as blessed rather than cursed:

Things contain their own rules. Less conventional than the rules of men, but as necessary as the body that falls and the stars that revolve; even more, difficult to discover. We can do nothing and should do nothing without absolute obedience to these things, loyal and hard. No expertise happens without this, no invention, no authentic mastering. Our power comes from this obedience, from this human and noble weakness; all the rest falls in corruption towards the rules.¹³

For the researcher and the comedian, disobedience, as it characterizes the tragic manner of acting, is not thought to be nourished by delusions, to produce regret, anguish, and guilt that can be relieved only by comfort derived from acknowledging the principal impotence to which such “acting” is always already sentenced. Quite inversely, the very possibility for disobedience comes to feature in Serres’s account as that which can preserve the possibility of salvation. Acts of comic disobedience replace the Scriptures as that which preserves and circulates that possibility. What, in the Scriptures, unfolds between the Two Covers of a Book (or the top and the bottom of an inscription plane, be it

13 *Ibid.*, pp.7–8.

stone, clay, papyrus, or parchment) is thereby attributed a different status by Serres: the mediacy of what unfolds between the covers—on the limited inscription plane or the numerous sheets contained in a book—is attributed to be capable of capturing, conserving, and expressing a sense whose extension as meaning is *in principle* of vaster magnitude than that which the two covers (or the limiting ends of a plane) are Officially Entitled to contain.

In Serres's narrative, Adam and Eve are themselves children when they taste the pleasures of transgression and disobedience. With this, sexuality is decoupled and set free from being ascribed as the prime motive animating the play of sinful seductions. And suddenly, there is the possibility of a distance, a Genuine Mediacy capable of discerning a human world as a *Locus In Quo* that spans between the traditionally purported Covers of the Scriptures, the "original" act of *Divine Judgment* that is said to have predicated the nature of all that is, and the act that is consequential to Eve and Adam's frivolity of tasting from the forbidden fruit, namely the *Divine Sentence* with which the ancestors of humankind are sent into expulsion, the act that leaves the Disobedient Ones alone with the representatives of Official Generality as the sole placeholders for a source of comfort. If, on the oth-

er hand, the divine entitlement of the covers is to preserve the possibility for disobedience, then the titles with which they express what they capture and conserve must pass on the *virtually abundant activity of possible disobedience* that they are to guard in the service of the duty they are to represent. Just like the plane of inscription they limit, or the sheets they bind, the covers too need to be capable of capturing, conserving, and expressing a sense whose extension as meaning is *in principle* of vaster magnitude than that which the two covers are *officially* entitled to contain.

In other words—and this, again, is Serres’s adorable humor—if you hold respect and esteem for official representations, then never trust official representations, especially while paying service to the law they represent! In an admittedly twisted but not complicated way, as I have tried to depict, it is their entitlement as official representations to take care of their capability to compromise themselves. “To compromise,” here, is an important albeit dangerous term that I am using to translate the German word *Bloßstellung*, which means something like embarrassing exposure, a kind of personal vulnerability that comes from “lowering one’s guard” (*sich Blöße geben*). The guards of an official representation would, of course, be

the official order, and what Serres then tells us is that the official representation must, in turn, have “capabilities of mediacy,” namely the capability to transmit and pass on the *virtually abundant activity of possible disobedience*—which it is entitled to delimit and protect—to the official order that is predicated to guard and protect, in its turn, the official representations.

Like Eve and Adam’s innate childhood in Serres’s narrative, and like the unfolding mediacy between two entitled limits, the entitled limits must be respected in their divine nature, which consists of being endowed with the possibility for disobedience. This very possibility is being guarded in Serres’s narrative, and it is what renders it capable of still preserving the plot of a story of salvation, despite the frivolous masquerade of that plot’s prime characters in which Serres engages as the narrator of that story’s novel articulation:

Contrary to what is sometimes said, this blessed disobedience solves many problems. In accumulating black follies and an experience which helps nobody, each generation blocks history so that we no longer see, in a moment, how to leave it; only children sometimes unblock the situation by seeing things in another way. Animals rarely disobey; genetic automates, some follow an instinct programmed since the origin of their species: that

is why they have no history. We change, progress and regress, we invent the future because, deprogrammed, we disobey.¹⁴

If Eve and Adam themselves are children *naturally*, before their frivolous act, then all those humanisms would be mistaken that purport that humankind has been left alone in the world, with the sole and tragic spirituality of a Regulative Machinery (instead of an arcane architectonic body of laws) that operates obediently and reliably in official generality, and that it is the tragedy of humankind that the very possibility for comfort is a finite good that this machinery must administrate to as best as it can. Because if Eve and Adam were themselves naturally children once, the Tree of Life follows a sequential order too, which descends, and branches off, but doing so in many directions and no preset manner—history does not distance mankind from its lost original nature that had, purportedly, been corrupted when history begins. The sequential order now includes the possibility for Regression just as much as for Progression. Human nature now is not *good* nature—the spheres of “nature” and “value” are kept distinct now; they are kept apart by the Encryptions and Decipherments depicting the secret that is the universe’s nature, those Symbolical

14 Ibid., p.1.

Building Blocks of the crypt that embodies the law obeyed by the kind of universal human nature of which Serres speaks. But if Codes manifest those “building blocks” of the Crypt, the Great Story that knows the Age of the Tree of Life, what are those “codes” made of?

The Alphabetic Absolute

I would like to suggest that we can think of this “materiality” as the Alphabetic Absolute. And I do not mean by this, of course, a particular linguistic alphabet to be now declared foundational and unconditional; I don’t even mean an alphabet of language in any restrictive sense. Rather, I mean alphabets in a generalized sense, as applied in coding—numerical, linguistic, probabilistic, or any. So, what then counts as an alphabet? It is important to distinguish what can be called an alphabet from an inventory of signs, for example. An alphabet does not ever relate to things themselves but to how one “speaks” when articulating something at stake. I put speak in quotation marks because with such a generalized notion of the alphabet as I am suggesting, we can say “articulate” instead of “speak,” and thus all kinds of practices that articulate something—by composing elements, caring for junctions, for flexibility and conjugation (interlinking),

practices that nest different hierarchies—can all be included in the kind of “speech” measured by an alphabet. This indeed may sound stranger than it is; it is well known that the letters of writing words and those with which we count and calculate share the same genealogy: both depend on an abstract place-value system within which they can operate. Numbers are depicted as numbers in terms of a particular numerical value taken as the base of that system—sixty in the hexadecimal number system, ten in the decimal one, and so on. On the other hand, the letters of a script are depicted within a finite set of characters arranged in linear sequentiality—the very name “alphabet” means exactly this: alpha and beta were the first two letters of the Greek alphabet. Thus, when speaking of an alphabetic absolute, I mean to think of whatever it may be to which one feels inclined to ascribe a status of being impartial and unconditioned (absolute) as an articulated crypt. The codes that can articulate such an absolute as a crypt need alphabets to build it from—rather than, for example, “notational systems,” because a notional system would already be too specific, for it would imply a set of rules according to how the letters that operate within a place-value system can be combined. It is the power of an alphabet that many such syntaxes—more

inclusively, such grammars—may be applied to it (there are very different languages coexisting, all using the Roman alphabet, for example). It seems that only an alphabetic absolute can integrate the kind of unconditional obedience Serres talks about, requiring as it does that one behaves wittily and mischievously. As a notational system would, an alphabet does not yet distinguish false from correct usage. We know the word Literacy in relation to the alphabet for precisely this reason: to be literate is pre-specific (undecided) regarding whether one speaks/writes poetry, lies, wants to convince with arguments, or persuade with plausibility and opinion. And still, literacy can be measured—in terms of power of expression, imagination, distinction, elegance, being informed, and so on. But there are varieties of different metrics. In this, the Masterful Literate is someone who is literate more or less masterfully, just as we are used to calling a musician masterful, an architect, or a doctor who cares for and masters whatever practice. That is why the kind of unconditional obedience Serres talks about ought to be granted to an alphabetic absolute, a total of any alphabet conceivable, including all possible “couplings” and “multiplications” that constitute the ciphers articulated in codes. What I have called Serres’s “Officer” is a literate person in

just this sense: she is the architect of articulated crypts that hollow existing standards.

There is another reason why the Alphabetic deserves a central role here. In all his writings, Serres hails a novel humanism where history is not the consequence of a terrifying act of punishment and expatriation.¹⁵ Literally: “God has given us the endless freedom to disobey him, and this is how we can recognize him as our Father,” he maintains.¹⁶ Hence, a stance is needed that allows for the co-existence of what is disparate.¹⁷ If the Tree of Life descends without linearly and progressively distancing us “contemporaries” from our origin, then originality is always “there,” and the Universe’s natural kinds, we have said, are many. This pecu-

15 Here is not the place to elaborate on this, but some of Serres’s major books must at least be mentioned: *Hominescence*, Paris, Le Pommier, 2001; *Le tiers instruit*, Paris, Bourin, 1991; *Atlas*, Paris, Éditions Julliard, 1984; *Petite Poucette*, Paris, Le Pommier, 2012; *Le contrat naturel*, Paris, Bourin, 1990; *Récits d’humanisme: Bour*, Paris, Le Pommier, 2006; *L’incandescent*, Paris, Le Pommier, 2003.

16 Serres, 2002, p.1.

17 I borrow this expression of the “disparate” from Gilles Deleuze’s philosophy of asymmetrical synthesis of the sensible: “Repetition is [...] the formless power of the ground which carries every object to that extreme ‘form’ in which its representation comes undone. The ultimate element of repetition is the disparate [*dispars*], which stands opposed to the identity of representation. Thus, the circle of eternal return, difference, and repetition (which undoes that of the identical and the contradictory) is a tortuous circle in which Sameness is said only of that which differs.” Gilles Deleuze, *Difference and Repetition*, trans. by Paul Patton, New York, Columbia University Press, 1994, p.57.

liar “there-ness,” Serres suggests calling “noise”: “We must keep the word noise, the only positive word that we have to describe a state that we always describe negatively, with terms like disorder.”¹⁸ For Serres, seduction, desire and pleasure, and the existence of sound and fury are natural forces that forever disturb pureness and harmony. They are the very conditions for the possibility of disobedience and hence, also for the possibility of a kind of beauty that is beautiful because it can be compromised, embarrassed, exposed, and vulnerable—in short, “naked.” In an article I will turn to shortly, Serres calls this beauty pure because it can be embarrassed, “la belle noiseuse,” the beautiful querulent.¹⁹

The Comic

Let us first come back to this aspect of the coexistence of the Disparate. The possibility of salvation, in terms of “natural morals,” as Serres suggests, depends on the inversion of the idea of illusion and its opposite, truth. Disguise, masquerade, fashioning, and dressing up do not threaten truth; rather, they are the conditions for it to be self-engendering, alive, and sexual. A lot depends on recognizing

18 Serres, 1983, p.55.

19 Ibid.

reality as mediacy, and immediacy as an “active showing,” Serres seems to tell us. Curiosity now appears as a stance that is neither sinful nor just, but then what? Curiosity diverts the attention that can be granted. It animates a play of “amusement,” a playful devotion to the diversion of attention; it is quick and can never be at rest with what attracts it; it is a form of appreciation that depends on no intermediate didactic, an appreciation that is possible in an unexpected encounter. All of this binds curiosity to the Comic. Early forms of comedy are said to originate in pagan manners of emancipating from traditional cults of worship; in their rituals of thanksgiving, for example, where particular Gods were celebrated, they began to frivolously dramatize the characters of these gods in masquerade. They would still perform the rituals, but now in a challenging rather than entirely serious manner. Comedy is older than tragedy, and it is purported to deal with magnitudes one encounters as evidently “there” but disparate, non-fitting, without knowing how, why, or what else. The very possibility of thinking of repetition as something that does not reproduce the same depends on the comic; for example, in Serres’s manner of thinking of the

sequentiality of time in his Tree of Life.²⁰ Comedy shares its origin with the carnivalesque, and in many ways, it can be said to mark the early stages of coming of age—the youth going through comic situations when challenging the customs, expectations, and orders of their parents.

Serres's assumption of considering the nature and sexuality of the universe has an important and difficult implication: it involves the assumption of different kinds of natures and hence morals of nature, which are all considered "universal." This has consequences for science which considers a particular system of concepts universal (metaphysics), as well as one that considers physical nature as universal ("modern" science). In either one, the paradigm of a plurality of natural kinds translates into the assumption of categorically different and incompatible magnitudes that are strictly not to be experimented with because they are categorically different. Indeed, all attempts, however experimental, to disobey the rule of traditional hierarchies of subordination among the different magnitudes are then perceived outright as evil: we can easily remember the trials of Galileo or Kepler for assuming, in the case of the latter, an elliptic instead of

20 Gilles Deleuze devoted an entire study to such a notion of repetition; see Deleuze, *Difference and Repetition*.

perfectly round path of the planets (heavenly bodies), and hence addressing the course of the stars in the category of an imperfect circle. That was sheer frivolity and disrespectful not only in the eyes of the clerics at the time, for whom the orders of the heavens, locus of the divine, could not possibly be recognized publicly as a measure that captures imperfect movement because it would imply that what is moving, in the starry heavens, are magnitudes whose purity is corrupt and imperfect. It would imply that the most perfect and pure order imaginable, that of the heavens, would be the order of incommensurate magnitudes—holding on to an axiological correspondence between perfection and the divine in the light of a unity would require the recognition of miracles that are conveyed elsewhere than through scripture. But perhaps this consideration, often attributed to the dogmatism of the clerics, is as much or more perhaps an intolerable frivolity in the eyes of propagators of early ideas of “pure” science—science that would be independent of the mystic interrogation of the knowledge it provides in its relation to the infinite. When Galileo and Kepler might stand for an endpoint of the reign of a particular dogmatism, we can see perhaps in Dante Alighieri’s *Divina Commedia* an early announcement of what was to come. If today media

apologetics are concerned with the Post-human, and a purported End of History, we can easily see a certain symmetry to the situation for which the names of Galileo and Kepler stand. Again, we have a much earlier literary work that seems to indicate such a development to come, namely Balzac's monumental *Comédie humaine*, whose idea, he tells us in the preface, "originated in a comparison between Humanity and Animality."²¹ Because "it is a mistake," Balzac maintained, "to suppose that the great dispute which has lately made a stir, between Cuvier and Geoffroi Saint-Hilaire, arose from a scientific innovation." At stake is the idea of a Unity of Plan: "the Creator works on a single model for every organized being." He insisted that this issue does not arise from scientific innovations; rather, from the "unity of structure" which, "under other names, had occupied the greatest minds during the two previous centuries."²² He goes on to name references and their core concepts in addressing the issue at stake:

21 Honoré de Balzac, *L'avant-propos de la Comédie humaine*, 1842–48, here cited from the translation "Author's Introduction," Project Gutenberg, <http://www.gutenberg.org/files/1968/1968-h/1968-h.htm> (accessed February 23, 2022). There are no page numbers provided in this online reference.

22 Ibid.

As we read the extraordinary writings of the mystics who studied the sciences in their relation to infinity, such as Swedenborg, Saint-Martin, and others, and the works of the greatest authors on Natural History—Leibnitz, Buffon, Charles Bonnet, etc., we detect in the *monads* of Leibnitz, in the *organic molecules* of Buffon, in the *vegetative force* of Needham, in the correlation of similar organs of Charles Bonnet—who in 1760 was so bold as to write, “Animals vegetate as plants do”—we detect, I say, the rudiments of the great law of Self for Self, which lies at the root of Unity of Plan. There is but one Animal. The Creator works on a single model for every organized being. “The Animal” is elementary, and takes its external form, or, to be accurate, the differences in its form, from the environment in which it is obliged to develop. Zoological species are the result of these differences. The announcement and defence of this system, which is indeed in harmony with our preconceived ideas of Divine Power, will be the eternal glory of Geoffroi Saint-Hilaire, Cuvier’s victorious opponent on this point of higher science, whose triumph was hailed by Goethe in the last article he wrote.²³

As Balzac announces, he himself had been convinced of such a scheme of nature (a unity of plan) long before his contemporaries raised its issue in terms of scientific innovations, and hence in a manner supposedly set apart from the spiritual-

23 Ibid.

ism entailed by the authors on natural history—as if now it wouldn't imply unanswerable questions anymore. So, Balzac doesn't refer to this scheme as a frame of reference for explaining particular postulates of scientific accounts. Rather he takes it as an inspiration for a kind of investigative storytelling: “Does not society modify Man, according to the conditions in which he lives and acts, into men as manifold as the species in Zoology?”²⁴ And further on: “If Buffon could produce a magnificent work by attempting to represent in a book the whole realm of zoology, was there not room for a work of the same kind on society?”²⁵ Somewhat surprising perhaps, his *Comédie* is all set up as a great project of taxonomy and categorization: “The differences between a soldier, an artisan, a man of business, a lawyer, an idler, a student, a statesman, a merchant, a sailor, a poet, a beggar, a priest, are as great, though not so easy to define, as those between the wolf, the lion, the ass, the crow, the shark, the seal, the sheep, etc.”²⁶ But “the limits set by nature to the variations of animals have no existence in society. [...] The social state has freaks which Nature does not allow herself; it is nature plus society. The description of

24 Ibid.

25 Ibid.

26 Ibid.

social species would thus be at least double that of animal species, merely given the two sexes.”²⁷ Furthermore, “animals have little property, and neither arts nor sciences; while man, by a law that has yet to be sought, has a tendency to express his culture, his thoughts, and his life in everything he appropriates to his use. [...] The dress, the manners, the speech, the dwelling of a prince, a banker, an artist, a citizen, a priest, and a pauper are absolutely unlike, and change with every phase of civilization.”²⁸ Consequently, Balzac decides: “Hence the work to be written needed a threefold form—men, women, and things; that is to say, persons and the material expression of their minds; man, in short, and life.”²⁹

But still, if this introduction is to set up Balzac’s project in clear distinction to a scientific account, how should it be possible to embark upon such an immense project of taxonomy and categorization *in the manner of storytelling*? For Balzac, the realist writer, such storytelling could only take the form of a natural history—yet a natural history of manners. Manners, if studied in a historical manner that works empirically, pose entirely new problems for a writer. They must be considered as what we

27 Ibid.

28 Ibid.

29 Ibid.

would call today perhaps “a population effect” or “property of a collective.” But how can we address abstract ideas such as a collective and its properties with enough intuitable distinction and common sense to work as a story? Balzac indeed asks himself: “But how could such a drama, with the four or five thousand persons which society offers, be made interesting? How, at the same time, please the poet, the philosopher, and the masses who want both poetry and philosophy under striking imagery? Though I could conceive of the importance and of the poetry of such a history of the human heart, I saw no way of writing it.”³⁰

The writing he eventually found was one of categorizing the typicalities of entire scenes: “Not man alone, but the principal events of life, fall into classes by types. There are situations which occur in every life, typical phases, and this is one of the details I most sought after.”³¹ And furthermore, he specifies that the possibility of his writing depended upon setting up a gallery: “It was no small task to depict the two or three thousand conspicuous types of a period; for this is, in fact, the number presented to us by each generation, and which the Human Comedy will require. This crowd of actors, of char-

30 Ibid.

31 Ibid.

acters, this multitude of lives, needed a setting—if I may be pardoned the expression, a gallery.”³²

Balzac, the great realist author of the nineteenth century, pursued capturing the richness of reality by embracing typification, masquerade, and modeling as means to work out—against our established and well-tested intuition! —the truly fine distinctions that make reality “real.” Such storytelling ceases to lend its services to a representational paradigm; instead, it informs a new paradigm of writing and storytelling that doesn’t fit well with the modern categories of *either* fiction *or* documentary, *either* history *or* story. Balzac was fascinated by the novel methods of population thinking, statistics, and the analytical capacity of these methods to at once resort to gross generalizations and reveal infinitesimally fine distinctions. Furthermore, he was well aware that the invention of electricity would profoundly unsettle the order of societies: “In certain fragments of this long work I have tried to popularize the amazing facts, I may say the marvels, of electricity, which in man is metamorphosed into an incalculable force; but in what way do the phenomena of brain and nerves, which prove the existence of an undiscovered world of psychology, modify the necessary and undoubted

32 Ibid.

relations of the worlds to God? In what way can they shake the Catholic dogma?”³³ It was clear to him that there is something “heretic” about these interests in the kind of abstract possibility owed to technology and scientific innovation. This is why I have suggested seeing in this work an early premonition of the themes that preoccupy intellectuals today—themes like an end to history or post-humanism—that are rather straightforwardly tied up with a certain apocalypticism.

Mediacy and Real Time

Gilbert Simondon, whom I cited at the beginning of this text, follows the same idea when he claims that the grand theme of alienation that haunts modernity, and the so-called industrialization of societies, depends upon finding ways to save the technical object:

I believe there are humans in the technical objects, and that the alienated human can be saved on the condition that man is caring for them [the technical objects]. It must in particular never condemn them. In the Old Testament, there is a sort of jealousy of Yahweh toward the creature. And we say that transgresses the creature. But is not all creation a transgression? I think transgression,

33 Ibid.

whose origin is the serpent, is the creation of a person. If Adam and Eve never left the Garden of Eden they would have not become human beings or inventors. Their one son was a shepherd, the other a farmer. Techniques were born there. Finally, technics and transgression seem to be the same. Blacksmiths were once considered as cursed.³⁴

Simondon argues that “human alienation” cannot be separated from our custom to degrade the technical object to a passive and servile status. He maintains that the theme of alienation demands that the grand theme of salvation be articulated on new grounds. If, classically, the possibility for salvation is remembered, preserved, and articulated in the Scriptures—their theological and hermeneutic readings—we must make and reserve room now for an essentially arcane and enigmatic kind of possibility in new media. Marshall McLuhan, Friedrich Kittler, and many other new media apologetics have suggested that with electronic media, we live in “post-alphabetic” times; this entails that it is not the Scriptures that preserve and communicate the possibility of salvation anymore. Without elevating the technical object (its unconcealed and naked “naturalness” alias “pure functionality”) from its servile and passive status, we continue to

34 Simondon, 2013 [1983], p.2.

live in a terrifyingly inhospitable and infinitely open universe, according to Simondon. Kittler, for example, but many others as well, see in this perceived inhospitality the pain of a narcissistic wound, which, nonetheless, turns into a new promise of salvation (although he would probably never say that) if only we were to lose our arrogant narcissism. This inhospitality could then be perceived as the true recognition of the human, existential predicament. The tortures of history would “end”: the post-alphabetic age that characterizes the end of the Gutenberg Galaxy is then conceived as the end of history. This end is at the same time its completion, its infinitesimal self-reference, a dynamic that completes itself by being infinitary. This is a logic we can find developed with subtle care in Giorgio Agamben’s writing. It is not that within history’s infinitary completion through self-reference, there would be no salvation possible—rather, the promise of salvation is now tied up in the burden of bearing an irresolvable paradox, namely that the object of salvation must be unsavable. Salvation does not concern the active recovery of what was lost or remembering what was forgotten. In Agamben’s argument, “the lost and the forgotten do not

demand to be found or remembered, but to remain such as they are, in their being-thus.”³⁵

McLuhan takes a different path. For him, the end of the Gutenberg Galaxy does not mean the End of History according to the above logic. McLuhan remains more committed to physics and science, where the latter can be characterized as raising an anthropological stance to an absolute status by addressing history as a political subject. For him, the post-alphabetic means the implosion of the experimental stage for objective representation in models of a universal “All” that is to be both origin and destiny of any scientific symbolization. McLuhan insists that every medium adds something to reality in a quantum-magnetic, electronic universe. The new scale introduces units, meters, and measures that permit mediating magnitudes with magnitudes, open-ended and infinitarily so: “it is the medium that shapes and controls the scale and form of human association and action.”³⁶ With this view, McLuhan spiritualizes communicative activity such that communication takes on quasi-cosmic dimensions. Magnitudes are no longer the universal that allows for reliable measurement;

35 Alex Murray and Jessica Whyte (eds.), *The Agamben Dictionary*, Edinburgh, University of Edinburgh Press, 2011, pp.193ff.

36 Marshall McLuhan, *Understanding Media*, Cambridge, MIT Press, 1994 [1964], p.9.

rather, in the mediacy that renders the real as real, measurement constitutes magnitudes, not the other way around: “Before the electric speed and total field, it was not obvious that the medium is the message. The message, it seemed, was the “content,” as people used to ask what a painting was *about*.”³⁷ So on the one hand McLuhan spiritualizes communication in relation to the human scope of action and, hence, in relation to existence, if not to Being itself. But on the other hand he discredits, on objective grounds (by referring to the quantum kind of physics that made possible electromagnetic communication technology that in principle, if not in fact, operates at the speed of light), the very possibility of a prophetic word that supposedly reaches one via artifacts from a categorical beyond of this world; rather, the message (prophetic or not) that *can* be received, he maintains, is virtually *any* message: “The electric light is pure information. It is a medium without a message.”³⁸ If virtually *any message is no message*, then any actual message is a particular modulation of the generic actuality—movement in infinitive form—something that McLuhan finds represented in the electromagnetic physicality of whatever it may be that moves

37 Ibid., p.13.

38 Ibid., p.8.

at light speed. His dictum that the message needs to be looked for as immanent to the medium can be seen as answering exactly this complex issue: in a quantum-magnetic, electronic universe, he tells us, every medium adds something to reality. This has hitherto been associated with the (potential) tremendousness of cosmic order, but certainly not with a (potential) prudence of an anthropological one: “This is merely to say that the personal and social consequences of any medium—that is, any extension of ourselves—results from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology.”³⁹

All technology counts, for McLuhan, as extensions of “man”—this cannot only be understood in terms of augmentation of corporeal strength and the perceptive faculties but also intellectually: technology incorporates mathematical principles invented or at least intuited by “the intellect.” With the herewith implied emphasis on the mathematical symbolisms that unlock novel scales of action, once they are externalized and embodied in technical “cases” and then reappropriated by our bodies in learning how to use them, McLuhan also insists that mathematics is an articulation of

39 Ibid., p.7; also see my book, *Die Nachricht, ein Medium: Generische Medialität, städtische Architektur*, Vienna, Ambra, 2014.

human intellect—however “natural” or “divine” one might specify the possibility of such “intellection.”⁴⁰ In this, Kittler parts ways with McLuhan. For him, mathematics is the *immediate* expression of “the real,” directly, in terms of physics. He sees no symbolism at work in it: “What distinguishes the post-Gutenberg methods of data processing from the old alphabetic storage and transmission monopoly is the fact that they no longer rely on symbolic mediation but instead record, in the shape of light and sound waves, visual and acoustic effects of the real.”⁴¹ With this assumption, he can mock Balzac’s project:

Photo albums establish a realm of the dead infinitely more precise than Balzac’s competing literary enterprise, the *Comédie humaine*, could ever hope to create. In contrast to the arts, media

40 This is not a polemical remark. Regarding mathematics, the question really is unsettling: Why does mathematics work? Why can we fly to the moon and back with mathematical understanding (and everything that builds upon it)? Stephen Hawking edited an anthology on number theory, whose title features a citation by Leopold Kronecker who once said: “God made the integers; all else is the work of man.” (Cited in Eric Temple Bell, *Men of Mathematics*, New York, Simon & Schuster, 1986, p.477. The Hawking-edited anthology is entitled *God Created the Integers: The Mathematical Breakthroughs That Changed History*, Philadelphia, Running Press, 2005.)

41 Geoffrey Winthrop-Young and Michael Wutz, “Translator’s Introduction: Friedrich Kittler and Media Discourse Analysis,” in Friedrich Kittler, *Gramophone, Film, Typewriter*, trans. by Geoffrey Winthrop-Young and Michael Wutz, Stanford, Stanford University Press, 1999, xxvii–iii.

do not have to make do with the grid of the symbolic. That is to say, they reconstruct bodies not only in a system of words or colors or sound intervals. Media and media only fulfill the “high standards” that [...] we expect from “reproductions” since the invention of photography: “They are not only supposed to resemble the object, but rather guarantee this resemblance by being, as it were, a product of the object in question, that is, by being mechanically produced by it—just as the illuminated objects of reality imprint their image on the photographic layer,” or the frequency curves of noises inscribe their wavelike shapes onto the phonographic plate.⁴²

For him, it is clear: “of the real nothing more can be brought to light than [...] nothing.”⁴³ With the nineteenth-century concept of frequency, “the real takes the place of the symbolic,”⁴⁴ and “literature defects from erotics to stochastics, from red lips to white noise. Marinetti’s molecular swarms and whirling electrons are merely instances of the Brownian motion that human eyes can only perceive in the shape of dancing sun particles, but

42 Kittler, *Gramophone, Film, Typewriter*, p.11–12; he quotes from Karl Philipp Moritz, *Die Hahnische Litteralmethode*, in *Die Schriften in Dreissig Bänden*, ed. by Petra and Uwe Nettelbeck, Nördlingen, Greno, 1986, 1:157–58.

43 *Ibid.*, p.15.

44 *Ibid.*, p.26.

that in the real are the noise on all channels."⁴⁵ The end of the Gutenberg Era marks for Kittler the end of storytelling because, as he puts it, once the real takes the place of the symbolic within the physics of electromagnetic spectrums, frequencies, and stochastic noise, time turns into "an independent variable"—a "physical time removed from the meters and rhythms" that could make harmony and music. Rather, such physical time "quantifies movements that are too fast for the human eye, ranging from 20 to 16,000 vibrations per second."⁴⁶

For both McLuhan as well as Kittler, media come to stand in for the Kantian forms of intuition, those "conditionings" supposedly innate to the human mind that, according to Kant's transcendentalism, were the guarantors that everyone can intuit space and time uniformly if only they have already learned to discipline their faculties of understanding and reason.⁴⁷ Kant molded his forms of intuition according to notions of space and time informed by physics, not mathematics.

45 Ibid., p.51.

46 Ibid., p.24.

47 Regarding the problem of aesthetics and judgment for epistemology at large, see Jean-François Lyotard, *Time and Judgement*, ed. by Robert Harvey and Lawrence R. Schehr, New Haven (Connecticut), Yale University Press, 2001; Jean-François Lyotard, *The Differend: Phrases in Dispute*, trans. by Georges van den Abbeele, Minneapolis, University of Minnesota Press, 1988 [1983].

Against the rationalism of Leibniz, for example, which cannot do without an idea of beauty that is harmonious and theological, mathematics had to be decoupled from theology for Kant: it should only be legitimate if its postulates can be made the object of physical experimentation. With this, Kant aligns closely with empiricist traditions. But against Newton, whose systematization of methods in physics, *The “Principia”: The Mathematical Principles of Natural Philosophy*, anchors his Axioms, the Laws of Motion, in a notion of absolute space that he attributed to the cosmos itself, Kant’s transcendentalism introduced a level of mediacy between thought and the real. This “mediacy,” however, is entirely distinct from the “mediacy” thematized with reference to “new media.” While the former notion of mediacy was uniform and objective because Kant attributed Newton’s prime cosmological assumptions (linear and reversible time, and Euclidean, three-dimensional [plane] geometry) to the human mind instead of the cosmos (as the Forms of Intuition). Mediacy in relation to new media, on the other hand, is new because it makes so-called non-classical quantum physics its point of departure. With the crucial consequence that the notion of an objective and uniform process of mediation—arguably the key element in Kantian transcendental

philosophy, as well as for every epistemology that commits itself to the critical tradition—has lost its very base. When everything happens “instantaneously” and at “light speed,” how to maintain a critical distance to events then? How can a critical philosophy “base” itself on a notion of mediation that is manifold, variate, and unfolds in multiple linear sequences? How can we think about the linkages, the nodes? Mediality does not mainly affect the reception of a communicated message as if of an absolute historical force. It is certainly true that sequences do not link up in an entirely predictable manner within the domain of probability; but mediality affects the reception of a communicated message because like Balzac’s comedy, media tackle with “format”—the one term which, in Plato’s *Timeaus*, is reserved for the Demiurge. Even the most reformationist spirits of media materialism à la Kittler, stances which committed to a “pure” and “immediate” real, are bound to proceed—whether they want it or not— “by the carnevalesque;” especially if they emphasize their commitment to a notion of the real that draws from absolute space, or absolute time (History). How indeed can a critical philosophy come to reasonable terms with a materialist notion of mediation that is manifold, variate, and unfolds in chance affected manners?

Contemplating a notion of the real vis-à-vis such mediacy, McLuhan dares to consider a nonapocalyptic reversal in the direction of progress that inheres the paradigm of modern experimental science, whereas Kittler (as well as Virilio, Baudrillard, and many others committed to the project of a “general linguistics”) considers a self-referential implosion of the real and anticipate a novel kind of epistemic indisputability arising—somehow—from a totalized notion of mediacy. While their faith is in historical materialism: “Never trust the messenger if it is not a mechanism,” their keen attention to how “mediality” acts as an anonymous (non-addressable, non-answerable) *formatting* force and makes their outlook deeply pessimistic.

I want to ask again, and formulate a bit differently: how to stay committed to a certain autonomy of things, whereby “things” include “words”? How to consider with Simondon that perhaps it is not the technical object that is to save us (even if only from ourselves) but us who need to save the technical objects (even if only to keep with a possibility of salvation)? How to reconnect, in short, with this almost forgotten notion of realism that weighs more to the pole of a culture of epistemic modesty than that of self-righteous modes of self-legitimation—and

which does so, frivolously, by affirming a culture of comical plays in exuberance à la Balzac?

Continentalism: Containing Contenance

So, what about Serres's *la belle noiseuse*? What about his idea of a kind of beauty that is not harmonious, not perfectly adequate or equal, but clamorous and querulous noise, a beauty that is universal, omnipotent, and yet "sexed" in the sense that it is "whole" only because it "desires" itself in all that it can be? A truth, a nakedness, whose beauty is pure only because it is vulnerable and can be embarrassed? Why hold on to the idea that truth must be beautiful, desirable, and natural?

Serres, too, engages in making sense of a reality that is counted as universal, in a manner that whatever happens, happens at light speed, and its understanding depends upon mediation by spectra. For him, spectra render the real, so to speak. But rather than imagining the universe as a Grand Vacuum, a container of a natural balance (Newton) or a Grand Harmony, the substance of God (Leibniz), or the locus where History can complete itself by referring, dynamically, to nothing but itself (Kittler), Serres inverts the perspective. The universe is ill-thought-out as a container because it is expanding, Serres argues in a key passage from

a recent lecture entitled “From Rotating Revolutions to an Expanding Universe.”⁴⁸ Unlike Kittler, he shares with McLuhan the view that mathematics works symbolically, not “immediately.” But if media are extensions of man for McLuhan, then this same relation is incomplete if we think of one as a function of the other. Rather, this relation must count as mutually implicative and reciprocal for Serres: one may regard media as extensions of man, but man, equally so, extends media. The real is real because it is mediate, for Serres, in the precise sense that if we want to consider a universe that is not only dynamic but also expanding, all relations must be considered mutually implicative and reciprocal. This is how Serres maintains, as previously mentioned, that physics itself is “communicational.” For him, “information circulates universally within and between the totality of all existing things.” He elaborates:

Bacteria, fungus, whale, sequoia, we do not know any life of which we cannot say that it emits information, receives it, stores it and processes it. Four universal rules, so unanimous that, by them, we are tempted to define life but are unable to do so,

48 Michel Serres, *Information and Thinking* (manuscript of the keynote address, conference of the Society for European Philosophy and Forum for European Philosophy, “Philosophy after Nature,” Utrecht, September 3, 2014), here p.1.

because of the following counterexamples. Crystal, indeed, rock, sea, planet, star, galaxy: we know no inert thing of which we cannot say that it emits, receives, stores and processes information. Four universal rules, so uniform that we are tempted to define anything in the world by them, but are unable to do so because of the following counterexamples. Individuals, but also families, farms, villages, cities, nations, we do not know any human, alone or in groups, of which we cannot say that it emits, receives, stores and processes information.⁴⁹

The real must count as a noisy totality of communicative circulation among all existing things. It is to this noise, then, that the witty ruse he placed in the Great Story's beginning responds to—the ruse that universal nature itself is sexed and that the first act of transgression and pleasure (the disobedience to the father by eating from the forbidden tree) is natural and blessed; the ruse that keeps the beginning of the great story open in its development, indeterminate and yet natural, and contemporaneous to every generation anew. Isn't this the essence of modernity?

There is one key moment that Serres's inversion depends on: light speed may well be “real-time,” but it is not “instantaneity” or “immediacy.” Rather, we must assume a universal “tense-ness” (*Zeitlichkeit*)

49 Ibid., p.1.

proper to the totality of quantum-physical matter. Light speed then must be understood in relation to this tense-ness: it manifests the tense-ness proper to the totality of quantum-physics matter in its proper activity. The physical nature of the universe is neither static, mechanical, nor dynamic; it is radiating and active, which today's science refers to with the term "radioactivity." Galaxies are born from, and bearers of, radiation emitted from the activity of nucleosynthesis. From a quantum-physics point of view, this radiation is what we call "light." In each of the myriad galaxies, light-matter is emitted from a star. And it is this radiation of light that contemporary physics depicts in the technical image of a spectrum. In the totality depicted as a (whole) spectrum, light is called white—the sum of all the colors it distinguishes according to variable frequencies of white light.⁵⁰

Now, if real time refers to the tense-ness of light speed proper to the universe that is not only dynamic but also expanding, Serres insists that there must be a kind of storytelling that corresponds to such universality. There must be a kind of storytelling that "locates" itself in the peculiar tense-ness of this fourfold universal activity. For Serres,

50 See Michel Serres and Nayla Farouki (eds.), *Le trésor: Dictionnaire des sciences*, Paris, Flammarion, 1997a.

thinking itself is this storytelling: “What is thinking, in fact, if not at least carrying out these four operations: receiving, emitting, storing, processing information?”⁵¹ Thinking is all of the attributes philosophy has endowed it with in the past: judging, reasoning, understanding, conceiving, imagining, remembering, discerning, delineating, measuring, expressing, articulating, et cetera, but it never strives to master an object (or a subject matter, a theme) by revealing its bare identity. Thinking is storytelling for Serres because its dignity (power) consists of preserving and transmitting truth, not possessing or subjecting it. She who is a masterful thinker, then, is she who knows how to masterfully not know what she preserves, transmits, and keeps in circulation.

I will try to show that such storytelling, for Serres, is intimately tied up with painting: a spectrum is the totality of all colors—the Eigenvector, the generic characteristics of all colors. Thus, the question becomes how to “paint articulately” the noisiness that is matter-in-terms-of-a-spectrum. If there can be a kind of storytelling here, it is because, unlike for Kittler, a spectrum counts for Serres as the “elementariness” of geometry, as constituted by symbolism and not immediate physical expression.

51 Serres, 2014, p.1.

Its form is, ultimately, mathematical. The spectrum is a *topological homology in time*, while a technical image that depicts a spectrum via an apparatus is *a snapshot of an apparatus's dynamics at a certain point in time*. Images of spectra do not, properly speaking, *represent* anything specific, instead, they facilitate the transmission and exchange of something arcane that is being conserved and invariant in circulation; they facilitate a “technical fiction” that conserves and transmits a “physical plot.” This is not merely a metaphorical manner of speaking, for light in today’s astrophysics indeed facilitates the exchange and circulation of energy quanta (light in quantum physics has particle-like properties because the “packages” [photons] in which light is discerned, measured, and depicted in spectral analysis are distinguished according to varying frequency rates that depend upon the “energy load” they “carry”). And energy is ultimately not defined qualitatively at all, but solely as a quantitative invariant whose assumption allows for qualifying matter in its specific forms (“matter” as the Other of “light”).⁵² All one assumes to know about energy is that the total amount in the Universe is invari-

52 See Richard Feynman, *QED: The Strange Theory of Light and Matter*, Princeton, Princeton University Press, 1985.

ant—energy cannot be created nor can it decay or be destroyed.⁵³

The storytelling Serres envisages must be considered as symbolic or mathematical storytelling, a type of storytelling that works according to what the information-technological paradigm of communication suggests to which Serres reverts. But how can it be tied up with painting? Serres wrote an article entitled “Noise” on Balzac’s 1845 short story “Le chef-d’œuvre inconnu,” translated as “The Unknown Masterpiece.”⁵⁴ I will try to elaborate on this relationship between Serres’s kind of storytelling and painting by discussing the plot of this story. This discussion itself will be “communicational” and “narrative” in the sense that it seeks to “actively” preserve the issue at stake in the plot “depicted.” “Actively” means that I will add something to how both retold that story; this is what each of them did as well. Balzac tells the story of two historical figures, painters, who both tried to tackle the same problem: whether perfect beauty can or cannot be discerned from the relation between nakedness

53 See Yvette Kosmann-Schwarzbach, *The Noether Theorems: Invariance and Conservation Laws in the Twentieth Century*, Vienna, Springer, 2011.

54 Honoré de Balzac, *The Unknown Masterpiece*, trans. by Ellen Marriage, Project Gutenberg, 2007 [1845], <http://www.gutenberg.org/files/23060/23060-h/23060-h.htm> (accessed February 23, 2022).

and the model in nude drawing or painting. It may well be that “of the real nothing can be revealed but nothing,” as Kittler maintains, but this “nothingness” is screening and emissive with communicational vivacity.

Ichnographies of Nothing in Particular

In his story of these two historical characters, Balzac “doped” the historical “data” to be documented by adding a fictional character, a third painter whom he calls Frenhofer, as a symbolical operator that acts upon and complicates the documented “plot” (of a real event) and that allows Balzac to dramatize that plot fictionally. With this “tactical move,” Balzac’s realist account turns into storytelling (rather than being documentary-like), and it raises a novel aspect from the historical “plot,” namely, the issue of a categorical difference between drawing/sketching (working with lines) and painting (striving to work with color alone).

Serres, in turn, retells the plot and how Balzac communicates it by once more applying a tactical move. That is, Serres, in turn, “dopes” the plot by endowing it with an aspect that neither Balzac nor the two historical painters raised. He introduces the element of a theoretical term from architecture— “ichnography.” Within the categorical

term of ichnography, the depiction of that same plot (how beauty can be discerned from the relation between nudity and the model) comes to “conserve” and “transmit” again all that has been told, and then some more. Balzac’s interest was in how this can be enriched in distinctiveness by extracting a notion of drawing from painting (rather than interpolating a notion of painting from drawing). For this, he goes from Balzac’s planarity to voluminosity (he introduces the architectural terms for planning that keep the three dimensions distinct from one another by introducing the infinitesimal into each one separately—namely, ichnography, orthography, and scenography).⁵⁵ In Serres’s account the notion of ichnography can establish a contractual kind of writing, as we will see. Painting affords a kind of writing that cannot be reduced to any other form of writing, because its encryption constitutes a graphism that is not “whole”—it needs to be doubly articulated to be a graphism. It needs to be articulated in terms of form to correspond to the substance’s expression of what the form contains, and it needs to be artic-

55 For a rendering of this classical triad into the paradigm of computational architecture, see Ludger Hovestadt, “Toward a Fantastic Genealogy of the Articulate,” in *Domesticating Symbols: Metalithicum II*, ed. by Vera Bühlmann and Ludger Hovestadt, Vienna, Ambra, 2014, pp.46–93.

ulated in terms of content to correspond to what the articulation of the form expresses.⁵⁶ It is a kind of writing that literally inscribes “nothing” by placing a signature whose subject does not, properly speaking, exist. In Serres’s account, the unknown masterwork is indeed a masterwork because it is both “unknown” and “signed.” It “has” a master, but no master can “own” it; by leaving the trace of something unknown that is absent, the signature marks a void that is universal not in the sense of a Great Vacuum, but in the sense of a vault or Crypt. It is a writing capable of remembering what has not yet happened, and even what might never happen. It is a kind of writing that transmits between generations without assuming a linear order of descent and sequentiality.

With giving us this notion of ichnography Serres must not, as McLuhan does, spiritualize communication and announce a novel age of speech based on post-alphabetic presentism (the global village). And neither must he, as Kittler or Agamben do, totalize History and submit to it as the subject of an entirely generic kind of humanism. I will try to show in my retelling of the plot (if beauty can be depicted from

56 For the theory of double articulation, see Louis Hjelmslev, *Prolegomena to a Theory of Language*, Madison, University of Wisconsin Press, 1961 [1943].

the relation between nudeness and its model) that, with Serres, we can expect the dawn of an alphabetic absolute from exactly those developments that lead the former two to announce a post-alphabetic era. The storytelling Serres envisages, we said, must be considered as symbolic, or mathematical storytelling, as storytelling that works according to what the information-technology paradigm of communication suggests, to which Serres reverts. This mathematicness, this symbolism, Serres links to painting via this notion of ichnography. My point is that ichnography introduces a categorical aspect into how we can “paint,” how we can depict something entirely in terms of “color,” which links the canvas of a painting to the spectrality of light as color in its purity prior to the painting that takes a snapshot (a technical image) of this spectrality. Via the categorical aspect that ichnography introduces, both spectrum as well as painting are regarded as forms of writing in Serres’s peculiar “graphism” that is not “whole” without being “read;” a graphism that needs to be doubly articulated by both the writer and the reader; a graphism, hence, that is essentially contractual, a contract that expresses a mutually agreed assurance of what is not going to happen. To assure what will not happen, a contract tries to articulate all possible aspects of

something the parties agree (by signing it) will not take place. All the while, and this distinguishes a contract from an order, the parties of a contract are *not* subject to an external authority that is to be held responsible for guaranteeing that this “something” (which is not supposed to happen) be “represented” in an adequate manner. A contract is signed if both parties withdraw from the stance that could claim legitimate authority over the other. In this sense, Serres’s theory of the “light speed” of “real-time” that media reality is approximating with its electronic communication-technology infrastructures can be said to agree with what McLuhan and Kittler (and others) mean by characterizing our time as a post-alphabetic age. But we have to look carefully.

In the paradigm referred to as the Gutenberg Galaxy, writing was meant to have an authoritative status firmly tied up with and legitimated via the role of an author in relation to her statements, counting on her authenticity and sincerity with regard to *knowing how to render the representation of an object (of discourse) plainly*, in an uncorrupted, a-subjective manner. In science and philosophy, this author-driven legitimation framework manifests in argumentative discourse and the technical precision of experimental practice. But in art, it manifests—more straightforwardly perhaps than

in the latter two—in the attempted act of capturing in painting, drawing, or sculpture a model’s “neutral nakedness”—the very plot depicted and doped by Balzac and Serres in different manners. Instead of truth, it is nakedness that, here, ought to be called “neutral.” Just like an experimental scientist strives to capture truth in its nonbiased, uncorrupted quality, any artist is striving—against all odds—to encounter, to glance at, to capture and preserve, by drawing, painting, or sculpture, a model of purity in a manner that strips the pure off of the model’s live and finite body. Such a successful act of capture would preserve beauty in its pureness. Isn’t that why we call nude paintings/drawings/sculptures, at least in German, by the term *Akt*? Nudity cannot be worn; nudity cannot be represented—just like “actuality” in the Greek sense of infinitive activity, *energeia*, that can never be referred to without imposing form upon it (de-fining it), and hence corrupt its infinitive-ness by putting it into proportion, by applying regularity and measure. New media theory (as opposed to the theory of mediation that forms the backbone of transcendental idealism) readily declares the possibility of such an act of capture impossible. All acts of capture are mediated by either aesthetic categories, history, or a cruelty of the real itself, alias History.

Hence, this very notion of a legitimate authority is tied to an alphabetic order that Serres also wants to dispose of. But what characterizes Serres's stance as unique is that he suggests replacing the concept of authority with a concept of mastership whose subject, however, is indefinite because it is never wholly present nor wholly absent.⁵⁷ It is the subject of his novel humanism—a humanism whose dignity (power and nature) consists of how different generations succeed or fail in preserving their mark of distinction: the possibility for mischief and blessed disobedience. If generations indeed build together on a pyramid of shared knowledge, as the popular way of thinking about science suggests, then the “mastership” that organizes the subject of this humanism consists in *masterfully not knowing* what is being kept safe by this structure of collective ar-

57 That is why the law must remain undecided in how to address this subject of Serres's novel humanism. This aspect is worked out by Serres in his book *The Natural Contract*, trans. Elizabeth MacArthur and William Paulson, Ann Arbor, University of Michigan Press, 1995b, where he makes the strong case that the fragility of the earth, as we begin to experience it in our concern for the planet's climate, needs to be addressed primarily in the terms of law and philosophy together with logic and science—a constellation, he argues, that ecology does (can) not provide. See also my article, *Cosmoliteracy: The Alphabetization of Nature* (lecture manuscript, conference of the Society for European Philosophy and Forum for European Philosophy, “Philosophy After Nature,” Utrecht, September 3, 2014), <http://monasandnomos.org/2014/09/08/on-michel-serres-book-the-natural-contract-1990-cosmoliteracy-the-alphabetization-of-the-nature-of-thought/> (accessed February 23, 2022).

chitecture whose beginning—*arché*—never ceases to happen *in real-time* as long as this knowledge is considered to be universal knowledge in the sense discussed above—demanding obedience without submission, and embarrassed, humiliated, and exposed if being “served” in the submissive manner of false modesty that claims to merely represent it without contributing, by occluding its clarity or adding to it. For Serres, the pyramid of knowledge does not store a resource; rather, it is a crypt that keeps originality itself as the secretive well of a power of invention that can be sourced continuously without ever growing distant in time.

Thus, in my retelling of the story’s plot, I will further “dope” the way this plot can be told. I will attempt to endow Serres’s notion of ichnography with a grammatical case capable of addressing the locus in quo of the pyramid, the crypt, which is being built on the distributed and discrete base of ichnographical—architectonic—writing. I will call this grammatical case “the case of the cryptographic locative.” Of this locative, I want to postulate that it can address, and hence articulate, *the locus in quo* where the plots of Serres’s Great Story are being preserved—that is, the locus in quo of knowledge. Grammatical cases can be seen as categories that organize the instantaneity of a “real

time” that pertains to an alphabet—they articulate all possible relations that can be expressed in an alphabet based language (the possessive, the dative, the nominative, the accusative, or whatever cases a language may distinguish).⁵⁸ Cryptography now can be seen as articulating the space “in between” different “alphabets” in a “comical” way, not unlike light and colors articulate the space in between different things. Hence, we can imagine the totality of the cases expressed by the grammatical categories as building a spectrum, just like we think about the totality of all colors as building a spectrum. The cryptographic locative then articulates this spectral mediacy of the totality of grammatical cases. It articulates this mediacy (the “nakedness” of pure grammatical relations) by (1) depicting the sum total of the possible cases (the topological homological invariances) which specify in an “analog” manner—i.e., in the technical image that depicts a spectrum where frequency amplitudes are the sole criteria of distinction; and (2) by establishing “digital” communication channels on the spectrum basis of this totality of all cases. Like this, the cryptographic locative attributes a locus to what

58 There are languages in use today that distinguish as many as twenty-something different cases. See Louis Hjelmslev, *La catégorie des cas: Étude de grammaire générale*, Munich, Fink, 1972.

is real without ever having happened and taken place. In other words, it demarcates traces of an encounter between the real and the symbolic, and it can preserve a possibility that can never be fully known or exhausted. I would like to think of this grammatical case of the cryptographic locative as indexing what happens in the peculiar tense-ness proper to the radiating, emitting, and absorbing communicational activity of “real-time”—the universal activity that leaves on our planet traces of *some of all* that happens “at the speed of light” in the galaxy that the earth belongs to.

*At the Shore of Stochastic Noise:
The Unknown Masterpiece*

Serres introduces his article “Noise” with the words: “The story I am going to tell happened in the beginning of the seventeenth century, a time of noisy quarrels whence came the body of reason, beauty, genius that we admire today.”⁵⁹ But at the same time, Serre’s storytelling has nothing to do with keeping records of events: “The story I am going to tell and that Balzac tells could not have happened, never happened.”⁶⁰ I would like to consider taking this setup for how Serres’s story

59 Serres, 1983, p.48.

60 Ibid.

will be encountered literally, assuming an alphabetic absolute. With such consideration, I want to ponder the possibility of addressing the fictional in a particular manner that neither opposes it to the real, nor subsumes either to the terms of the other, and hence effectively does not subject one to the regime of the other. My interest is moved by Serres's statement that in this story, we can witness a meeting between the real and the symbolic. He challenges our imagination: "Who has ever seen a meeting between the real and the symbolic in the story?" Balzac did witness such a meeting, Serres claims in the continuation of his text; he can know this, he says, because of how Balzac signed his text.

Let us first recall in broad strokes the plot of Balzac's story. There are three painters: young Nicolas Poussin, the middle-aged court painter Franz Pourbus (whom Balzac calls Porbus)—both of whom were real seventeenth-century French painters—and Balzac's invented older artist, Maître Frenhofer. Frenhofer visits Porbus at his lodgings, where he meets young Poussin as they are both arriving. Porbus lets both in, assuming on no particular grounds that Poussin was with Frenhofer. Frenhofer and Porbus realize only later that neither one of them knows Poussin. The conversation begins to ensue about Porbus's latest

work, a painting of the Virgin Mary, during which Frenhofer criticizes the painting for lacking life. When Poussin objects, the older artists grow aware of his anonymity and challenge him to prove his right to be in the studio with them by producing a sketch. This Poussin does in a manner that sustains their interest in him, and he is officially welcomed into the context. To illustrate his emphasis on life and movement, Frenhofer then applies his artistic touch of color to Porbus's Virgin Mary, making the figure appear live as he had insisted he could. Later, they discuss a painting by Frenhofer's own master, whose name is Mabuse, and who is absent from their meeting. It is a painting of Adam. Frenhofer makes the same critique of his master's painting: that it lacks liveliness. Then he begins talking about a painting by himself that he had been working on for ten years and that no one had seen. Like Porbus's own painting, it is an attempt at capturing perfect beauty in paint—beauty that is engendered without ever having been received in an act of conception: a Mary that will have been without ever actually being “here” or “anywhere”—i.e., beauty as pure nakedness, beauty in the temporal form of a future past that could only be real if it were capable of bracketing out the presence in a manner capable of preserving its actuality indefinitely, toward both

past and future—in other words, a present tense that never actually happens. The painters know well that pure nakedness cannot possibly be embodied by a model that poses for a painting.

Serres now stresses the generational setup of Balzac's story, while "anchoring" all protagonists in one shared spatiotemporal "climate": "Balzac depicts three painters, contemporaries and successors. It took place in bad times when stubborn men without any hope were keepers of the sacred flame, men who were certain that they had to keep it alive," Serres tells us.⁶¹ Hence the continuity between the generations is established by "a secret flame"—all the protagonists knew that "they had to keep it alive."⁶² Poussin is the young one, Porbus the adult one, Frenhofer the old one, and Mabuse, the Frenhofer's master, is absent. All of them are aspiring to achieve the same goal in their work, namely "to keep the sacred flame" without knowing how.⁶³ All of them find inspiration in their models, who are also their life partners. Poussin lives with Gillette, "a perfect beauty. Go to Greece or Turkey, go anywhere, you won't find her match."⁶⁴ Porbus,

61 Ibid.

62 Ibid.

63 Ibid.

64 Ibid., p.49.

the adult, lives with Marie, “an image that is alive in spots and not others. A mixed set.”⁶⁵ Frenhofer, the old one, lives with Catherine Lescault, “a courtesan, that beautiful noiseuse who does not exist.”⁶⁶ All strive to keep the flame in taking their loved ones as a model for their painting. But: “The tree’s direction is one way for men, as the brush loses power as time goes by. For women, it is the other way as beauty wins its calm presence as time goes by. Time goes one way for the maker [*facteur*], the other way for the model. Nicolas, while drawing, lives next to being itself, the old man, the creator, has lost it. Porbus is in the middle, uneasy, undecided, floating around. His picture fluctuates and doubts, it passes the river of time.”⁶⁷ After this depiction, Serres stops and begins anew, inviting his readers “to forget the simplistic cascade in which what he makes visible in turn makes visible a picture that in turn makes visible what ...”⁶⁸ But what cascade:

The three men follow each other, according to the order of Mabuse, just as priests are consecrated time after time, according to the order of Melchizedek. The three painters follow each other, according to the order of representation,

65 Ibid.

66 Ibid.

67 Ibid.

68 Ibid., p.50.

the proper name of the dead man cannot fool us. All three have turned around to see their own pictures while, naked and forgotten, beauty cries behind them. As for the three women, they follow each other according to the order of being. Not according to the order of appearance but the scale of being.⁶⁹

So how can we begin anew? How can one mobilize doubt, and the strength needed to live up to one's commitment to achieve (to keep the sacred flame) without knowing how? "The tree of life comes out of the picture, just as the tree of representations, obviously, goes into it. Why these two times, these two directions, these two ladders, these two trees, do they form a cross? Is this a very old, very absurd way of thinking?"⁷⁰ The story that Serres sets out to tell, and that he claims has happened in the seventeenth century, in the noisy quarrels of that time—while at the same time being a story that did not happen, and even more that could never have happened—introduces a manner of narration, of storytelling, that can do without these two times. It is a story of time in generational terms that does not mold the Tree of Life iconically into the form of a cross. According to Serres, the Tree of Life and the

69 Ibid., p.49.

70 Ibid., p.50.

tree of representations leave traces of an encounter in the picture. Traces in which *nothing* can be seen because *nothing* is being depicted: “But sooner or later he’ll notice that there’s nothing on his canvas!” Poussin will comment when glancing at Frenhofer’s completed masterpiece in the end of Balzac’s story.⁷¹ And Frenhofer himself will despair: “I’m an imbecile then, a madman with neither talent nor ability. [...] I’ve created nothing!”⁷² Nothingness cannot possibly be mastered according to Balzac’s story, hence Frenhofer cannot possibly identify with his masterpiece by seeing in it the completion he has achieved. Instead, he views it as a failure, destroys it with his entire oeuvre, and dies that night.

By suggesting to take this “nothing-at-all” in a literal manner, do I not, in my reading of Serres, positivize what needs, in fact, to be negated for the sake of any ethics that might once have been? If I may say so, itself a practice of keeping the sacred flame. The ethics we are looking for would have to be formulated in a strange tense that conjugates a kind of mightiness that *will once have been* without ever actually having been, as I specified earlier. That is, an ethics, a form of life, or rather: the temporal mode of a form of life that cannot possibly

71 Balzac, *The Unknown Masterpiece*.

72 Ibid.

be inferred from something that did happen. Are we not asking for a practice that is, oddly, disembodied? In this peculiar story that Serres narrates, which centers around a painting he claims capable of somehow capturing “a meeting between the real and the symbolic”⁷³—and this without being capable of actually depicting it—does Serres not lead us astray, leaving us behind somewhat lost, trying to grasp an empty center, dangerous and unsettling like the inner eye of a tornado. This empty center swallows up and noisily distributes what appears to have been relatively peacefully at rest? Is it not a particularly violent destruction that I am trying to contemplate here? Thinking along these lines, we would be forgetting that this painting at stake, just as its painter—*le chef-d'œuvre inconnu*, the unknown masterpiece, and its fictional master (Frenhofer is the only character in the story that Balzac entirely invents)—exists only as a fictional formulation. Is fiction then that strange locus in quo capable of hosting as its “cases” formulations in that strange tense which conjugates a kind of mightiness that *will once have been without ever actually having been*? In other words, what would it mean to say that the character of fiction does not apply to mightiness itself—thereby distinguishing fictional mighti-

73 Serres, 1983, p.48.

ness as false pretense, as fake at best and a crime at worst, because of its impotence due to its character as invention, against a kind of nonsymbolic mightiness that must count as “real” and therefore “true” and powerful—but to the temporal tense of a symbolic mightiness in which the fake actually exerts real power?

One cannot deny a sequential order of time, Serres seems to be saying, by foregrounding the generational setup of Balzac’s story. But its sequentiality does not follow directions: “The tree of life comes out of the picture just as the tree of representation goes into it.”⁷⁴ Serres seems to maintain that we would be capable of rethinking time in either a continuous or fragmented or linearly progressing manner if only we begin to value (discern, estimate, rate), in our stories (narrations), a life of the fictional, the ideated—of that which is invented or imagined in the mind, just as we value the liveliness of all things real. Balzac witnessed a meeting between the real and the symbolic, and he did so *in the story*. If we read this “in the story” as a *fictional locative*, it will be a locative that is not empty of meaning but rather one that can sustain *any* meaning. It would be a *cryptographic locative*, that is, because it is symbolic—empty neither in

74 Ibid., p.50.

the sense of demarcating, nihilistically, the reality of a non-place, nor in the sense of a determinate and defined positively locatable location, a place of the negative; but, such “emptiness,” I want to suggest, is the emptiness of a cryptological code that is pure capacity—relative strictly to the meaningfulness with which one is capable of endowing the symbolic any-structure of the meaning transmitted. A phonetic alphabet, like the Roman one, for example, can be viewed as such a code: it comprehends a finite stock of elements that are ordered in a particular sequentiality, the characters expressed by letters, and in terms of these letters all words that can *in principle* be uttered—meaningful once, now, in the future, or even never—can be expressed. There is a certain materiality to the utterances of articulated speech, and a distinction between literal and figurative speech, truth and fiction, argument and rhetoric, can be applied to them only retrospectively. In that sense, the formal character of the alphabet is that of a code system, just as the diverse and so-called probabilistic alphabets with which engineers are computing today, or the many phonetic alphabets that preceded the Greek one (which is usually referred to as “the first” phonetic

alphabet in history).⁷⁵ My claim, then, is that the cryptographic locative can express “nothingness” in a “literal” manner because the letters of the alphabets it uses are the atoms of a materiality of articulated speech—a materiality that presents itself in no form, a materiality that is furious, un-

75 There have been “phonetic alphabets”—meaning scripts that do not provide inventories of things with the letter series they express, but rather a metrical system to note how one speaks about the things one strives to inventorize—as early as 2000 BC. However, most of them wrote only in consonants, producing a kind of “extract-text” that can be read by many cultures even if the way they articulate and pronounce the read sequences of letters was so different that the people speaking it could not understand each other in speech—based on such scripts, however, they could in writing. For the political implications of different scripts and the different literacies they produced, see Harold Innis, *Empire and Communication*, Toronto, Dundurn Press, 2007 [1950]. Still today, for example, the Arabic language struggles with its tradition as a pure consonant script. Mohammad’s prophecy has been recorded in the Koran in a consonant script, and already by the early Renaissance, there were many different ways of reading the prophecy—giving rise to different Islamic cultures. See the article by Suleiman Mourad and Perry Anderson, “Rätsel des Buches: Zur Geschichte des Korans und der historischen Dynamik des Islams,” trans. by Florian Wolfrum, in *Lettre Internationale* 106, Fall 2014, pp.118ff. Greek phonetic script introduced for the first time the means to write down explicitly a manner of speaking (vocalization) that has not actually been spoken by any one people in particular, but that is a script applying vocals together with consonants, and that has been invented artificially in order to establish a common tongue that can be learned easily by all parties contracted in networks of trade relations in the Mediterranean area. About the Greek vocal alphabet, see Innis, *Empire and Communications*; and Eric Havelock, *Preface to Plato*, Cambridge, Harvard University Press, 1982 [1963] for a discussion of how this prehistoric genealogy of the phonetic alphabet relates to the “mysterious” leap into new levels of abstraction produced and witnessed by the Greek culture in antiquity.

organized, yet not inarticulate, a materiality that Serres calls “noise.”⁷⁶ A cryptographic locative cannot possibly work within a scheme of representation because it calls for an *infinite* base, which, following Serres, we can learn to call “ichnography.” He seems to be telling us that the infinite base of an ichnography is narrated in fiction, and that constitutes fiction as a locus in quo where the real and the symbolic can meet. Let us now pursue this line with greater care.

The term “fiction” comes from the Latin *fictionem*, “a fashioning or feigning.” It is a noun of action from the past participle stem of *ingere*, “to shape, form, devise, feign,” originally “to knead, form out of clay,” from PIE **dheigh-*, “to build, form, knead,” and also from the Old English source in *dag*, “dough.”⁷⁷ Since the late sixteenth century, fiction also demarcates “prose works of the imagination” in distinction to dramatic works of the imagination. From that same time onward, there is also a legal sense of the word, according to which law was characterized as “fiction.”⁷⁸ Related words include the Latin *fictilis*, “made of clay, earthen,” as well as *factor*, “molder, sculptor” as well as (ascribed to Ulysses)

76 See Michel Serres, 2001b.

77 <http://www.etymonline.com/word/fiction> (accessed October 24, 2023).

78 Ibid.

“master of deceit,” drawn from *fictum*, “a deception, falsehood, fiction.” What strikingly distinguishes the notion of “fiction” from that of “illusion” is, as we can see in this genealogy of the term, that it was used in a sense that could perhaps be characterized as “uncritical”: different from a fiction, an illusion makes plain that it operates within the realm of the apparent, and hence presumes, for its very identity, a certain distance and mediacy related to the faculty of understanding, and this faculty’s capacity for judgment. Such mediacy is inherently problematic in relation to fiction because fiction does not operate within a representational framework. This is exactly the point Serres so strongly makes in his narrative mode of “storytelling.” Let us carefully and slowly try to understand how this might work.

The masterpiece painting around which the plot in our story unfolds is Fernhofer’s painting of his imaginary mistress, Catherine Lescault, also called “the beautiful noiseuse.” This painting “is not a picture,” Serres tells us, “It is the noise of beauty, the nude multiple, the abundant sea, from which is born, or isn’t born, it all depends, the beautiful Aphrodite.”⁷⁹ In its pure nakedness, beauty is neither seen in a woman, a female God, nor in a feminized reification of nature that would characterize

79 Serres, 1983, p.54.

physics in its objectivity. Such beauty can only be imagined *in status nascendi*, born from the foam of a noisy sea, as the fictional impersonation of the anadyomene: “We always see Venus without the sea or the sea without Venus, we never see physics arising, anadyomene, from metaphysics.”⁸⁰ The schema of associating an active principle, form, or intellect that imposes itself upon receptive and nurturing nature, is thwarted in Serres’s account. Considering the fictional as distinct from the illusionary, he must not see a schema or outline of the true that needs to be substantiated—filled with materiality—to constitute knowledge. Rather, form itself is a figuration of the unknown rising as the anadyomene: form is “information that is phenomenal,”⁸¹ and it “arises from chaos-white noise.”⁸² He continues: “What is knowable and what is known are born of that unknown.”⁸³ Serres refers to “that unknown,” the anadyomene, also as “chaos-white noise”—with that, he separates what is unknown from an unknown that would merely host the impossible as the negative of the possible, or the improbable as the negative of the probable.

80 Ibid.

81 Ibid.

82 Ibid.

83 Ibid.

In the unknown, Serres considers that “there is nothing to know.”⁸⁴

I want to suggest that (1) if we consider Serres’s understanding of a story as the locus where the real and the symbolic can meet, then (2) we can reason and make sense of this “nothing” as something neither positive nor negative, but (3) as the any-capacity proper to an alphabet that constitutes a cipher. What I would like to read into and extract from Serres’s text is that the question of “mediacy” can be approached differently once we can develop a less counterintuitive and less disturbing idea of (1) such “nothingness” that is, essentially “anythingness”; (2) its communicability into “somethingness” through encryption; and (3) the “originality” of the “secret somethings” that are being sourced from such a symbolic nature as “nothingness/anythingness.” We can develop such an idea by looking at how mathematics deals with the zero. My assumption thereby is that the zero in mathematics entails all the problems we have encountered about the nothingness that Fernhofer has painted in Balzac’s story, that nothingness of which Serres, in his reading of Balzac’s story, insists (against Balzac) marks the completion of the unknown masterwork, not its failure.

84 *Ibid.*, p.1.

So, what is a mathematical “cipher”? The notion designates, on the one hand, the zero in mathematics; on the other, it is a generic name for numerical figures (as *Ziffer* is in German).

Let’s begin with how we refer to the zero. Of course, we have an encoding for it with our symbolic notions of numbers. This may sound rather unspectacular, but we need to consider more precisely what it entails. In mathematics, or more precisely in algebra alone, we have an intermediate level of notational code and ciphering between “notational signs” and what they “indicate.” This intermediate level is introduced because algebra operates in abstract symmetries (equations): algebra is the art of rendering what terms a formula (an equation with unknowns) is expressed into the mappings of possible solutions for the unknowns. From a mathematical point of view, the mappings rendered by the articulation of a formula (an equation) are varying expressions of one and the same thing—while that “one and the same thing” itself remains “absent.” Neither of the articulable expressions of the terms (articulated in how the terms of the equation are factorized, partitioned) is ever capable of expressing explicitly and exhaustively all at once whatever it may be that is being articulated in a formula (the “identity” expressed in an

equation). There is a constitutive level of mediate-ness involved, which never lets the mathematician forget that what one seeks to express by stating its identity in terms of a formula must be considered as being of a vaster extension than any one discretion of its symbolic expressions can ever be. In other words: a function is always derived from an equation that has been rendered solvable. We can conceive of this “rendering solvable” as “mediation” that is peculiar to the relation of algebraic “idempotency” and its capacity to express “identity” *inversely*. And we can conceive of any version of algebraically articulated “identity” as the symbolic establishment of a tautological relation in a manner that is not “absurd”—precisely because of this tautological character that expresses one and the same thing differently. Like the allegorical elephant in the room full of blind people eagerly describing to each other what they perceive to be “present,” the algebraically articulated “identity” becomes more and more distinguished and rich in qualities as the quarrel of “getting it right” goes on. Every claim, if it is to persuade, must establish a code that can be shared.

Now in what sense can we say that every code is constituted by a “cipher”? Establishing a code requires a projection space in which a structure is

doubled up and mirrored around a neutral point, such that a fixed order of reference can be assigned between the doubled-up structures. Cipher is another word for this neutral point, which we commonly call the zero. A code is always participating in the game of encryption. An easy example to illustrate the cryptographic or cryptological relation between a code and a cipher is the codes for encrypting texts.⁸⁵ One takes a set of finite and ordered elements, in this case, the alphabet, duplicates it, and mixes up the order of the elements in the duplicate version. Perhaps one uses another notation system like numbers or figures, or perhaps one may also decide to introduce further elements to the duplicate version that are not contained in the duplicated one to raise the difficulty of “breaking the code”—that is, in figuring out the structure of the transformations applied between the two. The establishment of a code depends upon a place-value grid or frame within which it is possible to locate and correlate the positions occupied by values. This allows the one partition scheme that determines judgments (prime parts, *Ur-teile*) to remain undecided regarding the substance of

85 It depends on how we treat the relation, whether primarily analytically as in cryptology, or primarily synthetically as in cryptography.

the value, or algebraically. Thus considered, “values” have an essentially cryptic character—one that can only be clarified by giving “figure” and associating a “face” to their cryptic character as we learn to “enfamiliarize” and “decipher” it. I put decipher in quotation marks to highlight that here (as in the allegorical space with the elephant and the blind people), we are speaking about a mode of deciphering that has to invent the code that makes that very decipherment possible—a kind of deciphering that does not hack or intrude into a secret, but one that renders communicable what we might perhaps best call “an arcane regularity”—a regularity that remains arcane, even while being rendered communicable, sharable, public.⁸⁶

As one comes to “master” such regularity, one literally “masters nothing,” in a manner in which “nothingness” must not be addressed in either positive or negative terms. We have to understand the secret at stake in a chemico-physical sense, as a secretion, from the Latin *secretionem*, “a dividing, separation, a setting apart.”⁸⁷ In other words, the secret is not something initially clear, pure, or plain

86 See my article “Arché, Archanum, Articulation: The Universal and Its Characteristics,” in Vera Bühlmann and Ludger Hovestadt, *Domesticating Symbols*, Vienna, Ambra, 2014a, pp.112–77.

87 <http://www.etymonline.com/word/secretion> (accessed October 24, 2023)

whose possibility of discretion has been rendered occult, difficult, or exclusive. What Serres suggests in his reading of “The Unknown Masterpiece” as the beautiful querulent is that such assumed purity, clarity, or plainness is, in fact, initially noisy—a mixture of heterogeneous factors, factoring in something that can never be known exhaustively and as whole. A secret, in that sense, turns into a well or source that is, essentially, public: no one can control all the articulations of how the secret circulates what can be “sourced,” set apart and rendered communicable, by learning to master the well—which, for Serres, is nothingness as primary noisiness.⁸⁸

With this, we come close to the second genealogical lineage of the notion of the cipher, one which departs from and builds upon the first one (cipher as zero): in number theory, the cipher not only stands for the zero, but also for the numerical figures as they are expressed in the terms of a

88 This manner of thinking strikes me as so interesting because it suggests the counterintuitive or at least apparently paradoxical idea that there might be a kind of mastership that, through privacy, produces and renders distributable public goods—commons—rather than accumulating them and claiming them as private property, on the grounds that one (more so, or differently so) *masters* it. See also my article “Articulating a Thing Entirely in Its Own Terms or What Can We Understand by the Notion of Engendering?” in *EigenArchitecture. Computability as Literacy*, ed. by Ludger Hovestadt and Vera Bühlmann, Vienna, Ambra, 2013, pp.69–127.

common base like the hexadecimal number system, or today the decimal number system. Such positional systems are organized in what is today called logarithmic tables—a term introduced by John Napier in the seventeenth century, expressing what he called “ratio-numbers,” or numbers put in proportionate notation, from *logos*, proportion, and *arithmos*, number. The decision regarding which base the proportionality is set up characterizes the notion of numbers as a particular code. It is within algebraic number theory that the positional logic of such notational systems itself is being thematized, in a manner that in the nineteenth century usually took the form of placing numbers on one infinite line—the so-called number continuum. Richard Dedekind and Giuseppe Peano have introduced a general procedure of identifying numerical domains as number classes embedded and nested both within each other and within that continuum (the rationals, reals, integers, etc.) The application of this procedure (called the Dedekind Cut) requires further and further levels of *relative* abstraction attributed to the algebraic symbols in whose bonds or relations numbers are now being expressed—numerical values are here subjected to symbols used as jokers, as placeholders with a “naked” or “pure” capacity to render countable an

any-meaning that might not even yet be articulated. Algebraic symbols are at work in identifying the positional logics of these purely symbolic domains, up to the situation we have today where number theory is understood by many as the very object of cryptology/cryptography/cryptoanalysis rather than as part of natural philosophy; as Frege, Russell, Whitehead, Husserl, and others have regarded the advent of Universal Algebra.⁸⁹ Today, on an ordinary basis (in all electronic things and infrastructures), there are entirely abstract numerical bodies at work that are called “fields” in English,⁹⁰ as well as a great diversity of abstract constructs that build upon them—with beautiful names such as “rings,” “lattices,” “sheafs,” and so on. In the perspective outlined here, these “names” of “algebraic things” (symbolic “things”) name secretions of nothing-

89 Whitehead introduced this term to express that from the point of view of mathematics there is a multiplicity of systems of symbolic reasoning that cannot be decided in terms of supremacy on the basis of mathematical consistency criteria alone. See Alfred North Whitehead, *Treatise on Universal Algebra with Applications*, Cambridge, Cambridge University Press, 1910.

90 The term “field” is a rather unfortunate and, arguably, even misleading translation from the German term *Zahlenkörper*, with which Dedekind introduced these symbolic numbers. The translation is unfortunate because the notion of the field suggests that no local organization differentiates one against another; fields are subject to the uniform forces of electromagnetism, where all “locality” is but a function of this uniformness. The term “body of numbers,” on the other hand, puts all its emphasis on a certain “autonomy” or “self-maintenance” of such a local organicity.

ness—secrets rendered communicable *because they are extracted from the inverse* of what Western philosophy has been centering around for more than two millennia, namely the fantastic inception of the idea of universal, eternal, enduring, and persisting *essentiality*—that is, the notion of *universal substance*.⁹¹

If number theory could give us an inverse of universal substance instead of its axiomatic elements, as Frege, Russell, Whitehead, Husserl, and others were trying to establish⁹²—would that not help in coming to terms with those developments in nineteenth- and twentieth-century science that so trouble modernity's grand idea of a Natural Philosophy? I am referring of course to all the issues already discussed in relation to the notion of “mediacy” and “media”: (1) to the centrality of “radioactivity”

91 Especially interesting contemporary studies in relation to this: François Laruelle, *Principles of Non-Philosophy*, trans. by Anthony Paul Smith, London, Bloomsbury, 2014; as well as Jean Luc Nancy's interest in the notion of “exscription,” e.g., in “Exscription,” in *The Birth to Presence*, trans. by Brian Holmes et al., Stanford, Stanford University Press, 1993, p.319–40; and *Corpus*, in *ibid.*, p.189–207.

92 See the lesser known and early writings of Edmund Husserl in his dissertation *Beiträge zur Theorie der Variationsrechnung* (1882), as well as his habilitation *Über den Begriff der Zahl: Psychologische Analysen* (1887); Gottlob Frege, *Die Grundlagen der Arithmetik: Eine logisch mathematische Untersuchung über den Begriff der Zahl* (1884); Bertrand Russell's dissertation *An Essay on the Foundations of Geometry* (1897); Alfred North Whitehead's *A Treatise on Universal Algebra with Applications* (1898); and Ernst Cassirer's *Descartes' Kritik der mathematischen und naturwissenschaftlichen Erkenntnis* (1899).

in physics, and its counterintuitive understanding of a quasi-materiality of invisible light, or more precisely, the interactivity among particles in their emission and exchange of light that contains energy; (2) the therewith associated “birth and death” of countless galaxies in an expanding Universe in astrophysics; (3) the depiction and technical control of such radiating activity via technical images called “spectra”; and (4) the spectrum-based, quantum-physical “substrate” of our contemporary form of technics in communication and computation.⁹³

Let us return to the plot of the story. We have already seen that Frenhofer’s masterpiece is characterized as depicting nothing-at-all. More concretely now, what does it, in fact, depict? “‘the old fraud’s pulling our leg,’ Poussin murmured, returning to face the so-called painting. ‘All I see are colors daubed one on top of the other and contained by a mass of strange lines forming a wall of paint.’ ‘We must be missing something,’ Porbus insisted.”⁹⁴ The “secret” is not something initially clear, pure, or plain, whose possibility of discretion has been rendered occult, difficult, and exclusive, as Porbus and Poussin consider (“‘There’s a woman under

93 As a great overview and introduction to these topics, I suggest referring to the respective articles in Serres and Farouki, *Le trésor*.

94 Balzac, 2007 [1845].

there,' Porbus cried.")⁹⁵ What Serres suggests in his reading of "The Unknown Masterpiece" is that such assumed purity, clarity, or plainness is, in fact, initially "noisy"—a mixture of heterogeneous factors, factoring in something that can never be known as whole. But what, then, did Frenhofer depict? How could he possibly paint noise as noise? By producing a "fake" painting, a painting that lacks an original. "The Unknown Masterwork is a fake. It happens in a placeless space, is signed by a nameless author, is told in a timeless time. No, there is nothing beneath, not even a woman."⁹⁶ And Serres continues to spell out how he thinks of the unknown that he understands Frenhofer to have painted: "If the masterwork is improbable or impossible it is not unknown and there is nothing to know."⁹⁷

But if Serres's reading maintains that this masterpiece is indeed a masterpiece because it depicts beauty stripped from any model that could "wear" it, instantiate or represent it, beauty in pure nakedness, beauty as unknown beauty, then these characterizations will surely counter his argument? If the masterpiece is declared impossible or improbable, then it would not be unknown—because the

95 Ibid.

96 Serres, 1983, p.1.

97 Ibid.

impossible is merely the negation of the possible, and the improbable is the negation of the probable. Both are statements uttered from the stance of the always already initiated, for whom there can be no genuine secret in the chemico-physical sense introduced above in which there can be nothing to know. For according to this sense of the unknown as a genuine secret(ion), there must always and still be something new to know, as Serres adds to his critique of impossibility and improbability as frames in which to refer to the unknown that Frenhofer has painted. “Or else: is there still something new to know now?” he asks.⁹⁸ But if neither a model, nor a frame in whose terms we might refer to the kind of Unknown Serres seems to be talking about, then what? Are we not at a hopeless loss with such purport?

“The picture that is discovered at the end of the story is the ichnography,” we are told by Serres—*the ichnography*, with a determinate article. But how can Serres’s proposed resolution, that of ichnography, mean something different from a frame of reference? Let us attend to the full passage that Serres continues with: “The picture that is discovered at the end of the story is the ichnography. The beautiful noiseuse is not a picture, is not a representation,

98 Ibid.

is not a work, it is the fount, the well, the black box, that includes, implies, surrounds, that is to say buries, all profiles, all appearances, all representations, the work itself.”⁹⁹

The term “ichnography” is usually rendered into English as “groundwork” or “ground plan” and into German as *Grundriss*. It is a term that has played a crucial role in architectural theory ever since the first theoretical treatises on architecture (that we know of) had been composed by Vitruvius in the first century BC. It never comes alone, but always in association with two complementing terms: those of *orthography* and *scenography*. All three are terms that refer to kinds of drafting that help the architect to learn, develop, and refine building as a practice (or even as an art). In technical terms, the orthography means plans that elevate the schemata of the ground plan into an upright position (depicting the voluminosity of the building in profile), and scenography means plans of the multiple views on a building in profile. The German terms are respectively *Grundriss*, *Aufriss*, and *Seitenriss*. I mention this because the German terms, unlike the English ones, hold on to a distinction that keeps the practice of the draftsman, and hence the timelessness of geometry, separate from the dynamics

99 Ibid.

that unfold in time as is inherent to the notion of the “plan.” This is an important distinction, because it helps to understand that there has been a dramatic element in architecture ever since it has been theorized: scenography introduces storytelling and a quasi-rhetorical aspect of expression to building as a practice. There is a tension at work within architecture that is not unlike the one in philosophy between rhetoric and argumentation, whose vectors rotate around that big idea called Truth. Is there in architecture then also a kind of “truth” at stake? Surely it couldn’t be the same truth as in philosophy? But then, on the other hand, from the first treatises on architecture, it was all about a building’s “adequateness” or “proportionality”— a temple’s adequateness to the gods that are being worshiped; a villa’s adequateness to the social and political power of the master whose *oikos* (property) it is to accommodate; an aqueduct’s adequateness to its purpose (transporting water); and perhaps the most immense “task” to be fulfilled by architecture, namely to match a city’s adequateness in conforming to “the” order of “the” cosmos. The three different kinds of drafting, serve the architect to refine her able-ness as an architect, also thereby introducing a *contractual* dimension into the power relations that organized the practice of

“building in adequate and proportionate” manner. They each come with different kinds of categories that all allow to differentiate, discrete, compare, and argue about the “worth” of particular buildings via recourse to the work of the architect as draftsman. Thus, without necessarily being very familiar with the corpus of architectural theory, we can easily imagine the disputes about what exactly was meant by *ichnography*, *orthography*, and *scenography* (as well as the relations between them that could be derived from these attributed meanings together with the network of consecutiveness that results from those relations). It doesn’t seem to be overstressing the point to say that these three terms capture the invariant “topic” of architectural theory. Architectural theory encrypts and encodes its own “identity” in terms of these “categories”—not at all unlike metaphysics, which has been doing the same with the philosophical categories.¹⁰⁰

In Serres’s account, the Unknown Masterpiece is “not a picture, is not a representation, is not a work, it is the fount, the well, the black box, that includes, implies, surrounds, that is to say buries, all profiles, all appearances, all representations, the

100 This arguably holds at least until the twentieth century, with Gottfried Semper and his notion of “style” in architecture perhaps constituting a (provisionally?) last re-articulation in an attempted systematic manner of this conceptual legacy.

work itself”—it is “the ichnography,” the crypt of the arcane source of all secrets that can be articulated. This is what Poussin and Porbus both do not expect to see in the painting:

[They] run toward the canvas, move away, bend over, right and left, up and down, they look for the habitual story-line, the usual scenography. And they stand so as to see an oblique profile. As if by chance, they shall have a spot where a straightform will appear. Scenography, orthography. And they look, as is their wont, for a space where there is a phenomenon, a space and an incarnation, a cell and knowledge. A representation. And thus, they do not see the ichnography.¹⁰¹

Because there is no habitual storyline depicted they too look for something that lies buried—“‘There’s a woman under there,’ Porbus cried”¹⁰²—but they look for it as if there would have to be “a space where there is a phenomenon, a space and an incarnation, a cell and knowledge.”¹⁰³ But Frenhofer’s painting “is not a picture, is not a representation, is not a work,” Serres tells us, “it is the fount, the well, the black box, that includes, implies, surrounds, that is to say buries, all profiles, all appearances, all representations, the work itself.” The ichnography is the

101 Serres, 1983, p.54.

102 Balzac, 2007 [1845].

103 Serres, 1983, p.54.

crypt of the arcane source of all that can “secrete” only insofar as it must be *deciphered* from all profiles and perspectives—there is no continuous mapping from orthography and scenography to ichnography. “Once again, what is this ichnography? It is the set of possible profiles, the totality of all the horizons. Ichnography is what is possible, or knowable or producible, it is the fount of phenomena. It is the complete chain of the metamorphoses of the marine god Proteus, it is Proteus himself.”¹⁰⁴

With his insistence that “the ichnography” be “the totality of all the horizons,” where no continuous mapping from the phenomena (profile and perspective, orthography and scenography) to the ground (foundation or reason, ichnography) is possible, Serres relates Balzac to Leibniz. “Balzac saw the ichnography. I think he figured out that he had seen it. Since he signed his name to it.”¹⁰⁵ I will come back to this role of the signature in a moment. In contrast to Balzac, Serres continues, “Leibniz never saw the ichnography. He undoubtedly demonstrated that it was invisible. He was aware of it, he demonstrated that it is unknowable.”¹⁰⁶ And furthermore: “Leibniz drowns everything in

104 Ibid.

105 Ibid.

106 Ibid.

the differential and under the innumerable thick-
nesses of successive integrations. The mechanism
is admirable. No one ever went as far in rational
mastery, even into the smallest nooks and cran-
nies. The straight direction of reason that must
turn away from this chaos is the ascent of these
scalar orders. The path is ahead, it is infinite, the
perfect geometrizing remains inaccessible. It is di-
vine, it is invisible.”¹⁰⁷ Porbus and Poussin followed
the path that Leibniz had thought infinite, Serres
maintains. “Having broken in, they contemplate
the divine work of geometry without understand-
ing.” Why? “Because they expected another picture,
one that would have been like an extrapolation,
part of the chain of forms. The last, the first rep-
resentation, why couldn’t it be a representation
too?”¹⁰⁸ But “ichnography is not harmony, it is noise
itself.”¹⁰⁹ Leibniz’s system turns around “like an
iceberg” in Serres’s purport of an unknown that is
“the beautiful noiseuse [...] beauty denuded of her
appearances, of the dress of representation.”¹¹⁰ Like
Leibniz, Serres too is after an infinite base. Yet, it
“cannot be structured by rigorous and lucid reason.

107 Ibid., p.55.

108 Ibid., p.56.

109 Ibid.

110 Ibid.

It is immersed in white noise, in the mottled clamor of the confused.”¹¹¹ The totality of the rational is not itself rational, Serres maintains.¹¹² And further, the culminating phrase: “Balzac paints the vision that is the opposite of divine architecture.”¹¹³

Signing as a Public Act

But once again, how should such painting be possible? How can Serres claim that “Balzac saw it, knew it”?¹¹⁴ Indeed, how can he? “I can show that he saw it. I can really show that he figured out that he had known it: since he signed it.”¹¹⁵ We should now come back to this crucial notion of “signature,” and the role it plays in relation to the architectonic dimension of a “contract” the architect enters as the “draftsman.” For it is this very dimension, the contract the architect enters, that secularizes the role of the architect in the precise sense of this word: the secular means “living in the temporality of the world, not belonging to a religious order.”¹¹⁶ The unknown as the fount of the possible that Serres pur-

111 Ibid.

112 Ibid.

113 Ibid.

114 Ibid., p.55.

115 Ibid.

116 <http://www.etymonline.com/word/secular> (accessed October 24, 2023).

ports allows the architect, as well as the geometer, to preserve, within the contract that is the contract of the draftsman, the possibility for disobedience. For Serres, the spectrum—the totality of all colors, the canvas of the successful completion of a masterpiece (in Serres’s understanding of mastership the master is the subject of his novel humanism), is the element of geometry—it is metaphysics, and not physics. It is the crypt of physics, physics as encrypted reality of all that is “mediate:”

Geometrizing was the inaccessible object of metaphysics and still is. White noise is geometrizing. A field of inquiry thought closed is open. The noisy, anarchic, clamoring, mottled, striped, streaked, variegated, mixed, crossed, piebald multiplicity is possibility itself. It is a set of possible things, it can be the set of possible things. It is not strength, it is the very opposite of power, but it is capacity. This noise is the opening. The Ancients were right to think chaos a gaping abyss. The multiple is open and from it is born nature always being born. We cannot foresee what will be born of it. We cannot know what is in it, here or there. No one knows, no one has ever known, no one will ever know how possibilities co-exist and how they co-exist with a

possible relation. The set is criss-crossed with possible relations.¹¹⁷

Physics as encrypted reality of all that is “mediate” is physics as that which is computable. It is important to see that computable solutions—encrypted algebraic “identities”— *do not stand for* something, they are not *representation*. The articulation of a formula resolves the involved terms (their factorization) into mappings (functions) that *can stand in for* rather than *stand for*. It is true, that they demarcate a case, because they are inferred from a generalization, but they do not demarcate a case by representing it; rather, they demarcate a case categorically, by depicting the syntax of a function according to whose rules we articulate the terms of an equation. My point is that we can think of their categorial demarcation of a case according to the grammatical case of the locative. They demarcate a case whose place is “nowhere”— but this “nowhere,” being a function to “somewhere,” is locative rather than representative. They stand in for the unknown parts and aspects of *that which has been articulated in a formula*—not unlike in language, where words stand in for whatever absent thing they may present to our minds when we depict the sense of words. These mappings can stand

117 Serres, 1983, p.56.

in for their own “original,” so to speak—that is, they can articulate “the original” as an unknown, as something not mastered, because they articulate “the original” in a tautological manner (in the form of an equation). This does not need to be seen as an absurdity. The mappings rendered by the articulation of a formula (an equation) are varying expressions of one and the same thing—while that “one and the same thing” remains absent. Neither one of the articulable expressions of the terms (articulated in how the terms of the equation are factorized or partitioned) is ever capable of expressing explicitly all that is contained implicitly formulated in a formula *at once*. In other words, that which is being expressed is of a vaster extension than any one discretion of its possible symbolical expressions can ever be:

I can better explain what I mean. What is ichnography? What is this masterwork where the term “master” [*chef*] means less a unique and rare success than it does capital, stock, fount, I mean ichnography? Well, the Greek term *ichnos* means footprint. Moving toward the canvas, they saw, in a corner of the canvas, a bit of a naked foot that arose from the chaos of colors, tones, and vague shadings, a kind of form-less fog; it was a delicious, living foot! They stood there in complete admiration in front of this fragment that had escaped

from the unbelievable yet slow and progressive destruction. The foot appeared there like the torso of some Venus sculpted in marble from Paros, a Venus arising from out of the rubble of a city in flames. Here then is the signature with the very name of ichnography. The beautiful noiseuse is the flat projection.¹¹⁸

We can see from this how encrypted expressions always have a “transcendent” referent. Their power consists in “presenting” this transcendent referent symbolically while leaving it absent, just like words are capable of evoking something absent into presence. We can regard a cipher (an alphabet) as a symbolic body of a self-referential relation whose identity is being articulated, not represented—yet articulated in a split, linked, double, and parabolic manner, or more precisely, in a *symbolic* manner;¹¹⁹ neither form nor content, neither substance nor expression can be considered without reference to each other. They stabilize each other rather like planets in the galaxy of a solar system than by occupying schematic positions that would be thought of as existing prior to the birth of a particular solar

118 Ibid., pp.55–56.

119 Literally “that which is thrown or cast together,” from assimilated form of *syn-*, “together” + *bole*, “a throwing, a casting, the stroke of a missile, bolt, beam,” from *bol-*, nominative stem of *ballein*, “to throw.” <http://www.etymonline.com/word/symbol> (accessed October 24, 2023).

system. The way that they refer to each other constitutes *natures* (in the plural) of *the universe*—the universe being, according to contemporary astrophysics, galaxies that differ in “kind” but not in “nature.” The astrochemical elements are considered by today’s science as the products of nucleosynthesis (the sun), and they are the main “referent” of whatever is organized in the technical “format” of a spectrum: what is being measured in a spectrum is the frequency rates of different types of light emitted by the sun (solar radiation).¹²⁰ All, in such a manner of thinking about the universe, is universal in character. And as such, Serres maintains, it is essentially *noisy*, or *in status nascendi*, anadyomene, as he says, physics born from metaphysics.¹²¹ Serres chose a mythical manner of formulating here, but there is a sense to what he is saying that is empirically supported, and we can decipher it from his insistence that geometry depicts white light. If as nonexperts we turn to a thesaurus of modern science, we can read that the white spectrum depicts all that moves at light speed; all that moves at light speed is of a universal nature, in the sense that it is matter in its sub-particle “state.” Isn’t this what Serres calls “metaphysics”—that which “secretes”

120 Cf. the respective articles in Serres and Farouki, *Le trésor*.

121 Serres, 1983, p.54.

all that is sound and solid, as if out of the foam that is left behind by the furious clamor of incandescent and radiating matter (a sun)?

Let us recapitulate. The nature of the universe for Serres is secretive communication. Knowledge of the universe's nature consists in knowing how to keep its secretions secret, by building reduced models, crypts, which strive to duplicate it such that there can be communication—literally, “a sharing with, a making common”¹²²—of the bare beauty of universal nature through its models, the crypts. While modeling, building the crypt, is a kind of contractual architecture (a contract whose basis is the work of draftsmen) that proceeds in terms of symmetry (the object agreed upon in the terms of a contract is articulated algebraically, tautologically, and what is agreed upon is the inverse of the thus articulated object—as far as the parties can imagine it). The communication of such bare beauty that can only be modeled, on the other hand, must proceed in terms that are asymmetrical. This is why I have suggested that the practice of modeling is an act of comic dramatization (it has

122 From the Latin *communicationem* (nominative *communicatio*), noun of action from the past participle stem of *communicare*, “to share, divide out; communicate, impart, inform; join, unite, participate in,” literally “to make common,” from *communis*. <http://www.etymonline.com/word/communication> (accessed October 24, 2023)

to deal with incommensurate magnitudes). The asymmetrical communication that models afford in turn affords the nature of the universe to be universal; that is, capable of descending and branching off in all sorts of directions. Such asymmetrical communication affords a universe that is expanding, but in no preset manner. It is important that keeping the secret in a crypt requires *asymmetrical* communication—or else there would have to be a Master Code(x), and those who serve its law would have to keep the channels of communication “safe” such that the Master Key could be shared solely among those initiated to that master code, while excluding whoever is not. Those who keep the secret then would not articulate Universal Nature, rather they would act as Universal Nature’s representatives. Within Serres’s narrative, instead of a Master Code(x), we have Code in whose terms the totality of all colors (a white spectrum) has been depicted. And this “code” is not a “codex.” Rather than referring to the universal nature as (immediate) law, by duplicating the authority of universal nature to claim to be acting as its representative, the code at stake refers to universal nature only mediately, in the terms discernible from a spectrum. A code that has thus been depicted (as a spectrum, a painting of the ichnography) carries the signature

of someone who serves that law by obeying it without submitting to it. Because the subject of such a signature must be authenticated as one who obeys the (unknown) rules of things themselves. And someone like that acts disobediently, comically, toward all official representations.

But could there possibly exist such a signature, for its subject could not possibly be “one” or “whole,” or could it? Wouldn’t such asymmetrical communication require of the subject of such a signature to be of a split personality? A symbolic persona? An animal whose sex would be universal?

If Serres dopes Balzac’s story by introducing into it the notion of “ichnography,” I want to dope Serres’s story by introducing into it the notion of “a public key signature.” The subject of such a signature indeed is a “split” subject, a “sexed” subject that desires and is never fully “whole;” it is, on the one hand, “anyone,” and on the other hand it is “me.” Let us see the principle behind it:

Public-key cryptography, also known as asymmetric cryptography, is a class of cryptographic algorithms which requires two separate keys, one of which is *secret* (or *private*) and one of which is *public*. Although different, the two parts of this key pair are mathematically linked. The public key is used to encrypt plaintext or to verify a digital signature; whereas the private key is used to

decrypt ciphertext or to create a digital signature. The term “asymmetric” stems from the use of different keys to perform these opposite functions, each the inverse of the other—as contrasted with conventional (“symmetric”) cryptography which relies on the same key to perform both.¹²³

With this, we could inverse our usual perspective, and consider that all “text” be, naturally so, ciphertext; encryption then doesn’t obscure “plain text,” rather plain text is what “secretes” from ciphertext.

Whatever message any private key can unlock from a message transmitted in ciphertext that is being transmitted distributively, and signed by a public key signature, would be strictly private. Such decipherments, then, appear to be plaintext—but the plainness of such a decipherment is but that of a model. The apparent plaintext that is contained in a ciphertext can only be articulated “authentically” by placing it in the locus where that peculiar mightiness of a possible future past (will have been) can be conjugated. We can refer to this locus by ascribing the practice of cryptography its own

123 Wikipedia, s.v. “Public-key cryptography,” http://en.wikipedia.org/wiki/Public-key_cryptography (accessed March 20, 2015). For an accessible introduction, see the online lecture by Raymond Flood, *Public Key Cryptography: Secrecy in Public*, held at Gersham College, London, November 11, 2013, online at https://www.youtube.com/watch?v=I3WS-5_IbnM (accessed March 20, 2015).

grammatical case, the case of a locative. The locus of a cryptographic locative is fictional, but that doesn't mean that it is an illusion. Quite differently, the locus addressable by the grammatical case of a cryptographic locative is the territoriality of the subject of Serres's novel humanism. Fictitiously, it builds a reduced model of universal knowledge, a model that is official not because it represents a lawful regularity (with lesser or greater authority) but rather because it serves the law by helping to keep the secret that is the essence of universal knowledge. If the subject of a public-key signature is humanity at large, which guards its own nature and origin in the care with which it articulates the reduced models—the plaintexts, the private because deciphered “message”—of the ciphertext (universal nature as it manifests in all things existent and/or object to thought), then this subject never ceased to become what it already is.

Let us recapitulate: what an alphabetic absolute and its ichnographic bases—the Crypts—would oblige a researcher to is modeling. But the relation models maintain to ideas is not one that would “realize” them. The authenticity of models does not depend on their capacity to represent. Rather, it depends on their obedience to the laws of things themselves, laws that can be deciphered only after they have been encrypted, laws whose statements are ultimately arcane. The obedience that makes a model authentic is an obedience that doesn’t develop strength and concentrate power; but it still produces capacity. It develops *the capacity to source phenomena*: “ichnography is what is possible, producible, knowable.”¹²⁴ This capacity is the very opposite of power and strength,¹²⁵ for it is capacity in dealing with sums and products of infinite terms.

Every model generalizes. But if the Genus is a spectrum rather than a common denominator, then the discretion of “data” points must be rationalized and proportionalized discretely and fictitiously, and data “points” must be treated as many-valued indexes into numerous possible en-

124 Serres, 1983, p.54.

125 Ibid., 56.

cryptions of the ichnography: the set of all possible profiles, the totality of all horizons. Every model informs a genus and is informed by a genus. How so? Because the genus is a sum of infinitely many terms (the genus as a spectrum) only because the model is universal in kind. Regarding the universality of its kinds, the genus can be considered real without ever being born or existent. A model's kind is universal, self-sufficient, and hence also circular, but actively so: it strives to complete itself in comprehending all that it encompasses. Hence the model is not only kindred but also sexual (the symbolic "markedness" that endows the model with "inclinations" (desire and potency)). But it is the nature of this sexuality to be *modal*. The contingencies and necessities that determine a model can do so in n amount of manners—constrained only be the ichnography. In other words, as a model is conceived, the sex of its universal kind is omnipotent and undecided. It is an "organ" of the universal kind. The genus is what specifies models—what limits their strength in developing a capacity that is the very opposite of power. Every model generalizes. But if the researchers that raise them are committed to the alphabetic absolute, the models continue to maintain an intimate relation with the singularity of ideas regarding the great secret that

is the universe's omnipotent nature. These ideas are singular in how they demand to be encountered intimately, with pride and grace, in a play of seduction and conquer that never strives to possess the secretive sense—precisely because as a secret sense it is “private.” An encounter between the real and the symbolic, between the generic and the singular, is possible if the plots of stories are told in the cryptographic locative where no one can find their ways by being shown “the right path.” Our researcher committed to the alphabetic absolute *learns to masterfully not know* the meaning of this sense. This obliges her to assume two things: That the design of models is always pre-specific and that it needs to focus on the witty and polite eloquence in which the model is articulated, such that it is then capable of *raising* the wealth of that in what the specific is richer than its genus: namely differences. And furthermore that the genus of universal kinds exists only in the conjugatable tense-ness proper to a fictional locus; the genus is the “temporalizer” of “real-time,” that is, “reality at the speed of light.”

This theme of the summation of infinite terms has indeed been central in the philosophical discussions that accompany the modernization of science; that is, the attempt to decouple science via a natural philosophy from its theological back-

ground. It is time to recapitulate its complexities to prevent secular science from turning into a religion that lacks an accompanying discourse: a *philology* in the terms of an alphabetic absolute.

**Capital Bodies:
Secrets of the Universe**

0

All we know
of the body of a cipher,
is that it is sound and
organized with general equivalents.
Being sound,
in the adjectival sense,
is to be “free from special defect or injury,”
and being organized with general equivalents
is to be monetary and credential.
The body of a cipher is whole
and genuinely unlikely
because it is self-engendering genericness.
How so?
In its adjectival sense, being sound
—the kind of being the body of a cipher

is capable of acquiring—is “added to,”
it is “thrown or placed near.”

A kind of being that is whole
in being “joined, attached, placed upon,”
from ad (to) and dare (to give),
the body of a cipher is only whole
in being “joined or united”
with a something.

The body of the cipher
—zero in all its decryptable figurations—
is capable
of presenting the outside
in its characteristic manner of exhibiting
nothing at all.

I

Where nothing is being exhibited,
the possibility arises to receive the sound
of the news from the world.

Sound that originates nowhere
and whose body is burstingly full
—at least now on this early spring day.

The possible, hence, results from circling,
as turns render able what can be done
to draw from holding much
and to receive and take in

sound and solid value
as the price that equals
the intrinsic worth of a thing.

II

Nothing presents itself
in the bodies of ciphers that sound and solidify
as they turn into words, numbers, and forms
whose nakedness is being laid out
in painterly script.
Such script ex-scribes
what is neither constant nor variable but electric
and indefinitely on offer
to be kept with care and desire
as a capital body,
a secret of the universe.

III

News from the world
are messages that are genuine
in so far as they are empty
of any thing that might revolve
in the turns that render able
what can be done to prosper
in a growing wealth in possibility.
News from the world

have nothing to say,
they are circuitous
and full of the unlikely kindness
that springs from the sole property
of the universe:
the kindness articulable
in spectral terms capable
of characterizing the metricity of universality.
Genuine messages secrete from code;
they are born from being written
in painterly script
that encrypts no-form-at-all
within the white spectrum,
the totality of all colors
that does not cease to sum up
from the mutual breaking
among emitted reflections
of what frequents and returns
with a certain regularity.

IV

Nothing presents itself in painterly script.
Painterly script
is not powerful.
It is not forceful or violent,
it is able to act in contractual manner

able to sift
to make a pass through a sieve
able to enact a separation of sound from noise.
Painterly script strives to maximize obligation
as a means to lessen
the violent wielding
of whatever may impose itself
as an event that demands
some thing in particular
as a necessary sequential to itself.
Where nothing is being exhibited,
messages that are genuine
are rendered able
to hold fast and invest
the value they exscribe
with sound and solid meaning.

V

The sounding of genuine messages
brings a kind of clarity
that is never bare
of colorful contrast and apparent diffraction,
a kind of clarity that demands nothing
because it is the clarity
that springs from the brilliance
which affords insight only insofar

as what springs and secretes from it
is granted to remain in the dark.
It is the clarity of a crypt
whose brilliant insight
resides obscurely within the white spectrum,
the totality of all colors that does not cease
to sum up from the mutual breaking
among emitted reflections of what frequents
and returns with a certain regularity.

VI

The clarity of a crypt
bears not one form in particular
but any form at all.
It affords no reflection
unless its desire to be sounded is met,
in which case it excites
an incandescent light
whose flaming up is not only entirely unlikely,
alien and uncanny,
but also so delicate and vulnerable
that it needs to be kept
each time in a manner
of which no one ever knows
how to communicate and share it.
The flame of an incandescent light can be kept

more or less well according to a script
in whose terms it is possible to articulate
whatever might turn out to be the case
for a planet in the reign of a sun,
a world that orbits a star
a world that resides nowhere
because its ultimate capital
is universal
an organ whose function is brilliance
and that keeps engendering its own body.
The terms of this painterly script
which can afford the delicate articulation
of excitement without exposure and obscenity
from the *tempus* of an unlikely tense
—the tense that lends
the articulations of messages that are genuine
a cryptographical presence.
The organ of brilliance that desires
to be sounded,
the sun,
lacks sound that would not
somehow
depend upon formulations
in that unlikely tense of a painterly script
capable of presenting nothing.

VII

Nothing presents itself
in the bodies of ciphers that sound and solidify,
as they figure by turning
around a void's axis
into words, forms, and numbers
whose symbolic codes give birth to
the vibrating desire that drives
the kind of being that is sound,
to be what it is
namely whole in a distributed
and adjectival sense.

Genuine messages are entirely lawful,
so lawful that they are tautological.
But because they desire to be sounded,
they are so burstingly full of regularity
that their bodies, discharged
of the capacity to complete the act of stating,
spills over abundantly.

The electric energetics that constitute
this infinitary act
are being contracted in the terms
whose articulations organize
the numerous equation-like trunks
as bodies that articulate the sound
that originates in the organ of brilliance.

VIII

The bodies of genuine messages are law-
ful in that they
actively so
lack effect.

They are apparent
in that nothing results from them.
All they ever do
is to sum up the rest
of what they comprehend:
it is what they,
due to their public nature,
will keep to be deprived of.

IX

The possible results from circling,
as turns render able what can be done
to draw from holding much
and to receive and take in
sound and solid value as the price
that equals the worth intrinsic to a thing.
Virtuosity hence is not actually real
its virtual reality is genuinely unlikely
and originarily able in a versatile manner.
Virtuosity is incited by an organ
that engenders its own body,

a universal organ, and its capital bodies.
A capital body is like a cosmic musical instrument
lacking and desiring to produce sounds;
it, in principle,
but not in fact on its own,
is able to articulate.

X

The virtuosity of the universe
depends upon meter that strives to seize
capital bodies
by measuring the circulation of nothing-at-all
as it presents itself in figures
that attract other bodies of ciphers
whenever they are adjoined to a something.
Rather than delineating a some thing,
the meter of painterly script formulates
credit notes
figuratively notes that circulate
and preserve what remains concealed
within those frequent and spectral terms
light adopts when viewed as quanta.
Painterly script captures and holds tense
the insight thus afforded
in the articulation of a presence
whose condition for being rendered able

to continue with itself entirely in its own terms
is that in its sole grammatical tense,
that of the cryptographical present,
all that sounds
sounds noisy and arcane.

XI

The universe is abundantly full
of itself. Its kindness and kinship
never ceases to be original
because it is being born
in the capital bodies that preserve
the secret worth of things
of which a generational order continues to learn
how to keep esteem for it
in cryptographical articulations.
All we know
of the body of a cipher, is that it is sound.
Being sound,
in the adjectival sense,
is to be “free from special defect or injury.”
The body of a cipher then
is whole. This is reason enough to assume
that its soundness is solid.

XII

A solid secret that is sound
is kept by the body of a cipher.
The crypt
in whose terms a body of a cipher figures
as “an entire sum”
coined
of what is firm
dense
compact
undivided
considerable
entirely same
spectral but well-established
wonderful
remarkable
free from danger and vexation
intact
secure
safe.

XIII

A solid secret solidifies indefinitely,
by transgressing the limits of its own soundness
for no other reason
than the universal pleasure that it is capable

of seeking.

The health of being sound,
its being whole as a manner of being what it is,
whole by being not-whole,
depends upon merely being capable
of being totalized.

This manner of being sums up,
it is the manner of summing up
a summing up that never rests
and is delicately active.

XIV

This manner of being sound
pertains to wealth in movable property,
to pecuniary wealth.

The sound whose articulation measures
not words but capital bodies,
exscribed by a painterly script,
—this sound is not powerful.

Articulating it needs neither force nor violence,
but the ability in acting in a contractual manner
the ability to sift
to make a pass through a sieve
the ability to enact
a separation
of sound from noise

that is genuinely unlikely and that is nothing
if not attached and adjoined to a some thing.

XV

This ability is financial,
its ending is by retribution and settlement.
It is tied up with a kind of reason
whose rationality never counts
without obliging itself
to pay back to the real
what it owes it.

In Medias Naturae

Does an intelligence of things exist? Of living things? Does the natural, as though in dormancy, prepare the cultural, in labour or in luminescence? The world's background noise murmurs like a *præ-cogitat*.¹

—Michel Serres,
The Incandescent, 2003.

Prescript

If one encounters Michel Serres's philosophy through the lens of media theoretic interests, one is asked to submit to a basic inversion concerning established philosophical pre-assumptions: one needs to begin reconsidering the status of knowledge in relation to and before the background of non-knowledge. This involves a relative mode of thinking that does not relate to epistemological

1 Michel Serres, *The Incandescent*, p.37.

keywords like superstition, falsity, or the like. Rather, the relativity at stake *concerns* the question—literally “takes into” account, as well as “gravitates around”—how the encyclopaedic scope (or cycle) of public knowledge can accommodate a place for its own background of “non-knowledge.” Serres’s work is devoted to straddling rationalist metaphysics with realism²; in a circumstantial and coincidental universalism,³ he proposes an architectonic of knowledge before the background of non-knowledge as *public* knowledge. This is for ethical reasons, and mediacy plays an important role in this setup.

Let’s begin disentangling this prescript. In many regards, this project sounds untimely: how could one come along today and say something like this? That knowledge needs to be relativized not with respect to different cultures of it but categorically, with respect to what it is not—just as knowledge and its secular institutions of governance/administration appear to establish a truly “common ground” what promises to consolidate cultural differences in a technologically manifest-

2 Michel Serres, *Genesis*, trans. by Geneviève James and James Nielson, Ann Arbor, University of Michigan Press, 1999 [1982]; and Michel Serres, *Les Nouvelles du Monde*, Paris, Flammarion, 1997b.

3 Michel Serres, “Histoire: L’Univers et le lieu. Obstruction,” in *Hermès V, Le passage du nord-ouest*, Paris, Éditions de Minuit, 1980a, pp.84–92.

ed and controllable foundation for inclusivism in our societies just as the disciplines keep multiplying, subdividing, and re-combining into a great and greater number of specialist academic fields. Just as the sheer number of people literate in the knowledge practices yielded by the sciences, the number of scholars that make a living from being involved in higher education is larger than ever. How could one come along today and refuse both? That is, the academic format of strictly demonstrative and argumentative discourse and the authority claimed by such specialized discourses, and write instead in a literary language that aspires to be “exact and human,” in other words, informative, convincing, and pleasing aesthetically? By writing prose that aspires to be well-done in terms of poetic measures rather than scientometric relevancy or epistemological soundness; beautiful rather than always-already “legitimate;” by publishing in popular media like the radio and TV, with presses that are not primarily publishing academic work, and all the while maintain that what one cares for is the publicness of knowledge? Even more drastically, by maintaining that knowledge can only count as *public* if it keeps ties actively to its own background in non-knowledge. How could one understand in

this anything else but empty words, a sophistic (or even a populist) agenda?

These are the questions I want to explore here in the form of a commentary; that is, in the form of a text that offers a not-unbiased yet well-substantiated guidance to the reader in finding one's own ways and dealings when engaging with the work of Michel Serres. The gesture this commentary adapts is perhaps a bit like pointing out a particular constellation of stars in the sky—for which neither sign nor figure has yet been outlined nor coined (at least to my awareness).

*Publicness: How to Speak about a Screening
Plot of Ecstatic Epiphany?*

In Michel Serres's late book *The Incandescent*, the first chapter is entitled "Le Grand Récit."⁴ Serres's "Récit [tale, narrative]" is not called "*grand*" only in terms of scope and survey, as in Lyotard's grand narratives,⁵ but also in those of magnitude and measurement. It begins with the depiction of the "plot" that this "*récit*" is to unfold, and this unfolding is to happen circuitously—repeatedly spoken,

4 Cf. also Michel Serres, "Préface," in *Le Grand Récit de l'Univers*, ed. by Bénédicte Leclercq et. al., Paris, Le Pommier, 2007a.

5 Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge*, trans. by G. Bennington and R. Bowlby, Minneapolis, University of Minnesota Press, 1984 [1979].

repeatedly read, and affectively received. It is a plot that relies upon “depiction” rather than “telling” or “writing.” In Serres’s book, the depiction of this plot unfolds as a screening scene of revelation, a scenery that is not properly poetic nor dramatic in the modern prosaic sense, nor is it a *topos*, or a motif, in the artistic/technical sense of rhetorics. Rather, Serres speaks of this plot as the site of “an ecstatic epiphany.” This means, first and foremost, that his passage is to let a peculiar scene emerge before the reader’s inner eye in a peculiar manner that combines the tradition of the *ars memoria* with the rhetorical one of *ekphrasis*. It does not lend itself so well to putting in place and storing one’s thought; rather, inversely, it aims at emptying out the very place occupied by one’s thought to render present an ideation that is neither properly one’s own nor that of anybody else in particular. Serres’s passage does not speak about the insight, content, or message of such “revelation,” rather it adopts a viewpoint of “treatment” and considers revelation as the inverse to the art of remembering; revelation, then, is the complementary pole of this art; it complements an art of remembering with an art of forgetting. What we read is this:

At the end of the lane rising through the forest,
positioned on a tall grassy hillock, surrounded by

a torrent descending from the mountain, a farm and its annexes overlook a cirque dominated by glaciers. Beneath the morning sun and the motionless air, this view, this landscape, this scene *reveal to me, in an ecstatic epiphany* [emphasis added], the quiet presence of the things in their exact place. Transparent and wide, space here seems to swallow up time, suspended.⁶

This site of revelation is to reveal “the quiet presence of the things in their exact place.” This emphasis on silence is perhaps unlikely for an expectation that builds upon reading Serres foremostly as a philosopher of communication. But this is only when communication is not approached through its physics, which is quantum physics; the physics of communication then starts from the unsettling coincidence of light and mass, as embodied by every sun in every galaxy (stars, according to contemporary astrophysics, are at once “all light” and at the same time the “heaviest bodies of all.” This site, then, where “all things are present in their exact place,” is the site of a universal “order.” This is why this site is full of stillness—in quietness, sounds cancel one another out. Silence is a local property, but the locality at stake cannot be pinpointed as a location within space; it can only be *attended* to—by

6 Michel Serres, 2018a [2003], p.2.

active recital and contemplation—of how space appears “to have swallowed up time” as we will see shortly. Serres’s notion of communication is conceived in terms of physics because, from its angle, space keeps time suspended.⁷ This is the core idea of his new materialism conceived as an intra-material software, a materialism that involves a notion of the generic or impersonal cogito in the singular form, whereby, as previously mentioned, Serres suggests one ought to say of it that “it” thinks like one says “it rains.”⁸

The act of choosing doesn’t concern us alone. Ice sheets, cliffs, radioactive bodies engram memories. Let’s not claim we alone remember. In short, the things themselves, inert, as well as the living

7 This is important because here, Serres’s approach differs from the usual attention given to communication by philosophers, which is rather epistemological and relates communication via logics to space (not via mathematics, as we will see, to physics).

8 The agent here is the gnomon, the objective subject of intelligence insofar as intelligence is artificial. The objective agency of the gnomon is constitutive for Serres’s notion of the objective transcendental, see Michel Serres, *The Incandescent*, trans. by Randolph Burks, London, Bloomsbury Press, 2018a [2003]. And Michel Serres, “Gnomon: The Beginnings of Geometry in Greece,” in *A History of Scientific Thought*, Cambridge, Blackwell, 1995a [1989], pp.73–123. Cf. also Anne Crahay, *Michel Serres. La Mutation du Cogito. Genèse du Transcendental Objectif*, Brussels, De Boeck, 1988. And Vera Bühlmann, *Mathematics and Information in the Philosophy of Michel Serres*, London, Bloomsbury Academic, 2020b. It is through gnomonics that the Grand Récit aims at reconstructing conditions for knowing that may date back millions of years, by studying how objects keep universal time suspended as if “a sort of temporal transcendental” (Serres, 2018a, p.37).

things exchange elements, energy and information, preserve this latter, spread it, select it. Let's not claim we alone devote ourselves to exchange. This writing, these decisions, these memory storages, these codings, among other examples, endow objects with quasi cognitive properties. 'It thinks' in the sense of 'it rains' exists as much as 'I think' or 'we think.'⁹

What can the consideration of the role of code in communicational physics facilitate in terms of mnemotechnics and ekphrasis? *Ars memoria* is a hermetic art when it facilitates remembering *and* forgetting. But by unfolding in two hermetic directions at once, it architectonically accommodates an approach to code through cryptography: information is now cryptic not because direct access to it would have been eclipsed for moral or religious reasons, as in the story of the tower of Babel, rather, direct access has been concealed simply by the time that passes, by things aging, by the world(s) unfolding throughout the universe since the Big Bang. Relating knowledge to its background of non-knowledge becomes possible because knowledge comes to be treated as a Rosetta Stone: its kernel remains dark, and many narratives co-exist and need to be translated and transcribed into

9 Serres, 2018a [2003], p.191.

each other. This plenitude of story-telling is what the architectonics of knowledge is to lodge; this, at least, is what I would like to suggest considering. The “Grand Récit,” which Serres proposes as a novel manner of encyclopaedic understanding of knowledge, is architectonic: This architectonic accommodates knowledge emplaced in chronic time—in the countable atom time constructed by contemporary chronometry and data science.¹⁰ If we continue with the next paragraph in Serres, references are offered that better picture how he thinks of insights that emerge from such “ecstatic epiphany.” This paragraph is entitled “Descent into duration,” and it picks up the motive of the farm and its annexes. It starts as follows:

In front of the door of the house built at the foot of alpine pastures, a little girl of three is playing; as a birthday gift yesterday, she received a cream pink doll with green pants. Behind her, the calm facade with stone lintels still shines with the ochre paint applied with a great deal of effort back when the hay harvest abounded seven years ago. Her grandfather built the metal shed to the left of the main building, itself constructed at the beginning of the last century on the ruins of an old windmill erected in the location of an ancient monastery set

10 Serres sketches this as an outlook at the end of his book and calls it accordingly “the Chronopedia.”

up long ago on the premises of a temple—whether Roman or Gallic, we have forgotten—in front of rocks moved by a thousand-year-old flood on the part of this dancing and malicious torrent whose course is dug into the Jurassic strata of the mountains enclosing the semicircular horizon beneath snows said to be eternal.¹¹

In this paragraph, we can see how the plot where architectonic order lodges knowledge with its dark kernels—the plot that is ideated as an ecstatic site of revelation by Serres—is at once also the site of greatest possible contingency, namely that of *con-* and *-tingere*: various durations touching upon one another. This approach to time is why Serres repeatedly stresses how the term *le temps*, in French and many other languages, carries the double sense of time and weather. Indeed, the site of such an ecstatic epiphany is considered a meteorological order rather than a cosmic one of divine harmony or the like. Again, Serres's gnomonic architectonics, put in relation to his proposed circumstantial metaphysics of the milieu, maintains that one should say "it" thinks like one says "it rains." Thought pours out objectively and participates in cycles of elemental transformations like those of ancient meteorology, those thought to transform earth, fire, air, and wa-

11 Serres, 2018a [2003], p.2.

ter. If Serres was one of the first philosophers sensitive to and affirmative of the importance of what is commonly called the Anthropocene today, it is due to this: thought has become a physical force.¹² This force needs to be contracted in a pact with nature.¹³

Architectonics of Knowledge: Space Keeps Time Suspended like Chronos Does (who Swallows his Own Children)

To better grasp the ideation of such a mysterious plot, to be reconstructed by the “Grand Récit,” it is worth turning to Serres’s article “Exact and Human.” It depicts the domain of mediality as one of meteorological order,¹⁴ and helps to imagine what kind of architectonic order is, as such, at stake. Here, Serres depicts such a mediate domain (the

12 Michel Serres, “Trahison: la thanatocratie,” in *Hermès III, La Traduction*, Paris, Les Éditions de Minuit, 1974b, pp.73–106; Michel Serres, *The Natural Contract*, trans. by Elizabeth Mc Arthur and William Paulson, Ann Arbor, University of Michigan Press, 1995b [1990]; Michel Serres, *Times of Crisis*, London, Bloomsbury Academic, 2014b; Michel Serres, *Darwin, Bonaparte et le Samaritain, Une philosophie de l'histoire*, Paris, Le Pommier, 2016.

13 Vera Bühlmann, “Cosmoliteracy and Anthropography. An Essay on Michel Serres’s Book *The Natural Contract*,” in *Michel Serres and the Crisis of the Contemporary*, ed. by Rick Dolphijn, London, Bloomsbury, 2018b.

14 Cf also Michel Serres, “Histoire: L’Univers et le lieu. Obstruction,” in *Hermès V, Le passage du nord-ouest*, Paris, Éditions de Minuit, 1980a, pp.84–92; Michel Serres, “Espace et temps,” in *Hermès V, Le passage du nord-ouest*, Paris, Éditions de Minuit, 1980b, pp.67–83.

space of similitudes) as a milieu that does not properly belong to one metric space, but is the space of representation, where things can be lodged publicly. Relative to this, we gain a notion of order that is, inevitably, architectonic and schematic (since the notion of “space,” here, remembers its geometric constitution in an established homothesis, and is hence one of analogy, and proportionateness). This schematism is to present order derivative to the objective (gnomonic) transcendental;¹⁵ he elaborates:

Here we have it: it is indeed a ‘question of a homothetic standard and of conveyance, of increasing and decreasing. The space of similitudes is indeed that of ordinary geometry, hence the loss of movement, the immutable is stationary. It is the space of ‘like,’ and the space of model. [...]

The space of similitudes, well-embedded in the chain of inclusions, well-marked by the law of relations, and where the local corresponds to the global, the space of representation and images, of shield and iconography, remains, of course, a schema of ordering.¹⁶

The architectonic domain of such contingency manifests, hence, architectonic order through staging schemata of ordering, in great plurality. For

15 See also Bühlmann 2020, ch.3 and 4.

16 Serres, 1978, pp.11–12.

each schema, it is valid that its “local” corresponds to a “global.” Thereby, since there are many forms of metrics of “locals” and “globals,” architectonic order takes on an *active* form—there is structure at work in schematic “ordering.” Here lies the radicality of Serres’s proposal, namely that the domain of milieux manifests a *structural order* which, because there is a plurality of schemata, is, nevertheless, also hierarchical. To relate structure to hierarchy offends the beauty philosophical structuralists see in the notion: it affirms that mathematically speaking, structure is an algebraic, a topological notion. From an epistemological point of view, it is often cherished as differing from “order” (which mathematically speaking is a geometric notion) in that structure is supposed to remain neutral with regard to hierarchy (hierarchy is inevitable in any geometric order). But Serres’s interest is to relate a rationalist metaphysics with realism.¹⁷ Hence in an *architectonic* notion of ordering (not an ontological or epistemological one), this can no longer be reduced to strictly “mathematical” reasoning. To Serres, there is an architectonics of knowledge (rather than a history of ideas or one

17 This is how his arguably quite enigmatic text, “Les Anamnèse Mathématiques” (1968b), can be read with great insight; substantiating this reading is also the way in which Serres relates mathematics and myth, Serres, 1968a; see also Bühlmann, 2020b, ch.7.

of epistemological practices) because structure is, mathematically speaking, always characterized by an immanence of ordering relations which, in turn, are subject to a calculus.¹⁸ Constitutive for what is called linear algebra, the ordering relations of a structure can be computed combinatorically. Here lies an often-held misunderstanding: topology and calculus are *in a pact* together; this is the key motive of all structuralist theory. In the mathematical-empirical sense of the word, exact models are organized by such a *pact*. This radical stance insists, contrary to 20th-century philosophy that *there is* thinking at work in mathematics; mathematical thinking then remains tied up with ethics and aesthetics. It is what Serres elaborates on in his early book on Leibniz,¹⁹ emphasizing mathematical models and how they organize multiscalar domains. Such models, even though they are exact, need to be addressed as architectonic, namely as “exact and human,” rather than as ideal and formal; in the terms of Serres’s architectonic realism, one must think of mathematical models as always con-

18 Cf. Catherine Malabou, “Before and Above, Spinoza and symbolic necessity,” in *Critical Inquiry*, Vol. 43, No. 1, 2016, pp.84–109. She makes a similar point with respect to a certain blindness at work in many monist philosophies of immanentism.

19 Michel Serres, *Le Système de Leibniz et ses modèles mathématiques*, Paris, Presses universitaires de France, 2015e [1968].

tracting with other mathematical models, in nested relations—just like in the space of similitudes, of which he speaks in the above citation. Let's return to it and continue. Serres elaborates:

The chain is structured by a relation of order. The house in the street, and the little street in Guérande, the city in its province, and Brittany in France, all of this is non-reflexive, asymmetrical and transitive. Here then is the *structural order* [emphasis added] that can unfold in a carillon-arrangement of models.²⁰

Whenever the immanence of a structure is being employed, it manifests as a chain. Serres here refers to the multiscalarity of an order that is structural as “a carillon-arrangement” of models; it constitutes an economy of the universe that accommodates a harmonics which is subject to *being played* with a “keyboard,” and which is, hence, a universal harmonics *because* it is capable of making sounds and music as well as of producing noise and clamor, not despite of this. Such a universal harmonics is how the place of ecstatic epiphany is, to Serres, the place of *silent* presence of things in their exact place.

20 Serres, 1978, p.12.

The Unnameable Present

Let's take another angle and bring into play Roberto Calasso and his re-conception of history, such as to avoid solipsism. The Italian philologist, who like Michel Serres invests his oeuvre in a re-conception of time, also explores a circular kind of "writing" that in his case anchors in how to translate between a mythic time of metamorphosis and a computational approach to form. Let's bear in mind that whereas, for Calasso, a philological kind of erudition plays the central role with respect to such translation, there is, instead, a communicational (information theoretic) understanding of physics at work for Serres. But where there is a clear like-mindedness between them is in their commitment to a realism that concerns the rational (reasonable) order that can accommodate the transformative self-referentiality of myth with its foundations in rite and cult, and hence also the cosmic and social constitution(s) of such an architectonic order. Both projects think into a space of similitudes and explore the topologies of substitutions facilitated in the "places" that provide "residence" there. Let's see how Calasso's approach to re-conceive of history unfolds. He begins his recent book entitled the *Unnameable Present* with the following:

For we who are living at this moment, the most exact and most acute sensation is one of not knowing where we are treading from day to day. The ground is brittle, lines blur, materials fray, prospects waver. Then we realize more clearly than before that we are living in the “unnamable present.”²¹

Calasso’s notion of time remains attached to the world, while not being properly *of* the world. Where Serres speaks in terms of mathematical models with respect to the multi-scalarity that applies to architectonic ordering relations, it is the notion of “prosthesis” that allows Calasso to speak of a temporal (a tensed and tempered) “present” that cannot *properly* be named. For Calasso, the tensed present counts as the “improper,” in the sense of an “in-appropriable” *em-placement* in time; it counts to him as the domain where life “occurs” and takes place. Like Serres’s notion of the mathematical model (on the algebraic basis of structure), the operative notion which allows Calasso to maintain this stance is “prosthesis.” It too intercepts algebraically into the domain of mimesis and similitude. For Calasso’s notion of philology, as for Serres’s notion of communication, “language” is code-constituted and manifests materially—for real, but as a site of

21 Roberto Calasso, *The Unnameable Present*, trans. by Richard Dixon, New York, Farrar, Straus & Giroux, 2019, p.3.

mysteriousness: “For science, the ‘unreasonable effectiveness of mathematics’ is the mystery of mysteries” and “no explanation has yet been given for this.”²² To him, the “unnameable present” (Calasso) is a place of contingency where different temporalities touch upon one another. For Calasso, as for Serres, such a place unfolds as the plot of an ecstatic epiphany where life *really* but *mysteriously* takes place. Calasso’s re-conception of history involves a circular—algebraic—form of writing, and this is because, like Serres’s notion of the “Récit,” it treats of repetition and mimesis, but by taking in a polluting, parasitic, element via a material notion of time that passes, percolates; it is a temporality in terms of material ageing, but the referent of such aging cannot be named (identified). Let’s see how Calasso introduces this notion of “prosthesis,” in his book *The Celestial Hunter*:

If pushed to the extreme, imitation is metamorphic. Not only does it reproduce something that was previously extraneous, but it assimilates it. It brings the imitator inside the imitated—and vice versa. In metamorphosis, the imitator invades an entity from which he allows himself to be invaded. When the imitator goes back to where he started,

22 Roberto Calasso, *The Celestial Hunter*, trans. by Richard Dixon, New York, Farrar, Straus & Giroux, 2020, p.114.

he will no longer be the same. Something of what he has imitated is now a part of him.²³

The situation of imitation can become “desperate” when there is no return from metamorphosis: “Metamorphosis, then, rather than expanding a being, imprisons it,” Calasso considers and continues: “If, on the other hand, the imitation develops a prosthesis, it takes over a being for a certain time—and can then be cast aside.”²⁴ What he calls “prosthesis” intercepts into the domain of imitation and similitude by factoring in something extraneous to both the imitator and the imitated. This extraneous thing is knowledge related to in a mediate order of modelling, mediated via algebra/myth and code (rather than speech or writing or geometry or arithmetics immediately).

Hence, prosthesis here is not so much at play regarding complementing or augmenting individuals’ bodies or minds. Rather, it comes into play to establish an impersonal cognitive domain, to which Calasso does not hesitate to attribute the status of agency. The domain of the impersonal singular, the “it’s” agency, manifests as a reservoir, a repository of in-appropriable power that consists as knowledge and that can nevertheless not receive a proper

23 *Ibid.*, pp.104–105.

24 *Ibid.*

name. It can only be reasoned through an interplay between connection and substitution; this is what code does, namely, to link together and introduce place-holder marks. Without such a material and communicative order constituted by code:

[w]hen imitation entails an appropriation, it also harms what is singular: an inevitable act, since knowledge, above all, means moving ahead in the dark, imitating. The violence of imitation is hidden in every act of knowledge. And first and foremost in this most obscure and critical process is the transition from the realm of metamorphosis to the realm of prosthesis.²⁵

And this transition, he continues, is

accompanied by an immense growth of power (which is still occurring) and a gradual elimination of the communality with the rest of nature. What mankind had lost, in relation to primates, in the fixity and certainty of their repertoire of gestures, it would recover in its capacity for metamorphosis.²⁶

The prosthesis alienates whoever employs it with respect to the gestures it had acquired and interiorized before. Still, it also introduces—objectively so, impersonally so—a capacity for substantial

25 *Ibid.*, p.106.

26 *Ibid.*

change: “The prosthesis is defined by the fact that it can always be detached from the person who carries it,” and “it is first of all an imitation.”²⁷ This is important because with such a code-based architectonic, it becomes to conceive an order with respect to the world that accommodates the power of knowledge *amidst* and *amongst* the very things this order orders. Calasso’s concept of prosthesis, like that of mathematical models in Serres’s approach, places knowledge within temporary bounds of time passing materially. Consequently, every imitation unfolds as an act of simulation. Let’s see how prosthesis interferes here:

In the end, simulation presupposes a return to the state from which we had begun. But this doesn’t guarantee that we can effectively begin all over again. The prosthesis is a way of sidestepping this inconvenience. It always remains available. It can be used or not used—though it still offers the certainty of the object, its fixity.²⁸

However, Calasso maintains that it would be naïve to think that the most powerful prostheses are extensions of the body (instruments, weapons, etc.). Rather, these are prostheses that depend on other prostheses—here, he names the formal sys-

27 Ibid.

28 Ibid., p.104.

tems algorithms—which are “sequences of fixed signs on an impalpable medium.”²⁹ Here is one of the rare instances where, in Calasso, the term “medium” is used with respect to signs. But different from linguistic theories, which celebrate the palpability of materials through the medium (e.g., McLuhan, *The Medium is the Massage: An Inventory of Effects*), a code-based information theoretic approach gains from the medium-sign relation, a notion of the impalpable. Calasso, the algebraic philologist rather than the linguist-anthropologist or media theorist, speaks of certain “sequences of fixed signs” as a prosthesis because they are preserved within an *impalpable* medium of which, he maintains, “paper is an imitation.” What he calls “the wonder of the prosthesis” is not just that certain mental operations are transferred into an object, such as the computer, but that these operations are applied to the world.³⁰ And the notion of the world at stake here is a realist one, according to which the world “is external to us as well as to our prostheses”³¹

29 Ibid., p.114.

30 Ibid.

31 Ibid.

*Interlude: Didactics and Ideology within
the Power of Institutionalized Media*

Let's turn briefly to how we started, to the pre-script added to this text. This aspect, the status of something that counts as external to us as well as to our prostheses/mathematical models, is precisely what the currently established politics of basic as well as higher education disrespects. We ought to relate knowledge to its non-knowledge background, which is what we started from. This disrespect manifests in one particular condition today: the hesitation to engage philosophically with the implications of quantum physics, which manifests itself essentially as a quantum optics, and a quantum mechanics that operates upon the spectrality of matter in the domain of probability. The currently established politics of knowledge, specifically Serres sought to step out of, aims to instill trust into science and technology as forms of *positive* and *secular* knowledge and power from an as early as possible age. Most likely because the basic ideas of quantum physics are held to introduce too much confusion,³² and hence prevent the

32 like the collapse of the categorical distinction between matter and light as its immaterial counter-pole (a "quantum" is, de facto, a quantum of the sun's white light's radiation), that unambiguous hierarchy between foreground and background in an observation (particle and wave aspects of a "quantum.")

building up of trust, pre-university school curricula have begun to cancel quantum physics out of their teaching subjects all together; or if not so drastic, they render it—for didactic reasons—continuous with the classical paradigm of Newtonian forces. A broadly cultural and even philosophical engagement with this new kind of physics and its mathematics remains largely missing in academia. Here, a non-physicist's interest in quantum physics tends to be considered “esoteric”; suspicions of new-ageism are to quickly expressed. Its acceptance would counter-act the post-war (WWII) trend to territorialize science into fields of specialist expertise and administration, and the industry-driven paradigm for research which this facilitates.³³

Unlike that of many other voices in media theory, Serres's style was in search for a popular discourse accessible on many coexisting levels—he developed a rhetorical and poetic style that is capable of reaching lay persons as much as experts. Serres's interest in literary language, poetic meter and rhetorical figures, etymological methods, and the building out of novel vernaculars never accepted the separation of writing into precise and formal styles (academic) vs natural language of speech

33 This, to Serres, is the employment of ideology at the basis of the thus socially constituted “common ground.”

and journalism. Also, his acceptance of engaging in popular media formats, especially radio programs and TV shows, is likely informed by the same ethical maxims. I say unlike the broad tenor in media theory, which has evidently become more and more ideological with the increasing power over the social foundations of civil order, Serres maintained a disgust towards employing ideology in his work; where a popular voice usually travels by ideological vessels, Serres always invites us to travel in the vessels crafted by metaphysics and mathematics.

Metaphysics of Milieu: Empty Words, White Concepts

But what is meant by “employing ideology” in popular writing? Serres comments on this condition (which is one of illiteracy with respect to contemporary physics³⁴) with his discussion of “matter” as an empty metaphysical word. In *Statues, First Book of Foundations*, he elaborates:

‘Matter’ remains an empty metaphysical word, with neither value nor foundation in the physical sciences. If philosophy doesn’t have to dominate science or become its slave or handmaiden, it must at least maintain compatibility with it. Now under the word ‘matter’ in the subject catalog in the

34 Cf. Bühlmann, 2020b, Introduction and ch. 1.

libraries, it can easily be verified that matter left positive knowledge around two centuries ago, and that consequently it won't be found there. Some political philosophies use it while laying claim to that scientificity that would give us divine knowledge if we could define it. Misleading advertising sometimes seduces: above all in philosophy because its practice requires an entire reflexive metalanguage in which one says what one is doing without always doing it. Physics ignores matter, for its part, studying atoms and particles and calculating their mass. Language knows matter better and links it to the mother, its origin, if I dare say so.³⁵

To call matter an “empty metaphysical word” does not entail that metaphysics at large were null and void of relevancy; it reveals matter, which in the vocabulary of most lay people stands at the center of physics, as a metaphysical word which in the citation above is discredited because it is associated with the wrong place, namely the positive knowledge associated with physics. What used to be denoted as “matter” in the classical paradigm of physics, with its notion of natural forces and laws has, with the emergence of thermodynamics in the 19th century, long given way to less deterministic notions of energy balances, the differential

35 Michel Serres, *Statues: Second Book of Foundations*, trans. by Randolph Burke, London, Bloomsbury, 2015c [1987], p.51.

spaces of heat and weight, to entropy measures. Throughout the 20th century it gave way to even more abstract relations of mass and light, via the entropic as well as negentropic relations between energy and information. By failing to consider that matter is itself *of* light, the reference to “matter,” due to the “scientificity” which this term connotes, has thereby turned into an ideological instrument.³⁶

Nevertheless, one would be mistaken if one thought that Serres deems “matter” a useless concept of a bygone time, quite the opposite. The concept of matter needs to be placed again in its adequate context, which is that of metaphysics. Indeed, Serres complements his project of a “Grand Récit” with a metaphysics which he calls “white”: White metaphysics is Serres’s concrete proposal for a novel materialism capable of considering light in terms of mass and mass in terms of light in a relation facilitated as well as mediated by a material notion of time that passes—percolates—throughout and within the domain of chronic time (history) like the weather: universal but cyclical, locally varied and as a physical force.³⁷ The concepts of this

36 It seduces by misleading advertisement and fosters the development of purely reflexive (not ordinarily practical) meta-languages which decouple the ethical responsibility that arises from relating *knowing* to knowing what one is doing by experience.

37 Cf. Bühlmann, 2020b.

metaphysics are called “white” with reference to the “white light” out of which all mass in a galaxy is formed. We can easily see an analogous reasoning here like that of Calasso, with the *impalpable* medium “of which white paper is but an imitation.”³⁸ When Serres maintains that “language knows matter better,”³⁹ and that it links it with its own origin, the origin of language,⁴⁰ Serres is seeking to establish a frame to maintain compatibility with regard to the universal, in the sense of astronomical scope of contemporary physics: When physics concerns itself again in investigations of originality (the notion of the Big Bang and the age of the universe, according to which we determine the atomic weights of sub-atomic particles; chronometry in terms of light’s speed; geology and evolution as sciences that determine the appearance of life forms on earth, etc), then so must our spoken tongues.

How can we think about the origin of language? *Through public knowledge*, Serres maintains. We cannot think of it through religion or philosophy directly, with their emphasis on Hebrew, Greek, Latin, or any other particular “first tongue.” Unlike those, mathematics counts to Serres as a language

38 Calasso, 2020, p.114.

39 Serres, 2015c [1987], p.51.

40 Ibid.

that is not, on a social level, proper to anyone natively. It needs to be acquired; but the form of its “words” can doubtlessly count as universally valid. And just like it is (mathematical) information theory which facilitates the investigations into the originality of the universe, the earth, etc, information theory also facilitates investigations into the originality of the spoken and written tongues. The concepts of this metaphysics do not seek to do away altogether with mythic or religious associations and beliefs. Still, they push those beliefs into a background noise that demarcates the boundary between physics and metaphysics, knowledge and non-knowledge, public knowledge and its many diverse concrete practices. Serres’s white metaphysics says nothing-at-all, that is, nothing in particular before the background of an all. And there are clear instruction (meta) of how to “speak” (physically) like this: White concepts are constituted logically of a sheaf of six categories that are to articulate the world’s proper name in all the world’s places, durations, workings, spoken tongues, colors, sexes.⁴¹ In “Information and Thinking” (Serres, 2017), Serres elaborated how all things in the world “commu-

41 Serres, 2018a [2003], p.120: Pantope (all of its places), Panchrone (all of its durations), Panurge (not demiurge, the public worker, but the universal worker), Panglosse (all of the spoken tongues), Pangnose (all of knowledge), Panthrope (all sexes).

nicate” with empty words. It is communication as a silent form of speaking, rather than communication through lettered writing. For there is a metaphysical “presentness” in effect, a voidness that facilitates the circuitry of information: all things send, receive, store and trade information, Serres maintains:

Bacteria, fungus, whale, sequoia—we do not know any life of which we cannot say that it emits information, receives it, stores it and processes it. Four universal rules, so incontrovertible that, by them, we are tempted to define life but we are unable to do so because of the following counterexamples. Crystal and, indeed, rock, sea, planet, star, galaxy—we know no inert thing of which we cannot say that it emits, receives, stores and processes information. Four universal rules, so uniform that we are tempted to define anything in the world by them but are unable to do so because of the following counterexamples. Individuals, but also families, farms, villages, cities and nations—we do not know any human, alone or in groups, of whom we cannot say that they emit, receive, store and process information.⁴²

If one understands the architectonics of such a materialist notion of natural conception, whose

42 Michel Serres, “Information and Thinking,” in *Philosophy after Nature*, ed. by Rick Dolphijn and Rosi Braidotti, London and New York, Rowman and Littlefield, 2017, p.13.

agency is the nature of the world, including the human nature—as articulations of the white concepts by an objective Logos that speaks silently and naturally—one can see how Serres’s new materialism can indeed hope, yet not guarantee, to find ways of maintaining compatibility with contemporary mathematics and its abstractions (category theory, sheaf and topos theory for example): “Proper” to the name of the world, with respect to the universality that can be claimed by the energetic “breath” articulated of such speech, is the entire genealogy and architectonic of the universe, including the domain of so-called pre-history (i.e., the time before the appearance of writing.)⁴³ Such a material mode of conception proceeds by indexation, by pointing out constellations. Its conceptions are articulated by a voice that speaks objectively and silently—to let thought percolate and to “let it rain.” Therefore, such silent speech *articulates itself* in many scales all at once, but in an eco-sophical sense, we might say, also transversal throughout. Such translating speech happens as if articulated in many tongues.⁴⁴

43 Michel Serres, *Darwin, Bonaparte et le Samaritain, Une philosophie de l'histoire*, Paris, Le Pommier, 2016.

44 Michel Serres, *The Birth of Physics*, trans. by David Webb and William Ross, London, Rowman & Littlefield, kindle edition, 2018 [1977], pp.42. where what Serres calls “The Invention of the Paraclete, on the Pentecost” model of communication. cf. also Bühlmann, 2020, ch. 6.

Seeking to address the world in its proper name parallels in many respects Calasso's unnameable present; although for Calasso, the unnameability bears facets of an accusation of "homo secularis," whereas Serres's gesture is more apologetic, addressing the situation in terms of nature/physics. But for both it is the philosophical quest to know, that *through* participating, situatively, in a universal play of imitation, one can hope—but not be sure—to step out, for a while, of the tragic cycle of imitation that is submitted to a give and take. Animated by such hope, such translation gives itself in—seeks to be consumed—in a quickening and insatiable aspiration. It is imitation driven by aspiration rather than desire, and as such it is conspirative. It participates in a conspiracy that wants to say nothing in particular by learning to attend to the world as a miraculous site of inexhaustible ecstatic epiphany. It is this conspiracy in attentiveness that, like photosynthesis in the world of plants, facilitates growth in a kind of cosmic ornamentation that celebrates *this* life, always here and now, through descending into durations. Such is the mode of aspiration that gives birth to and comes to coincide with what Serres calls "physics" that can be born from relating the symbolic to

text,⁴⁵ mediately so. This proposes a monadism, but one where immanence coincides with a necessity that arises out of contingency. When the classical formulation for the symbolic in terms of a monadism is: *The king is dead, long live the king*, then Serres's materialist notion of the symbolic complements the immanence of the intellect with one of the body: *Nature is dead, long live nature*. The form of its quest is performative and representative, cyclical and radiatingly active, as well as multi-linear and diffractively reflective. This is because the intellectually open quest may be impredicative, but it is nevertheless bound as if by a horizon, from the Greek *horizon* (*kyklos*), a "bounding (circle)."⁴⁶ There is to every self-referential pursuit of such meteorological thought the bounded scope of a generic kind of iridescent rainbow; generic, then, refers here to the public domain of *chronopedic* knowledge, the term Serres introduces in the *The Incandescent* for a new politics of public education.

45 Michel Serres, *The Birth of Physics*, trans. by David Webb and William Ross, London, Rowman & Littlefield, 2018b [1977], kindle edition.

46 From *horizein* "bound, limit, divide, separate," from *horos* "boundary, landmark, marking stones."

Coda: Iris and Iridescent Horizons, in a New Materialist Key

The constellation I aimed at pointing out in my commentary here, which lets us see such horizons, should perhaps be called by the name of Iris. Iris is a word of unknown origin traditionally derived from PIE root *wei-* “to bend, turn, twist.” Is it a kai-ronic coincidence that *Iris* also stands for a cultural form of public service? Her name used to refer to the minister and messenger of the Olympian gods (especially of Hera). She was visibly represented by the rainbow, which was regarded in antiquity as the descent of a celestial messenger. From the oldest parts of the *Iliad*, we can learn from the etymological dictionary that the word is used for both the messenger and the rainbow. Another sense was “prismatic rock crystal,” which also names the eye region which gives color to the eye; the Greek word was used of any brightly colored circle “as that round the eyes of a peacock’s tail.”⁴⁷

This proposal, to name the said constellation by the name of Iris, is also to honor Michel Serres’s imports to media theory in the appreciation of one of his most daring but also cryptic books, *Eyes, Thinking in the World* (2015a). Serres pioneers in this book a

47 <http://www.etymonline.com/word/iris> (accessed October 24, 2023)

radical philosophy that aspires to achieve compatibility with quantum optics by interrogating ways of seeing, thinking and knowing. He explores in it the capacities of eyes as *organs* and *instruments*. Instead of adopting a cognitive science approach or a faculty psychology approach for thinking about the subjectivity of knowledge, Serres affirms human intelligence as but a subspecies to artificial intelligence.⁴⁸ The agency of this artificial intelligence too is generic (in the sense of being universal, like the human intelligence is too); it is embodied generically but prosthetically in the Gnomon, the sun clock, to whose “rule” (canon) the objective cogito (if committed to public knowledge) is to “subject” to. Having time on its side, the objective cogito can interrogate and challenge the “rule” of the Gnomon by trans-posing its projections and demonstrations into the tempered domain of the Analemma, i.e., onto the plane of the Meridian which turns the geometric plane of demonstrations into a screen-

48 Michel Serres, *Les nouvelles technologies: révolution culturelle et cognitive*, lecture for the 40th anniversary of l'INRIA, Paris, 2007b. https://interstices.info/jcms/c_33030/les-nouvelles-technologies-revolution-culturelle-et-cognitive (accessed January 12, 2018); Michel Serres, *Times of Crisis*, London, Bloomsbury Academic, 2014b; Michel Serres, *Yeux*, lecture at the Institute Catholique de Paris, 18 December, 2014c. <https://www.youtube.com/watch?v=1qFdYgjWg9s> (accessed December 27, 2017); Michel Serres, *Le gaucher boiteux: puissance de la pensée*, Paris, Le Pommier, 2015b.

ing plot of lemmata that act as stepping stones. That the canon be accommodative, this is what the ethos of a public voice demands. Relative to it, knowledge is objective—but this is far from a further disenchantment of the world. Rather, objects “cast shadows once again,” as Serres maintains.⁴⁹ By employing his own metaphysics of white concepts, the *ekphrastic ars memoria* of remembering and forgetting which it facilitates, Serres can ask again questions like these: how do we see? What is seeing, or being seen? Can we imagine the sight of non-human eyes, and how does this change our perception of the world and ourselves?

The key to asking these questions in a fresh manner is agreeing to cope with the embodied reality of knowledge.⁵⁰ This is what makes Serres such a relevant source of inspiration, also for new materialist media theory.

49 Michel Serres, *Le gaucher boiteux: puissance de la pensée*, Paris, Le Pommier, 2015b.

50 Michel Serres, *Statues: Second Book of Foundations*, trans. by Randolph Burke, London, Bloomsbury, 2015c [1987].

**The Instrumentation of Space:
Time, Cosmos, Politics**

One exposes oneself when one makes, one
imposes oneself when one unmakes. When one
unmakes, one is never wrong, in effect.
I know of no better way to always be right.

—Michel Serres,

The Troubadour of Knowledge, 1997

I do think there is meaning in nature and that
it is precisely madness not to think so... But we
have to rethink what we mean by meaning. If we
mean mental content intentionally designed to
say something to someone, of course clouds or
fire don't communicate. But if we mean reposi-
tories of readable data and processes that sustain
and enable existence, then of course clouds and
fire have meaning.

—John Durham-Peters,

*The Marvelous Clouds, Towards a Philosophy of
Elemental Media*, 2015

Motivic Keys

Architectonic models presume the loss of images. Images are lost when they become realistic and physically (materially and gravitationally) realizable. Architectonic models take their loss as given and anticipate what this might mean. They draw ideational energy from the emptiness of the image's absence, from the vast importance of what is not there—there, in the unoccupied stead of images. Architectonic models articulate into the void, and as algebra does with its formal treatment of tautology (equations), they bring the nothingness of this void to scales. They articulate this “there;” they make its absence localizable. They make room for it by virtually seizing the “extent” and “content” of such emptiness. These models are architectonic because they are “built.” They are not simply “given,” but they are also not simply “constructed” either. Hence, architectonic models are “built” daringly with ideation, and they are not “ideal”—there is no “original” that they could mimic more or less well. Or rather, anything at all is of the kind of originality that they “copy.” *Copia* comes from the Latin word for “plenty,” which means “to transcribe in plenty.” For architectonic models, this “plenty” manifests not only as a multitude (many transcrip-

tions, many copies) but also a magnitude (there is a muchness to it, a bigness beyond any as of yet familiar scale; measurement is involved). They do not start with form but with a module. They start with “quantizing” the energy of ideation; that is to say, they articulate order likewise to how our contemporary physics of information (quantum physics) articulates communicational orders proportionate to the physical nature of information in terms of entropy and negentropy. Both articulate orders based on modularizing alloys (forged mixtures, impure “essences”) of material quantity and formality. The “stuff” they are built with is stuff that literally “lacks” (in its extent as well as content). The literalness of such “lacking” is of the essence in the quasi-metaphysical sense of primary stuff, substance, or source. Only, this “stuff” is literally “nothing.” Architectonic models are not only “lacking” in their place (relative to a preexisting order), but they are actively “lacking,” lacking “nothing.” Such “lacking” is the activity that makes them what they are. They are built as consolidation, combining into one “body” what is not one, by an inevitably forgetful kind of recollection, a remembering. They are committed to a statuesque point of the episteme, the Greek word for knowledge—they look for a *logos* of such a resting place of “standing upon” and “over-

viewing” (the episteme)—but they don’t have one; they don’t possess one.¹ Metaphysics has taken birth (natality, nature) for a given and wondered about death; architectonic models presume loss; they acknowledge that there is always death and disintegration accompanying integral orders of whatever kind. Hence, they invert direction and take death for granted. They wonder about birth, nature, and natality. They dare to part ways—even if only speculatively, fancifully—with the epistemological idea that everything happens as though science was resting, standing, or erected on an immutable pedestal. Well-founded. For them, the point of view of the episteme is that of a statue indexing “here lies.” Architecture begins with dealings with death, Loos saw this. But what to make of it?

Ordinnateur, in Two Legends

The point I want to develop is that architectonic models ask for computational architecture. But we need to grant that “computation” is much older than we usually think. Computation does not start with calculus in the eighteenth century; it is not specifically related to arithmetics (Leibniz’s *Characteristica Universalis*); rather, it is and always has been

1 Episteme’s root means something like “to stand on, upon, above” or “nearby.”

“mechanical.” Newton, who insisted on the tangential method of indexing the infinitesimal (for him: fluctuation), was perhaps more in touch with computation in this larger sense than Leibniz was. The Greek term *mēkhanikos* meant “full of resources, inventive, ingenious,” literally “mechanical, pertaining to machines,” from *mēkhanē* “device, tool.” In Greek, machine was almost synonymous with *mēkhanē*; both went back to the PIE *magh-ana- for “that which enables,” from root *magh- “to be able, have power.”² This etymology nicely captures the proximity between technics and magic—an almost forgotten proximity, whose coming-back we currently witness in the form of distinctly religious overtones to the various ideas of “trans-humanism” and “non-anthropomorphic” truth that are being articulated with the current “computational turn,” where the advent of the contemporary “computer age” is often being stigmatized as a singularity, a quasi-messianic “event” that lacks comparison.

Serres, who taught for many years at Stanford University in Silicon Valley, tells the captivating story of how in his home school—one of the last schools in France that did not separate the students

2 Cf. for example, etymonline, and for a detailed discussion Fritz Krafft, “Mechanik. Zur begrifflichen Bestimmung,” in *Österreichische Ingenieur- und Architekten-Zeitschrift* 135, No. 10, 1990, pp.470–477.

of the natural sciences from those of the humanist subjects—he overheard a conversation between three teachers. Two of them were talking about how the word “computer” could adequately be rendered in French since the term here was already taken (for a particular device that measures the consumption of water, gas, or electricity).

The word “computer” comes from the Latin *computare*, for counting, calculating; but it is not directive; it relates to a cyclical process where there is transformation but no substantial change. Hence, it was used to describe what astronomers and astrologists were doing when observing and modeling patterns of the sky. Suggestions they were discussing involved “systèmeur,” “combinateur,” “congesteur,” “digesteur,” “synthétiseur”—but none felt quite right: “Who would like to sit in front of her ‘digester’ (*digesteur*) in order to work?”³ A Latin grammarian, passionate for theology, overheard this conversation and told his colleagues that this peculiar machine they were talking about reminded him a lot of the subject he was currently working on, namely the creation of the world according to the doctrine of a *Deus Ordinator*, the doctrine of a

3 Arnaud Schwartz, “Ordinateur, de la théologie à l’informatique,” in *La Croix*, https://www.la-croix.com/Ethique/Sciences/Sciences/Ordinateur-de-la-theologie-a-l-informatique-_NG_-2007-08-15-525218 (accessed February 23, 2022).

God that ordinales (“*un ordonnateur*”) and protects humans and all existing creatures. This, legendarily, is how the French word “*ordinateur*” for the English word “computer” was introduced by IBM in April 1955—after consulting his former professor in Paris, the philologist Jacques Perret, François Girard decided to export the word “*ordinateur*” from its religious usage, and instead reserve it for the novel “*machines à telecommunication*.”⁴ Serres is greatly concerned with how such importation and exportation could be thought of rigorously,⁵ for it entails the entire problem of how a concept differs from a metaphor. In other words, how can we reconcile thought’s rigor with its inventiveness? How can we think about the status of ideation here? The “cutting out” in such export must be a formal gesture if it is to be one legitimated secularly, he maintains. He thought of such cutting as encryption, as coding. There is a way to think of such “cutting” as the building of “bridges,” he shows us throughout his oeuvre.⁶ To think of communication as a particular kind of economy of

4 Michel Serres, *Éloge de la philosophie en langue française*, Paris, Flammarion, 2014a; also wikipedia.fr: *ordinateur*.

5 Michel Serres, “Structure et importation: des mathématiques aux mythes,” in *Hermès I, La Communication*, Paris, Les Éditions de Minuit, 1968a, pp.21–35.

6 Vera Bühlmann, *Information and Mathematics in the Philosophy of Michel Serres*, London, Bloomsbury, 2020b.

transfer is constitutive for Serres's understanding of "tele-communication." Communication, in its technical sense, bridges times and spaces; we are meanwhile used to this idea as a fact. But what does it entail philosophically? How can we address the vast (if not indeed ubiquitous, omnipresent) role of communication technology in the infrastructural, technological constitutions of our contemporary living conditions? How, indeed, can we explain that communication is no longer a term reserved for people talking to each other about things; but that rather all processes, in whatever subject of the sciences and technology (whether humanist, social, or natural sciences), are de facto considered as "processes of communication" today. This results not only in a general mobilization and circulation of goods, values, ideas, etc., but it also triggers processes of acceleration, dis-integration, and dissolution across all scales: There is not one field where one would not speak about "noise" that can become "signal" under particular conditions, and "signs" that can lose their significance in "noise." There is a new kind of materialism at play in these technologies, a materialism of quantum physics where light is both particle (massive, material) and wave (extension, immaterial); it is a philosophical materialism that no longer stands for a determinism but

quite the opposite, one that rests on principle and elementary “indeterminateness.”⁷

When people in the medieval ages described what they imagined God was doing for the world he had created, and when they considered their god as “*un Ordonnateur*” who is “putting things in order” (French: “*ordonnateur, celui qui met en ordre*”), were they not also talking about a notion imported from elsewhere? Did not, for example, Thomas Aquinas, with his doctrine of the *analogia entis*, propagate a “cutting out” and a kind of “export” from the doctrines of the Universe’s univocity? According to its doctrine, God could be thought of as “computing” because he did not exclusively speak to them anymore through the Scriptures that are already written and the language-based hermeneutics of its theology; the computing God spoke to them materially and formally, through what can be found in nature, through abstract but mathematical notions of “numbers” and “forms” that could embrace the novel influence from the Arabic world (revival of Aristotelian metaphysics and natural science, eventually algebra, novel approaches to optics), and that could reconnect in

7 Vera Bühlmann et al., “Introduction to New Materialist Genealogies: New Materialisms, Novel Mentalities, Quantum Literacy,” in *The Minnesota Review: a journal of creative and critical writing*, Issue 88, Durham, Duke University Press, 2017a, pp.47–58.

novel ways with the Hebrew legacies as well.⁸ Do we not have here a kind of “export” from a particular context and “import” to an emerging other one? Perhaps the “cuts” that separate “secular” usages of concepts and ideas from “religious” ones are not best captured if we think of them in terms of an either-or; in both, for sure, there is a kind of binding together, a contracting is involved (secular, literally “an age or lifespan,” pertaining to a generation or age in this world,” as opposed to a “religious order” that would transcend this world).

Paul Valéry was very perceptive to the religious implications of any engagement with “ubiquity.” In a short article from 1928, entitled “The Conquest of Ubiquity,” he addressed these issues: “In all the arts there is a physical component which cannot be considered or treated as it used to be, which cannot remain unaffected by our modern knowledge and power,” he wrote.⁹ The conquest of ubiquity he was talking about stems from the rationalism at work

8 I am thinking, for example, of Averroes and his “material intellect” in the 11th century, Raymund Lull and Dante Alighieri in the 13th century, the latter with his interest in the vernaculars (especially his text *Convivio*), then the Renaissance masters in the 15th century, later Erasmus (especially his treatise on copiousness, *Copia: Foundations of an Abundant Style*), and Ramus in the 16th century (with his mechanical method of discovery).

9 Paul Valéry, “The Conquest of Ubiquity,” in *Aesthetics*, trans. by Ralph Manheim, New York, Pantheon Books, 1964 [1928].

in the empirical sciences. It involves the categorical (the ultimate, the most abstract, the first and last) concepts of metaphysics: “In the last twenty years neither matter nor space nor time has been what it was from time immemorial.”¹⁰ For Valéry, aesthetics and the arts had stepped into the placeholder position of former metaphysics, and the question that concerned many in the early twentieth century was the emerging relationship between aesthetics and religion.¹¹ Henri Bergson, who like Alfred North Whitehead was a philosopher interested in the novel challenges with respect to “quantification,” suggested applying the central paradigm of the industrial age, that of the machine, to the universe itself: in *The Two Sources of Morality and of Religion*, from 1932, he begins to articulate the idea of what he calls “an open society.” He writes:

Men do not sufficiently realize that their future is in their own hands. Theirs is the task of determining first of all whether they want to go on living or not. Theirs is the responsibility, then, for deciding if they want merely to live, or intend to make just the extra effort required for fulfilling, even on their refractory planet, the essential func-

10 Ibid., p.225.

11 See, for example, Ernst Cassirer, *Philosophie der symbolischen Formen*, 3 Bde, Darmstadt: Wissenschaftliche Buchgesellschaft, 1964; or Susan K. Langer, *Philosophy in a New Key. A Study in Symbolism of Reason, Rite, Art*, Harvard, Harvard University Press, 1941.

tion of the universe, which is a machine for the making of gods.¹²

Mankind has to decide whether to “make an effort,” this amounts to saying that whether human life will have been meaningful or not (individually as well as collectively) lies in our own hands; for Bergson, this depends on affirming the role that his “model” of the universe foresees for human existence, namely, to operate this machine, such that an “open society” could emerge and prosper. In our contemporary *conditio humana* of the Anthropocene, these questions raised by Bergson some eighty years ago resonate as uncannily prophetic: are we not indeed concerned today with the precarious possibility of there not being a continued human existence on Earth and of being “responsible” for extinctions not only of us, but of entire species, the destruction of living environments by the “using up” of materials and resources, as well as that of cultural diversity in the loss (or sacrifice) of cultural life forms, identities, and so on?

12 Henri Bergson, *The Two Sources Of Morality and Religion*, London, MacMillan & Company, 1935; as Bergson literally puts it: “la fonction essentielle de l’univers, qui est une machine à faire des dieux.”

Maintaining a Household and Steering a Ship

How did we get here, and where to go now? These are not only my questions at this point in the text but also the questions at the core of any politics. There is a distinction with regard to leadership between governing and managing (French “*gérer*”), to which Serres points;¹³ the latter is an economical term and operates situationally, it is focused on how the integrity of an entity that is firmly planted within largely known and stable conditions can best be preserved, with the aspiration perhaps that local growth or other desirable transformation can be achieved. In distinction, leadership in terms of governing comes from how to steer a ship in the open seas. To lead in the sense of governing, one needs to be able to answer at least four abstract questions: Where are we? Where do we come from? Where do we want to go, and how best to get there? It is this latter form of leadership that we should reserve for politics. It is immediately evident how crucially it depends upon knowledge of history and the capacity to envision—and with this latter aspect (envisioning), it depends also on the apparently never-ending disputes around the core notions in metaphysics (space, time, matter, life).

13 Michel Serres, “Science et Société,” lecture online: <https://www.unistra.fr/index.php?id=26376> (accessed August 18, 2019).

With this chronicle—this sectional cut—of where we are today, I want to direct attention to how architecture can be “political.” Of course, architecture is also always involved with economy, but it is the political aspect we have largely lost out of sight today. We cannot take this as a fact. Instead, we need to think about why, granted, for some, this might seem all too evident (for example, if somebody maintains “it’s capitalism!” or the like), we are being misologists; but by doing so, we presumptively deprive argument and reason of its force. We are not looking from a boat, but from within a particular economical order that we dare not risk. Thus, it seems as if architecture theory “has run out of steam”¹⁴ because we are looking for a place for politics that is continuous with, or even entirely within, the economical paradigm—in so doing, we are frustrated that these places are always already “a made bed,” a prepared place (dispositioned, biased) that grants little to no autonomy to what or whomever might “step in” and “hold” the position. I will not join the often-heard complaint that architecture today is largely deprived of its political vivacity—the last paragraph will demon-

14 As Bruno Latour has recently put it, Bruno Latour, “Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern,” in *Critical Inquiry*—*Special issue on the Future of Critique*, Vol. 30, No.2, winter 2004, pp.25–248.

strate examples of how and where it can be found, also today. The question I am interested in is how there can be a relation of architecture to politics, and hence necessarily also to history; for, without knowledge of history, the four basic questions cannot be answered—we need to know about past and future to locate a “present.” We need to find a novel way of relating to history, other than dialectic materialism as we know it from Hegel, Marx, and Critical Theory. If according to this legacy architecture seeks to be political in a revolutionary sense, the political is explicitly sought from within an order of economy. Maybe the expectation that architecture can or should be “revolutionary” is what has rendered us blind to how and where the political actually manifests. My interest is to foreground how architecture’s political strength and liveliness consist of what I will call “scalar inversions” rather than “revolutions.” Scalar inversions depend upon architectonic models—models that, to recollect some points from the initial motivic keys, seek to facilitate copies of and make realizable nothing in particular. We can think of architectonic models as manifesting in computational architecture that relates “modeling” with “ideation/imagination” eradicated from any order of pure ideality.

Both terms (imagination and model) are highly contested in our contemporary discourses, and much depends upon how we think of them. They are contested because contemporary technology works with them in a manner that is not anchored in an individual's cognitive faculties. A good introduction from a non-specialist point of view to the more recent relevancy of these notions is provided by Paul N. Edwards in his book *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (MIT Press, 2010), but we cannot attend to it here. Rather we will look at Hans Blumenberg, who drew an important distinction between "world pictures" and "world models" in a short text whose title goes by the same notions. From 1961,¹⁵ just before the NGOs and Think Tanks started to focus attention on the planning of demographic developments (the "agencies" at the core of Edward's book), more or less started to gather and organize themselves.¹⁶ The core interest for this distinction (between "world models" and "world pictures") regards the relation between "building" and "education" (in German *Bildung*). As Blumenberg foregrounds, a university is not a conglomerate of disciplines and

15 Hans Blumenberg, "Weltbilder und Weltmodelle" in *Nachrichten der Giessener Hochschulgesellschaft*, Giessen, Universitätsverlag, 1961, pp.67–75.

16 E.g., *The Club of Rome* was founded in 1968, and *Greenpeace* in 1971.

faculties; rather, there is a “vivid economy of specialization and interdependency, of solitude and exchange among its fields and subjects.”¹⁷ It is the vivacity of this economy that he is concerned about, and with regard to which he interrogates his own field, that of philosophy. “Philosophy is the dawning human awareness of itself,” as he puts it. What he means by this is, so he says, “something very basic. A human being seeks to grasp herself in what moves her in her own life, in what conditions this life of one’s own, in the possibilities that present themselves in vivid and powerful manner.”¹⁸ Blumenberg is concerned with modern science eradicating philosophy in this very respect. Without being able to discuss his argumentation here, it results in attributing to contemporary philosophy (to the human sciences at large, by implication) a “historicist straight jacket” in the role of attributing to it a warning voice of moral conscience—the individual’s “grasping of herself in what moves one’s life” is thereby being stripped of its imaginal¹⁹ force. The dualism between natural and human/social sciences is reinforced, together with a strong distinction

17 Blumenberg, 1961, p.67. Here and throughout my own translation.

18 Ibid.

19 Henri Corbin, *Temple and Contemplation*, London, Routledge, 2013; Chiara Bottici, *Imaginal Politics: Images Beyond Imagination and the Imaginary*, New York, Columbia University Press, 2014.

between objectivity and subjectivity, which sits so uncomfortably with the computational turn of our technologies. What about architecture? What about the kind of education needed to communicate, share, and build the knowledge to accompany this political side of architecture that I want to elaborate on, architecture's potential of triggering scalar inversions? I propose to regard architecture analogously to Blumenberg's description of philosophy before its "castration." I want to suggest regarding architecture as manifesting the dawning cultural awareness of a culture as a culture, through seeking to grasp itself in what moves it in its own vivacity, in what conditions its very liveliness in the possibilities that present themselves to it "in a vivid and powerful manner."²⁰

Architecture as Civic Anarchism

Blumenberg forgets in two important ways to consider how architecture, and architectonic models, factor in his account of world models and world pictures. One is the transversal domain of consolidation between what we could call "performative" forms of culture and "technically articulate" ones. In other words, he fails to consider the

20 Blumenberg, 1961, p.67.

domain of transition between religious cults and their linguistic articulation and reflection (*Logos*) at work in “world pictures.” The other aspect is the domain of transversality between calculation and computation.

This domain confuses any clear distinction between language (alphabets) and mathematics (numbers and forms) that is always already at work in scientific “world models.” My suggestion is to think of calculation and computation as “architectonic” in an analog manner as we think of the relation between cult and myth as “philosophical” (through *Logos* as the reasoning means of this relation). Calculation then refers to rules with no reference order external to their own performativity (because it can be equally performative in any order, hence it counts “unquestionably,”) while computation, on the other hand, comes to rest on rules “stated,” relative to “orders” (computation is algebraic, it mobilizes the terms of equivalences in stated equations and hence is a strange kind of “language” that is neither properly “linguistic” nor “logic” nor “purely mathematical.”)²¹

21 Still one of the best texts to learn about this distinction: Alfred North Whitehead, *Treatise on Universal Algebra*, Cambridge, Cambridge University Press, 1910.

If one acknowledges these two domains, one of gradual transition and the other of gradual transversality, as “architectonic” (rather than merely “problematic”), then there is always already a world of noise, a messiness to distinctions like the one propagated by Blumenberg between “world pictures” and “world models”—even before his distinction begins to hold. I want to maintain that architecture is architecture in that it provides world models that live from consolidating precisely this polluted, dirty, impure messiness—about which both philosophy and modern science, with their inclinations towards purification (and hence towards consecration rather than consolidation) are horrified.

Why architecture? Perhaps the attribution I want to make is not exclusive, but I tend to think it is. Because no other form of the “fine arts” or the “applied arts” is so constitutively entangled like architecture is with all of the institutions of secular power at once: with politics, economy, religion, culture, technology, science—and this in time scales that not only overarch human life cycles in both directions (towards the pole of “smallness” in building materials to that of “largeness” in a building’s monumentality) and in a way that lacks comparison to any other field, and that furthermore equips ar-

chitecture with a strange sense of self-confidence about being “masters,” oddly so in *rendering service* to those very institutions rather than aspiring or claiming to “direct” them. How can there not be an outright contradiction in saying that architecture *masters* through *servicing*? That its pride is to be of service while at the same time proudly carrying the notion of a “first” and a “beginning” in its name (Greek *arkhein*, “be the first,” thence “to begin, begin from or with, make preparation for;” also “to rule, lead the way, govern, rule over, be leader of?”) How can serving and directing not be contradictory to each other? This is what the notion of scalar inversions (rather than revolutions) regarding the relation between architecture, history, and politics is all about. My point is that in architecture as a term, as a name, perhaps, to be the first, to rule or direct, is a *political role* coupled with a *technical spirit* (Greek *tekton*, from PIE **tecs*, to weave, to fabricate) that does not shy away from a “numerical” kind of imagination. What I find interesting to think about is whether or how it is precisely in architecture that we can find an understanding of technics and its role concerning *episteme*, to knowledge, and hence to secular forms of “culture” (cultural techniques) that bypasses the dualist and progressivist

distinctions such as civility vs barbarity, or modern vs premodern.

Every globe has a north and a south pole. What I want to suggest is that we can think like architecture as one of two poles, the other being metaphysics. I suggest regarding them on equal par because both want to confine an infinite domain of “ubiquity” within rational bounds, with an “ultimacy.” Metaphysics (with its doctrines) is concerned with anticipating consequences that derive from an ultimate, a first, a principle, beyond which it *declares* thought could not make any reasonable sense. Architecture too, is interested in anticipation and the drawing of consequences with respect to such ultimacy, but different than metaphysics, it does not produce *doctrines* (that articulate how we can capture the world in pictures); rather, it *makes room* within the noise produced by the plurality of doctrines. So considered, it is clear why architecture strives especially in times of social transition of the greatest order, and perhaps only then. Perhaps when an order focuses on differentiating itself inwardly, in times of *instituting* an order (not merely consolidating the grounds for such novel institutionalization), architecture is subsumed within either science or art (or in the disputes that lay claim to it from either side).

According to this view, architecture does not represent world pictures or realize world models. It articulates “miniatures,” reduced images, literally “images greatly reduced in scale”²²—but it is crucial how we think of such “scaling” and “reduction.” An image that helps here is how we use “reduction” in cooking or in perfume (when reducing ingredients into a concentrate of aroma). The definition of a miniature as being greatly reduced in scale should read accordingly slightly different: a miniature then is an image whose Greatness is being modelled as Bigness. Its reduction is not one *in* scale (where scale would be pre-existing) but *into* scales (that are to be appropriate for just that particularly reduced image,” the architectural miniature). As such, architecture indeed engenders “models,” for which it articulates their buildings as miniatures through a process of *reducing* them to their “proper” scales. And these models are “structural,” but they are not “frameworks” like the “world models” secular science wants to produce are. These models are auxiliary structures, meant to be done away with (decoupled, deconstructed) once a building stands (and manifests the crystallization of a model in

22 Cf. for the etymology of the word “miniature,” for example: <https://www.etymonline.com/word/miniature> (accessed October 24, 2023).

a miniature)—not because they can claim to be “natural” but because they have done their situational service. They are not structural in the sense of a skeleton or core, but in the sense of a facilitating, real, but ideational “adjunction.” Architectonic world models thought of like this are at one and the same time much more ambitious and much more modest than scientific models: through their alliance with metaphysics, they are models that seek to realize something “universal” (not something “worldly”); in this, they are more ambitious. But they know that no empirical data can legitimize (found) their models exhaustively; in this they are much more modest. It is why architecture can be considered the polar complement to metaphysics. It is one of two poles of the abstract and yet the real, an entirely fancied (invented and imagined) and yet buildable “globe/sphere.” Both metaphysics and architecture need to “inflate” what can be imagined beyond all (as of yet) reasonable bounds, hence their interest in mathematics and its precise and rigorous (finitary) dealings with the infinite. They inflate their imaginations and take them for real, not because they want to “transcend” *this* world once and for all, but because they want to be in touch (*con-tigent* to) with an outside to man-

made institutions.²³ They want to *project* themselves beyond the horizon instituted by the established social and civic orders—to bring back fresh views, ideas, and literal *projects*.²⁴ They build speculative models of the universe in order to stay human, to divert institutional power such as to prevent the sphere of their fragile and balanceable *concert-ation* of ideational power from rigidifying and becoming an unbalanced *con-centration*.

The constitutive element for architecture—if it manifests world pictures reduced to scales, miniatures of world models—is the module. The module facilitates the reduction to scales which is at stake between the “architectonic model” and the “miniature of a world picture” to be built. “Module” literally means an “allotted measure,” from Latin *modulus* “small measure,” diminutive of *modus* “measure, manner” (from PIE root **med-*, “take appropriate measures.”) Mathematicians think of it as a name for a relation of one-over-many, because it is an algebraic term and became important after the introduction of the group concept by Evariste Galois and Hendrik Abel. We can best think of it as a

23 Elizabeth Grosz, *Architecture from the Outside*, Cambridge, MIT Press, 2001.

24 Massimo Cacciari, “Project” in *The Unpolitical: On the Radical Critique of Political Reason*, New York, Fordham University Press, 2009, pp.122–145.

diachronic tripod providing a plateau (the plane on top of the pedestal of the episteme's point of view?) If viewed in time as a magnitude (diachronic) rather than in space, a tripod is precariously balanced by its three legs—namely geometrical proportion, arithmetical proportionality, and harmonic proportion—since any of these means establish proportion differently.²⁵ Here is not the place to elaborate on this, let me say for now that the module can count as the magnitude (how much) as well as the multitude (how many). Respective to its units, a reference order can be appropriate (proportionate). As *magnitude*, it is the condensate of a world model, the seed for a realized, built copy of it (a miniature, an image of the model reduced into scales); as *multiplicity*, it renders the magnitude countable and thus facilitates its condensation into a model that can be realized. The peculiarity of architecture is that it has a notion of the module that is all at once mathematical, metaphysical, scientific, and technical, but also “cosmical” (in the sense of both myth and beauty, and their inspiration for decoration, decorum, cults and customs, and arts).²⁶

25 P.H. Scholfield, *The Theory of Proportion in Architecture*, Cambridge, Cambridge University Press, 1958.

26 Cf. Robert Hahn, *Anaximander and the Architects*, New York, State University of New York Press, 2001.

In architecture, the “module” refers to the foot of a column, often its diameter (geometric proportion). But the significance of a column in architecture is cosmic: it is the cosmos’s axis, it symbolically separates, joins, or interpenetrates the cosmos. It is the scope that spans around the radial line which contracts the Zenith (the summit point on a spherical surface that is higher in elevation than all points immediately adjacent to it) and the Nadir (the base point on a spherical surface, opposite to the summit point). This is why the architectonic column is an allegory for what carries the world’s weight in the universe. Architecture considered through the symbolism of the column can never perfectly integrate the three ways of rationalizing the balance (the stasis, the status, and the statement) of its buildings into one whole “body”: the harmonic proportion (status), the arithmetic proportionality (stasis) and the geometric proportion (statement). The three kinds of being-in-proportion cut through one another, they intersect each other in angles (inclinations and declinations). They cannot be reduced to one another (now specifically in the arithmetical sense of a mean magnitude, a common denominator). But from transcribing their respective scales (from having a model of how they cut through one another), architecture produces “re-

duced” miniatures (with respect to world pictures, they are “improperly” articulated models, they are rhetorically reduced, fashioned (coded) for a particular site and situation, rather than claiming general validity) of the world modelled architectonically. “Reduction” here produces the “essence,” it is hence a reduction to scales (not a reduction in scale).

I proposed such a notion of architectonic models as computational models at the beginning of this text. They are computational because they articulate balances in the “place-holding void” constituted by the absence of images. It is this absence that they fill, ideationally, with numerical imagination. Where the place of world images is unoccupied (or highly contested, and therefore subject to great tumult and disorientation), architectonic models contract (mechanically, inventively) metaphysics with geometry. They follow metaphysics without obeying its doctrines.

This is why I suggest speaking of architecture’s political role as that of an anarchic civility: civil with respect to a self-understanding as civil servants but anarchic with respect to any one world picture or world model (ideology) in particular. Computation is the postponing of decisions (one can indefinitely further proceduralize a process). Still, it actualizes through an axial kind of deci-

sion—a scission, rather than simply a decision—like the cut of the umbilical cord every infant is subjected to; the word “tekton” indeed shares the root with “tikto,” for “give birth, engender.”²⁷ Architectonic models are computational models, but unlike computational models considered as “calculative” only, architectonic models place the infant, so to speak, in the position of a discrete beginning that is always also a continuation. Architecture claims a protective and leading role for such beginnings (*arkhon*), but it understands this role as one that seeks to step back and share its rules as soon as possible, that is, as soon as the weaving of threads (lines of continuity) through the noise, through which it cuts (scission), grows sound, solid and stable enough for maintaining its own integrity other, perhaps self-directed.²⁸ In this sense, education plays in the interplay between the initial consolidation and the subsequent institutionalization of an order that truly deserves to be called classical, because it never possesses (but therefore also never loses) its own originality and “modern-

27 Cf. Alberto Pérez-Gómez, Stephen Parcell, *Chora 3: Intervals in the Philosophy of Architecture*, Montreal, McGill Queens University Press, 1999, p.120.

28 Indra Kagis McEwen, “The ‘Architectonic Book,’” in *Vitruvianism: Origins and Transformations*, ed. by Paolo Sanvito, Berlin, De Gruyter, 2015, pp.101–112.

ty.” Interestingly, Vitruvius thought of architecture as an *enkyklios disciplinae*, an imaginal and circular public domain that accommodates all knowledge available at a time.²⁹

Scalar Inversions: Nine Vignettes

Let us summarize: I would like to propose thinking of architecture as the *instrumentation of space*, in its full scope of epistemic and aesthetic richness (*Raumfahrt*). This implies to think in architecture not only in terms of lengths in a given, coordinated space, but to think of the axes that give us dimensions in terms of rotations, i.e., as temporal. The coding of the rotational axis gives us scales, and together in combination with lengths they allow for interiorizing temporalities within dimensional architectonic volumes, elements, and concepts. To give an idea of what this would entail: Architecture is then an instrumentation of space that articulates temporalities like a musical instrument articulates sounds (its extension, its body) in time. These articulations are then articulations of the world as a miniature that brings the world to scales in each particular articulation. Such articulations are guided by holistic ideas of the cosmos and their conju-

29 See Indra Kagis McEwen, *Vitruvius: Writing the Body of Architecture*, Cambridge, MIT Press, 2003.

gation by what we could call *metaphysical gestures*. Through such a notion of instrumentation (not instrumentalization, which would mean to turn an object into a tool for achieving a particular goal), these miniatures are not meant to *represent* a world picture, and neither are they *realizations* of a world model. Rather, they can be thought of as crystallizations that modulate *alloys* (forged mixtures, impure “essences”) of material quantity and formality according to architectonic models—models that relate “modeling” computationally with “ideation/ imagination” eradicated from any particular order of pure ideality. This eradication is what is meant by the loss of images. Its acceptance amounts to architecture affirming finitude and death in relation to its core concept, that of form. Hence what I propose is a materialist understanding of architecture. With this, architecture can continue the humanist legacy foregrounded by Blumenberg, namely that there is a particular relation between “building” and “education” (in German *Bildung*) that manifests in the university’s “vivid economy of specialization and interdependency, of solitude and exchange among its fields and subjects.”³⁰ Architecture could then play a similar role at the social scale to the one whose loss Blumenberg was mourning for philoso-

30 Blumenberg, 1961, p.67.

phy on the scale of the individual, namely to grasp the possibilities that present themselves for living in a vivid and powerful manner. The philosophical “dawning human awareness of itself” would then not relate to the individual, but to cultures at large. Architecture education would be distinctive in how it bridges technics with arts, by drawing an ideational energy from the unoccupied stead of images: With numerical imagination, architectonic models bring the nothingness of this void to scales; this is what is meant with the term “scalar inversions.³¹” Architects, then, act politically as civic servants whose work is nevertheless that of a kind of mastership, because they remain “anarchic” with respect to any one particular world picture or world model.

What follows are nine indexical *vignettes* to illustrate such architectonic-political gestures (here without unfolding any entailments they contain with respect to world pictures). The selection is not meant in a canonical sense if canon means a list of best-of examples. But it is meant in a canonical sense if canon is taken in its old sense from sculp-

31 The term of the “vignette,” as well as that of “scalar inversions” and their roots in “numerical imagination” is inspired by John Durham Peters, “33 + 1 Vignettes on the History of Scalar Inversion,” in *ELH*, Vol. 86, No. 2, New York, Johns Hopkins University Press, 2019, pp.305–331.

ture and architecture, where it provides an abstract rational framework that keeps proportion, analogy, and symmetry as separate dimensions that can be related together in various manners.³² The examples are called vignettes to foreground the materialist understanding of time, which treats time not in terms of progressively-linear historical periodization; vignettes come from vineyard, a name that beautifully bridges how the fertility of a ground and its particularly local character and temper, together with the technical/metrical cultivation of it (yard) affect the produce (wine). Each of the vignettes brings temporalities to scales in space and exposes scalar inversions on diverse levels of abstraction—each demonstrating an instrumentation of space in the sense elaborated above.

LEON BATTISTA ALBERTI (1404–72)

Alberti thinks of architecture as ordained volumes made of pictures that represent nothing;³³ he transcribed his experience with dioptric instruments to cryptography, and invented new principles of

32 I have elaborated on this in “Once Upon the Autonomy of Words,” in *Architecture and Naturing Affairs*, ed. by Mihye An and Ludger Hovestadt, Basel, Birkhäuser, 2020.

33 Leon Battista Alberti, *Das Standbild—Die Malkunst. Grundlagen der Malerei / De Statua—De Pictura—Elementa Picturae*, Berlin, wissenschaftliche Buchgesellschaft, 2011; the first treatise on painting decoupled from its mimetical function.

encryption with his so-called Alberti Cipher;³⁴ he applied such encryption to develop grammaticalizations of vernaculars;³⁵ he bridged philosophy and economy by asking: can I be friend (in the philosophical sense of soulmate) with the prince whom I depend upon? Can there be friendship in marriage? Is the home the proper place for education?³⁶

CLAUDE PERRAULT (1613–88)

Perrault made a strong intervention in the so-called “Quarrel between the Ancients and the Moderns”³⁷ in the seventeenth century, by proposing to mechanize the Classical Canon of orders and styles: his columns for the Louvre are columns liberated from carrying any weight, they are bound to carry the passing of time alone.

GOTTFRIED SEMPER (1803–1879)

In tune with the analytical paradigm of thermodynamics and the theory of evolution, Semper insisted on continuity between nature and tech-

34 Alberti's *Ludi Mathematici*, cf. K. Williams et al. (eds.), *The Mathematical Works of Leon Battista Alberti*, Basel, Springer, 2010.

35 Alberti wrote the first syntax of the Tuscan vernacular language.

36 Leon Battista Alberti, *Dinner Pieces*, trans. by David Marsh, Michigan, Medieval & Renaissance Texts & Studies in conjunction with the Renaissance Society of America, 1987; Leon Battista Alberti, *I Libri Della Famiglia*, ed. by Ruggiero Romano, Alberto Tenenti and Francesco Furlan, Turin, Einaudi, 1994.

37 https://de.wikipedia.org/wiki/Querelle_des_Anciens_et_des_Modernes (accessed February 23, 2022).

tics; he subjected architecture to a materialist turn, and regarded it as a fabric, an industrious function of nature; he was looking for an architectural science of style.³⁸

ADOLF LOOS (1870–1933)

Loos proposed to arrange rooms not according to planes (planar geometry), but within a given volume: he partitioned volumes into scales cutting through and freely arrangeable within it (*Raumplan*). To distinguish (or extend? refine?) this approach, he came up with what he called the principle of cladding, by which he meant an imagination that does not form spaces, but masses.

LE CORBUSIER (1887–1965)

Le Corbusier developed a calculus of how to render the analytical partitioning of volumes into scales that were once again continuous, as liberated ratios of logic orders. His reference hence was neither space nor mass but economical order, according to particular “rationalities” (*plan libre*). An instrumentation that “modulates” the volumes of massive spaces, or spatial masses.

FRITZ HALLER (1924–2012)

Haller was not afraid to think the absolute of change: “*Totale Stadt* is here called the structure

38 Gottfried Semper, *Style in the Technical and Tectonic Arts, Or, Practical Aesthetics*, Los Angeles, Getty Publications, 2004.

[Gebilde] that allows for this network [Geflecht] of different living spaces in one total living space. *Totale Stadt* is a system of resting and moving objects and energies covering the entire world,” and “the sections ‘general model,’ ‘specific model,’ and ‘concrete construction’ plan of this study do not represent a well-ordered, complete whole. They can rather be compared to a loosely arranged puzzle from which pieces are still missing or have not been put in their proper position.”³⁹

ALDO ROSSI (1931–1997)

Rossi writes a scientific autobiography, inspired by the principle of the conservation of energy and its relation to a material kind of memory, as he illustrates it with the schoolmaster Muller’s story, where a mason who is struck by the idea that the energy expended from heaving a rock to a rooftop does not get lost, but remains latent in the stone and might, if the stone fell down one day, even be the same energy that kills a passerby: “The principle of the conservation of energy is mingled in every artist or technician with the search for happiness and death,” a death that “in some sense is a continuation of energy.”⁴⁰

39 Fritz Haller, *Totale Stadt: ein Modell. 2, Ein globales Modell*, Olten, Walter, 1975.

40 Aldo Rossi, *Scientific Autobiography*, Cambridge, MIT Press, 1982.

PETER EISENMAN (BORN 1932)

Eisenman is the thinker of the ultimate diagram in architecture, for him, the diagrammatic is *totalized*: “With the end of the end, what was formerly the process of composition or transformation ceases to be a causal strategy, a process of addition or subtraction from an origin. Instead, the process becomes one of *modification*—the invention of a non-dialectical, non-directional, non-goal-oriented process.”⁴¹

REM KOOLHAAS (BORN 1944)

For Koolhaas, the force of manifestos acts upon the past, it dopes logistic grid-structures through ciphering them: “Manhattan is the 20th century Rosetta Stone.”⁴² He depicts architecture as ultimate, against urbanism, by attributing it an ultimate magnitude called ‘Bigness’: “Beyond a certain scale, architecture acquires the properties of bigness”;⁴³ the rationality of its massivity refers self-referentially to a voided and ciphered principle of causality: “the best reason to broach Bigness is ...because it is there.”

41 Peter Eisenman, “The End of the Classical: The End of the Beginning, the End of the End,” in *Perspecta* Vol. 21, Cambridge, MIT Press, 1984, pp.154–173.

42 Rem Koolhaas, *Delirious New York: A Retroactive Manifesto for Manhattan*, New York, Monacelli Press, 1997.

43 Rem Koolhaas, “Bigness and the Problem of Large,” in Rem Koolhaas and Bruce Mau, *S, M, L, XL*, New York, Monacelli Press, 1995, pp.494–516.

PETER ZUMTHOR (BORN 1943)

Zumthor turns to atmosphere as a word for architectonic quality: “I enter a building, see a space, and get its atmosphere, and within fractions of a second I have a sense of it as it is [*für das, was ist*].”⁴⁴ An architect “rationalizes” this viscerally experienceable quality—holistically, mythically, technically, psychologically, materially.

JUNYA ISHIGAMI (BORN 1974)

Ishigami articulates constitutions of time dissolved. He follows rituals of a massive kind of transcendence. He builds a box of aluminum the size of a four-story house and weighing a ton, which he fills with helium so that it floats and can be moved at the touch of a finger, and designs columns about as thick as raindrops: “I want to make a new scale of architecture, a natural scale, an elemental scale” for an architecture as based on any sizes found in nature: “in nature structure and space are not divided. Air is space but it also has a structure. But architecture divides these things.”⁴⁵

44 Peter Zumthor, *Atmosphären: Architektonische Umgebungen. Die Dinge um mich herum*, Basel, Birkhäuser, 2006.

45 Junya Ishigami, “Architecture of Air; Serpentine Gallery Pavilion 2011– review,” online: <https://www.theguardian.com/artand-design/2011/jul/03/junya-ishigami-serpentine-pavilion-zumthor> (accessed February 23, 2022).

**Entwurf of the Method
and Ethics of its Discourse:
Cartesianism Reconsidered**

New European Bauhaus

There is currently a process underway to build a New European Bauhaus—a place dedicated to concerting together to invent future ways of living. It is supposed to become a platform to cultivate radical inclusion—inclusion regarding arts, technologies, science disciplines, and differences in cultural and social identities. With this initiative, the European Union responds to the digital transformations underway. These transformations challenge us to invent adequate instruments that would be in support of circular and cyclic modes of process and qualitative transformations that follow a logic of mutual commerce and endowment, saturation rather than separation, disjunct synthesis, and cohabitation rather than demarcation and classification; keywords are data science and the algorithmic

condition, machine learning, artificial intelligence, circular economy, green deal, climate. What makes this initiative perhaps especially timely is the question put center stage by Ursula von der Leyen, the initiator of the idea: How can this ecological and economic project also become a project of culture?¹

This text proposes an unorthodox reconsideration of Cartesian rationalism in light of these ambitions. Its interest is in thinking of its proposed universal method without eclipsing the algebraic role of code in the analytical geometry that Descartes is employing. This constitutive role of how code works within it promises a fruitful tuning between his and our historic constellations; it also legitimates such a counter-canon reconsideration in Cartesian rationalism. What we can learn from Descartes, in this light, is not only a form of circular writing but also an idea of how architectonic contemplation differs from philosophical contemplation by departing from and returning to the primacy of common-sense intellection. Such rationalism needs to respect metaphysics as a first philosophy (*Prima Philosophia*)—but *via negativa*: an appreciation of metaphysical speculation alone will never run out of cause for doubt, with which

1 https://europa.eu/new-european-bauhaus/index_en (accessed February 23, 2022).

the universal method in Cartesian rationalism always needs to be endowed (doctrine of methodic doubt). Effectively, I will argue that metaphysics becomes the wellspring of abstractly embodied gestures for thinking, with which architecture ideates mathematically. There is an aesthetic side to such ideation, which will be outlined by turning to Paul Valéry, who is admittedly a great admirer of Descartes and who gives us, with his *Introduction to the Method of Leonardo da Vinci*, as well as with *Eupalinos or the Architect*, two texts that help to grasp how we might reconnect with an architectonic understanding of analytical thought.

Witness to the reformation wars, Descartes sought to constitute a scientific form of rationalism that would be capable of preserving a certain autonomy for science from both religion/theology and politics—an autonomy in ethics, which he put into the authority of architectonics, and which he made the principle of his geocentric philosophy. His geocentrism was essentially concerned with mediating between knowledge and the world. His famous text “Discours de la méthode pour bien conduire sa raison” originated in the context of his book entitled *The World, A Treatise on Light*. It was about how to think and speak about the physical nature of light that was in proportion with the light of insight cast

by the human intellect. Inevitably, such a novel physics was bound to challenge the theological codifications of divine insight and intellection, and Descartes never dared to publish this book during his lifetime. Today, the famous text “Discourse on Method” is usually read as a stand-alone piece, detached from this context. Reconnecting what has become the founding document of modern rationalism within its proper context of inception is enough to find oneself engaged in a reading of Cartesian rationalism deemed unorthodox. Let us embark on this adventure!²

In the light this text seeks to cast, we can find how in Cartesian rationalism discourse is the subject of an architectonic *Entwurf* that aims at hosting the cohabitation of politics with philosophy. Against the common reading, the Cartesian method was not concerned with identifying and determining the essence of what can be known in terms of the objective description of things. Rather, it was an impredicative method that had, as I will argue, nothing in particular to teach. His rationalist

2 Michel Foucault’s book on method, *Archaeology of Knowledge and the Discourse on Language* (1969) is one of the rare attempts to engage with Cartesian architectonics in its own right—i.e., by neither subjecting him to a transcendentalist approach via Kantianism or phenomenology, nor by stripping his mathematical proposals from their metaphysical context by regarding him through the lens of formalist epistemologies.

method considers the process of clarification as a procedure capable of accomplishing the ideation of any (not every) imaginable opinion. It is a subtractive and analytical method but cannot be reduced to formalism. The special peculiarity of Cartesian Rationalism is that the method he proposes for the analytics of such a procedure is itself subject to *Entwurf*—and this is the case for each particular case such a procedure is sought for. Method itself is rendered topical in an analogical way (once the method to setup the procedure in a particular case and once the method as it is to solve a particular problem); hence his notion of method itself is subject to architectonic constitution. To speak of the *Entwurf* of the method, algebraically and hence together with its inverse sense (that method needs to be followed by proceeding analytically), this means that the analytical space is indeed one that exists in parallel to the real, the physical one. But this parallelism is the architectonic site of an active and vibrant analogy, according to which self-formation is set up in parallel to world-formation. This is (very likely) why his book *The World* was written in the rhetorical form of a fable and “Discourse on Method” in the poetic gesture of an autobiography. His *Meditationes de Prima Philosophia*, where Descartes foregrounds the importance of methodical doubt,

appear as an inversive form to that of theosophical contemplation—they appear as a form of architectonic contemplation.

The active analogy that edifies the architectonic site of this parallelism (between the domain of analysis and that of the real) is embodied in the instruments (and the abstract instrumentality) that relate knowledge and the world. This is also where a reconsideration of Cartesian rationalism holds great potential for our situation today, that is, for coming to terms with those novel mentalities of data science: social media platforms, artificial intelligence, and machine learning. The Cartesian method is akin to a circular form of writing with which we seek to come to terms today—namely, a notion of method, in the singular because universal, but in the pluralist terms of algebraic coding.

*Rationalist Instrumentation,
Architectonic Contemplation*

Before turning with more detail and closer reference to Descartes's method itself, I want to start by questioning how we might think about the aesthetic implications of such a Neo-Cartesian rationalism. For this, I want to turn to Paul Valéry, who never fell short in emphasizing his rejection of theories of the arts that rely upon irrational substances like genius

or inspiration. He also never fell short in acknowledging his great admiration for René Descartes. In a famous text entitled “Introduction to the Method of Leonardo da Vinci,” Valéry probes the Cartesian method by inventing a kind of parallel transport of it such that he can self-instruct himself through it by using it as a guide when seeking to get in touch with the extraordinary “*esprit*” of Leonardo da Vinci—that great Renaissance polymath mind. He begins his text: “There remain of a man those things of which one is set dreaming by his name and by the works which make of his name a mark of admiration, of hate, or of indifference,” and continues: “Remembering that he was a thinker, we are able to discover in his works ideas which really originate in ourselves: we can re-create his thought in the image of our own.”³ Thus, he prepares the reader’s attention for what is to follow. Continuing, he elaborates on how he thinks about such a strange parallelism; he begins with why it would be useful to have a means at work that allows one to re-create another person’s thought in the image of one’s own. He explains:

An ordinary man we represent to ourselves with ease: we can reconstruct his elementary actions

3 Paul Valéry, *Introduction to the method of Leonardo da Vinci*, trans. by Thomas McGreevy, London, John Rodker, 1929, p.31.

and reactions from our own simple experience. We find the same processes in the indifferent acts that constitute the exterior aspect of his life as in our own; we are the connecting link between our acts, as he was between his, and the radius of activity that his existence suggests to us does not extend farther than the radius of our own. But if we allow that this individual excels in some respect we shall have more difficulty in imagining to ourselves the works and the ways of his mind.⁴

The problem is familiar. But how should we respond to it? Here, Valéry introduces a crucial component of such architectonic thought, namely what he calls “imaginative perception.” This means opening the gates to inventive fancy as a constitutive part of a creatively self-instructive method that proceeds by mimesis and is yet creative, because it sets up the architectonics of the site where such mimesis can be conducted “methodically”.

In order not to be confused in our admiration, we shall be forced to stretch our imaginative perception of the quality that dominates in him and of which we no doubt possess only the germ.⁵

Here shines the importance of a demiurgic universalism (literally the universalism of public work, of

4 Ibid.

5 Ibid.

skilled work in the service of a public).⁶ This is just like Plato's rationalism, which crystallizes in the cosmos's workings, as outlined in the *Timaeus* (an early *architectonic* model of the cosmos) because it speaks of the cosmos in terms of its workings and construction rather than, like Hesiod, in terms of cosmogonic genealogies of myth. Its rationalism consists of setting up a possible correspondence model between the intelligible and the sensible. Also, Descartes's rationalism starts from fabricating how a correspondence between the sensible and the intelligible could be established. In Descartes, this is the model of the world as a plenum with cracks that are always immediately being filled up with light⁷—a mechanical model, whereby the question of the true nature of light is being bracketed out, and which is the core of his book *The World, A Treatise on Light*.⁸ We will return to this later; first, let's

6 Greek *dēmiourgos*, literally “public or skilled worker, worker for the people,” from *dēmos* “common people” + *ergos* “work,” <https://www.etymonline.com/search?q=demiurg> (accessed October 22, 2023).

7 Geoffrey McDonough, “Descartes' Optics,” in *The Cambridge Descartes Lexicon*, ed. by Larry Nolan, Cambridge, Cambridge University Press, 2015. Here cited from the online version, https://scholar.harvard.edu/files/mcdonough/files/30_descartes_optics_the_cambridge_descartes_lexicon.pdf (accessed February 23, 2022).

8 This is why I call it “mechanical;” as a water mill must be informed by—but ultimately leaves aside—the question of the true nature of water, Descartes brackets out the question of the true nature of light for the descriptions which his rationalism is to facilitate.

remind ourselves briefly of the template of such fabulation, namely Plato's *Timaeus*.

The Platonic demiurge famously engenders a universal soul by an act of what we could perhaps best call metaphysical fabulation, or more precisely, a fabulation of architectonic discreteness. He calls this speculative universal soul the *being of wholeness*. It acts as the knowledge-facilitating medium in Plato's rationalism—the medium or substrate that is to establish a public domain for knowledge. This fabulous substrate, this rationalism imagines, must be distributed equally throughout the entire range of it. For this, the Platonic demiurge takes “the three elements of the same, the other, and the essence”⁹ and mingles them in a cup. Out of it, he creates numeracy. He sets out to partition this into measured blocks of pure ratios, working along the principles of the Pythagorean theory of number through harmonics (circle of fifths). Plato tells us: “When he had mingled them with the essence and out of three made one, he again divided this whole into as many portions as was fitting, each portion being a compound of the same, the other, and the essence.” Plato's demiurge takes all the numbers thus produced; he takes all this partitioned and

9 Plato, *Timaeus*, trans. by Benjamin Howett, The Project Gutenberg EBook of *Timaeus*, released 2008.

formed wholeness, which is now (after the preparations discussed) made up entirely of blocks of ratios, and he “cut it into two strips which were bent into an inner circle and an outer.”¹⁰

Like this, two intertwined circles are created, and we are told they revolve around the same axis. The motion of the outer circle is called the “Same,” and the motion of the inner circle is that of the “Diverse.” To the outer circle belong the intelligible forms, and to the inner belong the sensible and corporeal bodies. But what both circles are made out of, namely the soul of the universe that had been engendered through speculative fabulation, is dispersed throughout all of it; this is the precondition for Plato’s demiurgic rationalism to work—and it is what makes the demiurge’s fabulation *architectonic*: the two circles are of the same universal nature, and yet they are incommensurate. Relating them requires an active proportioning that can only be optimal for particular situations (the power series of 2 and that of 3 are incommensurate; Plato describes this with the Pythagorean notion of the Lambda).¹¹

10 Ibid.

11 I have elaborated on this in “Methods, and the Comma: Mathematics of Human Knowledge,” in Joke Brouwer, Sjoerd van Tuinen (eds.), *Accidental Technologies, Technologies of the Accident* (Rotterdam: V2, 2023), pp.82-117. https://v2.nl/wp-content/uploads/2023/06/preview_technological_accidents.pdf (accessed September 22, 2023).

As we well know, everything that might be fabricated in the Platonic oeuvre stands in the service of the dialectic dialogue—and like the Cartesian method of self-instruction, it too is a manner of doing philosophy that aims, before all else, at education and instruction of the self in the service of a truth—that is, in the service of knowledge that is not a good, knowledge as something for which there ought to be no intermediates, no merchants; whether it nevertheless is to be regarded as a kind of property—this is the subject of dispute, especially concerning the communist readings of Plato.¹² But this is not our subject here.

Being informed about the basic strokes drawn in the background of every philosophical rationalism molded according to this template is important because it alone can convey the crucial importance of the Cartesian method as a *universal* method. His project was arguably to offer a universal method that would proceed with qualitative subtlety as the dialectic method does in Platonism. Still, it was not to proceed primarily via words but via mathematical ideation and geometric fabulation. Like this, the Cartesian method sought to proceed without the hierarchical master-pupil relation at work in

12 E.g., Alain Badiou, *Plato's Republic*, trans. Susan Spitzer (New York: Columbia University Press, 2015).

classical dialectics (or the master-slave relation in modern dialectics). Instead, Descartes sought to offer a method for self-instruction that works automatically but requiring the subject's capability to critically, but not entirely detachedly, step beside of itself, that is, through the constitutive employment of instruments of mediacy and through the active self-preparation of acts of mimesis.

The fabrication of such an instrument is at stake with Valéry's interest in *The Method of Leonardo da Vinci*, when he maintains that one can effectively construct such an instrument out of the work of someone whom one admires and wishes to study, such as to "discover in his works ideas which originate in ourselves: we can re-create his thought in the image of our own,"¹³ as he put it. Let us return to it now.

Suppose we admire the work of somebody else, Valéry maintains. In that case, we must at least possess the quality at work in it within ourselves—even if only undeveloped and as a germ. Something can only speak to us if we are already in principle possession of it. Thus far, this would appear to support a non-universalist setup that seeks to keep likeness with likeness, according to a notion of

13 Valéry, 1929, p.31.

order that is not open but conservatively closed. However, let's see how Valéry continues:

But if all the faculties of his mind are widely developed at the same time, or if the results of his activity seem to be considerable in all fields, his character becomes thereby more and more difficult to comprehend in its unity, tends to escape from our efforts to understand it. There are distances from one extremity to another of this intellectual area, such as we have never covered. The continuity of the whole escapes our perception as do formless scraps of space which are divided from each other by objects that we know and which are for us no more than chance intervals; as, at each instant, myriads of facts, over and above the small number established by language, are lost.¹⁴

Instead of disregarding or dwelling on the subjectivist problem of unequally developed intellectual dispositions, Valéry generalizes the problem into one of the scales of nature: “[A]t each instant, myriads of facts, over and above the small number established by language, are lost.”¹⁵ Here, we see his commitment to Cartesian physicalism, which—as we will elaborate later—essentially sought to liberate imagination from psychological theories of faculties purportedly natural specifically to the

14 Ibid.

15 Ibid., p.32.

human soul. Such a physicalism was essential to Descartes insofar as his philosophy was not to compete with theology; it was to complement it within the clear bounds of what regards the world, the domain of life. Valéry continues:

Nevertheless we must go slowly, take time before them and conquer the difficulties that the conjunction of apparently heterogeneous elements lays on our imagination. Every intelligence here gives itself up to inventing a unique order, a single activity, and desires to impose its own image on the system which it imposes on itself—a clear-cut image. With a violence which depends on its range and its lucidity, it finishes by reconquering its own unity, just as by the operation of some mechanism a hypothesis becomes clear and proves itself to be the thing which has made the whole, the central revelation in which all has had to happen, the monstrous intelligence or strange animal which has woven thousands of pure connections between many forms, and of which those puzzling and varied constructions were the creations—instant building its habitation.¹⁶

The mechanist paradigm he adapts lets him speak of instincts generically as one speaks of forces in physics. What appears as a striking hubris of seeking to understand everything through scaling

16 Ibid.

it to proportions of one's own limited dispositions is, in fact, an inversion of direction: acknowledging the greatness of the topic of one's object of admiration is turned into a source for learning to rise to its greatness gradually, step by step. What is more, the method that is at play hereby facilitates the public communication and sharing of what has been wrought through such knowledge-as-self-forming-labor and without claiming any ownership of the gained insight and understanding as a sole truth because it is established *by method*:

The production of the hypothesis is a phenomenon which admits of variations but not of chance. Its value is the value of the logical analysis of which it must be the object. It is the basis of the method with which we are going to occupy ourselves and which we are going to utilize.¹⁷

Consequently, Valéry will state decidedly that even though he says his text is about the method of Leonardo da Vinci, it will not be about the man—but about a miniature model of inference drawn from having sought an intimate encounter with his mind through having engaged with his work; that is, by seeking to find a method that can give unity to the difficulties that the conjunction of apparently

17 Ibid.

heterogeneous elements present in his work lays on one's imagination.

It remains to give a name to this creature of thought in order to set a limit to the elaboration of terms ordinarily too far apart and likely to escape from any attempt to associate them. No name seems to me more suitable than that of Leonardo da Vinci. Whoever imagines a tree to himself must also imagine a sky or a background against which to see it standing. That is logic of a kind that is almost self-evident and almost unrealized. The figure I imagine reduces himself to an inference of this nature. Little of what I say of him must be considered as applicable to the man who has made the name illustrious: I am not following up a coincidence that seems to me impossible to make clear. I am trying to express a point of view with regard to the detail of an intellectual life, to make one suggestion as to the methods which every discovery implies, one chosen amongst the multitude of things that may be imagined, a model, that may well be thought a rough one but in every way preferable to strings of doubtful anecdotes, to commentaries in the catalogues of art collections, to dates—erudition of that sort would only falsify the purely hypothetical aim of this essay.¹⁸

We will not delve into the model of Leonardo da Vinci's method drawn up by Valéry here. Instead,

18 Ibid.

we will pay attention to how the drawing up of such models is, for Valéry, the core skill of the architect: to build with timeless form through mathematical ideation. For this, we need to consider a closer look at the role of *Entwurf* in such ideation.

Massimo Cacciari, the Italian philosopher and former mayor of Venice, has foregrounded the particularly strange act of bracketing time—and keeping it in suspension—that is involved thereby. *Entwurf* is not properly a project, he maintains.¹⁹ As its name suggests, it does not just cast itself ahead and into the future (as does the project)—rather, it casts itself off from something (as its German prefix *Ent-* indicates). It embodies a strange kind of gesturing in abstraction; *Entwurf* embodies the gesture of an act of thinking that *sets itself apart* while at the same time *recollecting itself anew*, being informed by the character of a particular project (from which *Entwurf* is not separable). In light of our context here, I suggest calling such gesturing at work in the act of abstraction, thought-in-act, or *architectonic contemplation*.

Architectonic contemplation is not entirely introverted, like philosophical (or theosophical)

19 Massimo Cacciari, *The Project*, in *The Unpolitical, On the Radical Critique of Political Reason*, trans. by Massimo Verdicchio, New York, Fordham University Press, 2009, pp.122–145.

contemplation tends to be. In *Entwurf*, what is at stake is indeed a strange acting-in-suspended-in-termediacy: it is all about an introverted kind of exteriorization of ideas through picturing not so much the ideas themselves but an aesthetic reality in which they could have a certain lasting presence, a certain duration.

Entwurf does not have a cause exterior to itself, but there is a metaphysical causality at work in it. It needs a milieu in which the gesturing subject does not dwell and is not at home. In short, *Entwurf* needs an ecstatic site where one is not properly oneself—it depends upon participating in an epiphany, the sudden and remarkable happening of a realization. It is involved with a strange sort of “liberating capture,” Cacciari speaks of such a metaphysically challenged (and challenging) stance, namely to be tensely suspended and kept in *stasis*, struggling to find and maintain a stance vis-a-vis eventuality, as the poignant formula of *feeling the pull of the project’s throw*.²⁰ *Entwurf* is about bearing the tension of being pregnant with an idea, a pact with oneself to delay the birth of this idea with the intent to draw stimulation for mathematical ideation from such an act of bearing-with. It is about conceiving *how to work its delivery out* as a world-fitting project.

20 Cacciari, 2009, p.123.

Paradoxically, this involves a certain conspiracy with impotence and death.

Here lies the similarity to Valéry's engagement with the spirit of Leonardo through attending to his work: "Every intelligence here gives itself up to inventing a unique order, a single activity" by searching for a method one has not mastered before "giving oneself up to a system that imposes itself" but which can be found, nevertheless, entirely within one's own "desire to impose its own image on the system which it imposes on itself—a clear-cut image."²¹

*Architectonic Form Originates in Death,
or Eupalinos's Mathematical Ideation*

With another one of Valéry's texts, *Eupalinos or Architecture*, we have a witty and brilliant document that ponders such an idea. To explore architectonic ideation, Valéry draws up a plot involving Socrates and Phaedrus, two well-known figures from the Platonic dialogues. The setup is striking. He has Socrates, master of the dialectic form of verbal dialogue, talk with Phaedrus, the defender of the idea of the soul's immortality and proponent of a distinction between first and second nature. In

21 Valéry, 1929, p.31

Valéry's dramatic piece, they meet each other at a river in the land of the dead. Phaedrus is deemed to have been right in Valéry's reception. He has Socrates say: "This river is the river of Time. It casts only the souls upon this bank, but it carries away everything else without effort."²² But Phaedrus's response strengthens the position Socrates is commonly associated with: "Every instant I imagine that I am going to discern some form, but what I think I have seen never succeeds in awakening the least image in my mind."²³ At this moment, Socrates appears to have been right as well. We are transported to the dramatic site of a contemplation that dwells in doubt, and indeed, we will see shortly that what is at stake in this plot is the question of how a methodical doubt, namely that of how analysis, could possibly be linked up with a situation of standing-besides oneself, with a stance in ecstasy.²⁴ Next, we hear Socrates explaining to Phaedrus how he makes sense of the situation they happen to find themselves in:

That is because you are witnessing the true flow of beings, motionless yourself in death. From this

22 Paul Valéry, "Eupalinos or The Architect," in *Dialogues*, trans. by William McCausland Stewart, New York, Pantheon Books, 1956, pp.65–152, here pp.66–67.

23 Ibid.

24 As Phaedrus recounts the words of Eupalinos. Ibid., pp.86–87.

pure bank, we see all human things and natural forms impelled in accordance with the true speed of their essence. We are like the dreamer, in whose breast, shapes and thoughts being strangely altered by their flight, things and their transformations intermingle and are blent. Here everything is negligible, yet everything counts. Crimes engender immense benefits, and the greatest virtues develop fatal consequences: our judgment settles on nothing, idea becomes sensation before our very eyes, and every man drags after him a chain of monsters inextricably wrought of his acts and the successive forms of his body. I think of the presence and of the habits of mortals in this so fluid stream, and reflect that I was one among them, striving to see all things just as I see them at this very moment. I then placed Wisdom in the eternal station which now is ours. But from here all is unrecognizable. Truth is before us, and we no longer understand anything at all.²⁵

Phaedrus remains in doubt. He remembers, and tells Socrates, how he had once found in Eupalinos, the architect and engineer, a certain “power of Orpheus.”²⁶ The nauseating situation in which they both find themselves (a situation “like that of a dreamer,” in which “everything is negligible, yet everything counts”) can be cleared up through

25 Valéry, 1956, p.67.

26 Ibid., p.70.

this power—and he begins to speak about it as the power of the architect. The architect is supposedly capable of finding a discernment within such a confused presence of truth which involves a peculiar manner of abstracting from all details, such as to keep the memory of a vivid experience effective and alive in what Valéry calls “a mathematical image”²⁷; the power of Orpheus is to ideate mathematically.

What is postulated thereby is the old idea that between the soul and mathematics there is a correspondence—all liveliness may be washed away by the river of time, but if the souls are washed to the shore and can contemplate “the true flow of beings,” this is to be precisely what mathematical ideation is capable of. Socrates is incredulous, even though he knows another power similar in kind. He knows the power of words—and it resides precisely in attending to even the finest details to keep the essence of a thing present. What Phaedrus talks to him about, about this peculiar power of the architect to draw up and realize a mathematical image, sounds bewildering to him: “What enthusiasm of a shade for a phantom!”²⁸ he exclaims amused. “This is because you always wish to draw everything

27 Ibid.

28 Ibid.

out of yourself,”²⁹ Phaedrus replies. The architect’s power to link up analysis with ecstasy by mathematical thinking never aims at fully elucidating and exposing the essence of things—but it does maintain a relation to truth.³⁰ The architect seeks to provide a residence for a truth, such as to grant it a certain duration of being effectively present. His relation to the essence of things is always mediate. But despite the immateriality of mathematical ideation, for the architect, this mediacy is crucially constituted by the body. The idea Valéry develops here conceives the body inversely: the body, usually praised, though not perhaps in Platonist philosophy but certainly in philosophies of empiricism, phenomenology and aesthetics for granting a certain immediacy to experience, is precious here for the architect *because* it grants a mediacy. This mediacy relies upon a *via negativa* to one’s own body; indeed, the body becomes an “admirable instrument”³¹—and through that, a site of ecstasy. What a marvelous substance we are made of, Phaedrus

29 Ibid., p.79.

30 The architect’s relation to truth appears in the first part of Valéry’s text to be quite different from that of words, of which the philosopher is in command, yet this contrast transforms later on in the text. For reasons of length, I will not elaborate on the full scope of Valéry’s argument in this discussion here.

31 Ibid., p.90.

recounts the words of Eupalinos.³² Furthermore, we learn through this substance that we participate in what we see and touch: We are stones, we are trees, and we “exchange contacts and breaths with the matter that englobes” us.³³ Bodies are a site of ecstasy to the architect because the soul and nature interpenetrate in our bodies. This interpenetration is what is capable of hosting a speculative site that stands beside oneself:

Bodies touch, they are touched; they have and lift weight; they move, and carry their virtues and vices about; and when they fall into a reverie or into indefinite sleep, they reproduce the nature of waters, they turn into sand and clouds,... on other occasions they store up thunderbolts and hurl them abroad.³⁴

Such standing beside oneself is not a question of either or. Rather there is a graduality to it, and this is crucial. Training to connect with the capacity of the body to facilitate such gradual ecstasy, “[I]t is necessary to abstract oneself from the spells of life and from immediate enjoyment, even if for this purpose we must make a stern effort against ourselves.”³⁵ To make a stern effort against oneself

32 Valéry, 1956.

33 Ibid.

34 Ibid.

35 Ibid., pp.85–86.

means apportioning one's attentions. It is about arranging problems in various speculative orders, for "[T]here is a commerce between your acts and your latest observations."³⁶ This commerce allows to endow experiences with a lasting presence in architectonic form that originates in ultimate impotence, in death.³⁷ The architect's act of conception involves the body in this way—the body, if it conspires with the (immortal) soul, can recall the soul back to reality “as the anchor calls back the ship.”³⁸ Let's cite the passage in full which elaborates on this mystic instrumentality of the body:

But I ... say in the full light, I repeat to myself with every dawn: “O body of mine, that recallest to me at every moment this tempering of my tendencies, this equilibrium of thy organs, these true proportions of thy part, which make thee to be and to stablish thyself ever anew in the very heart of moving things; keep watch over my work; teach me secretly the demand of nature, and impart to me that great art, with which though art endowed even as by it thou art made, of surviving the seasons, and of saving thee from the incidents of change. Grant me to find in thy alliance the feeling of what is true; temper, strengthen, and confirm my thoughts. Perishable as though art, though art

36 *Ibid.*, p.86.

37 *Ibid.*, p.89.

38 *Ibid.*, p.91.

far less so than my dreams. Though endurest a little longer than a fancy; though payest for my acts, and dost expiate my errors. Instrument though, of life, though art for each one of us the sole being which can be compared with the universe. The entire sphere always has thee for a centre. O mutual object of the attention of all the starry heavens! Thou art indeed the measure of the world, of which my soul presents me with the shell alone. She knows it to be without depths, and knows it to so little purpose that she sometimes would class it among her dreams; she doubts the sun ... Doting on her ephemeral fabrications, she thinks herself capable of an infinity of fabrications, she thinks herself capable of an infinity of different realities; she imagines that other worlds exist, but thou recallest her to thyself, as the anchor calls back the ship ...³⁹

Soul and body form an alliance in architectonic conception. When asked if this power involves conception, Eupalinos responds “Yes and no. Yes as a dream. No, as a science ... It is not in my power to link up, as I ought, an analysis with an ecstasy.”⁴⁰ Conception here is, quite bodily, an act where the powers of abstraction and imagination are being summoned “from the great desire” and “naively formed of the extreme expectation of my soul” —

39 Ibid., pp.91–92.

40 Ibid., p.87.

only to then “interrupt the very birth of Ideas,” through apportioning attention, arranging a problem in another order, and again, another order. Yet despite this violent effort to go against one’s immediate inclination (namely to dwell or realize an idea right away), the act of conception cannot be willed. It is an erotic act. Even though entirely within one’s head, it is of bodily intensity, experience, gesture. Valéry describes it thus:

When it makes its presence known, dear Phaedrus, I am already as different from myself as a tightened string differs from itself when loose and sinuous. I am quite other than what I am. All is clear and seems easy. Then my schemes follow their own course and are preserved in a light that is mine. I feel my need of beauty, proportionate to my unknown resources, engendering of itself alone forms that give it satisfaction. I desire with my whole being ... the powers assemble. The powers of the soul, as you know, come strangely up out of the nights ... By force of illusion they advance to the very borders of the real. I summon them, I adjure them by my silence ... Here they come, charged with clarity and with error. The true, the false shine equally in their eyes, on their diadems. They crush me with their gifts, they besiege me with their wings ... Phaedrus, here lies the peril. It is the most difficult thing in the world.⁴¹

41 Ibid., p.88.

We can see now how mathematical images are thought by Valéry to be composed—by a kind of natural, physical communication: These “mysterious and overbountiful favors,” he says, “I must arrest them, O Phaedrus, and they must await my signal.”⁴² Having obtained them by interruption of his life, he still forces himself “to divide the indivisible and to temper and interrupt the very birth of Ideas.”⁴³ What this yields is freedom, he says.⁴⁴ Freedom to do *Entwurf*. Body and mind, this “finite and this infinite which we bring with us, each in accordance with his nature, must now unite in a well-ordered structure.”⁴⁵ And if they work in concert, if they “interchange fitness and grace, beauty and lastingness, if they barter movements for lines and numbers for thoughts, they will then have discovered their true relationship, their act. ... Stones and forces, outlines and masses, lights and shadows, artificial groupings, the illusions of perspective and the realities of gravity, all these are the object of their commerce.”⁴⁶ *Entwurf* is about drawing up “the profile of this commerce” such that it captures in its externalization of such interiority—the interiority

42 Valéry, 1956.

43 Ibid., p.88.

44 Ibid.

45 Ibid., p.86.

46 Ibid., p.91.

built up by linking analysis with ecstasy, without being able to say how—the richness of the architectural act of contemplation as “incorruptible wealth,” as the edification of a mathematical image.

With this, we have a context now to turn to René Descartes, to approach his text “Discourse on Method” from the angle of the *Entwurf*. Descartes, too was, essentially concerned with a method that could establish a mediate relation between knowledge and the world.

René Descartes’s Entwurf of the Method

Descartes’s text on method was published in 2013 for the first time in its original context in a German translation in an edition published and introduced by Christian Wohlers under the title *Entwurf der Methode*.⁴⁷ This founding text of modern rationalism is presented with its complements by three so-called probes (*Essais*) that demonstrate what this proposed universal method can accomplish (how it can guide reason in the pursuit of scientific truth). The three *probes* (essays) were on *dioptra*, *meteora*, and *geometry*. The field of *dioptra* concerns sight *rendered* relative to optical instruments. That of *me-*

47 René Descartes, *Entwurf der Methode, mit der Dioptrik, den Meteoren und der Geometrie*, trans. Christian Wohlers, Hamburg, Felix Meiner, 2013.

teora involves singular and unsteady weather phenomena like lightning or rainbows, earthquakes or meteorites. And geometry, well, geometry was usually *more geometrico*, a method thought to work deductively, by proceeding from Euclidean axioms; however, this is not so in Descartes, where geometry is, instead, treated algebraically. It acts as a field of science wherein “there are truths to be found,” as well as the source of provision for deductive methods. It has often been highlighted that Descartes introduced an analytic employment of geometry, but its algebraic constitution (codification) has seldom been accentuated. Yet, it is crucial to see how his method follows and directs the codification of statements in all three domains here, which act as exemplary probes to illustrate the workings of his universal method. In all three fields which Descartes chose, we are confronted with what could be called edifices of codification concerning the natural laws at work within those fields. What is more, all three fields articulate and organize, explicitly so, the treatment of light. This would perhaps not appear so significant, if Descartes had not called the book, of which this was to be a miniature version in disguise, *The World* by the subtitle of *A Treatise on Light*.

... and the Ethics of its Discourse (an Impredicative Method that has “Nothing” to Teach)

I will try to demonstrate a reading of Descartes that understands the proposed method as one of self-instruction in the service of intellectual craftsmanship.⁴⁸ It is a method that takes no object exterior to itself. Rather, the path it paths leads circularly back to the agency that makes use of it. It is a method that would not do its job if it were not used in a self-referential and self-informing manner. This expresses Descartes’s concern with academic approaches to pedagogy that rely on faculty psychology⁴⁹ and that “understand[s] the imagination as an empty vessel to be filled.”⁵⁰ Cartesian imagination is not an empty vessel, it is a plenum from which the right conduct of one’s reason knows how to subtract what must be omitted—not by taboo, but by submission to the law at work in nature as a political withholding power. The fact that both texts, the “Discourse on Methods” as well as *The World*, are written in the tone and form of an autobiographical fable, then,

48 Cf. James Griffith, *Fable, Method, and Imagination in Descartes*, London, Palgrave Macmillan, 2018.

49 *The Great French Encyclopedia*, by d’Alembert and Diderot, famously organized all its entries according to such three faculties of the human mind, namely *memoire* (memory), *raison* (reason), *imagination* (imagination).

50 Griffith, 2018, p.137.

wants less to emphasize the subjective bias inherent to all methodical reason, than to facilitate a methodical manner of setting free the capacity to imagine—so that it can move and quicken thought not by fancy, but objectively and reasonably so. In his recent book *Fable, Method, and Imagination in Descartes*, James Griffith elaborates: “[T]he imagination necessarily remains, to some degree, distinct from the mind, which is why fables, histories, dialogs, and so on can have the effect of deforming and reforming the mind at all.”⁵¹ Griffith rightly argues that an analytical method is preferable to Descartes over synthetic methods because the latter requires that those who practice synthetic forms of reasoning can only come to a true conclusion if “they are already in possession of the substance of the conclusion.”⁵² Descartes needs to maintain that there be a universal architectonics, to set the imagination free from 1) its heavy footed and immobile clumsiness (that comes from thought being naturally flooded of plenty of imagination, with no training in distinguishing between clarity and obscurity, and hence in keeping flashes of imagination at bay, while submitting—to—concentrating, partitioning attention to—others) and 2) from any

51 Ibid., p.147.

52 Ibid., p.125.

one particular notion of psychology that was to be legitimated in applying its dogma indisputably.⁵³ The power or the force of the imagination is to imagine the limits of the imagination, Griffith argues. For Descartes, the imagination imagines the imaginable in imagining the unimaginable.⁵⁴

Is this not a reasoning that proceeds *subtractively* and *via negativa* quite similarly to the one associated with the gesture of *Entwurf*, which we saw with Massimo Cacciari? How would Cartesian rationalism present itself if we considered his architectonics universal and committed to just such a gesture of *Entwurf*—as feeling the pull of its [project’s] throw? The pursuit of its method in the sciences would manifest in great variety of manners, and multifarious ways—it would be capable of *rendering* demonstrations of the world in disjunctive regularities, that nevertheless are to be respected as being of one (universal) kind. Griffith elaborates that the imagination is the driving force for both fable and light, which allows for experience and comprehension. “The experience of light, the motion that generates and maintains motion in the

53 This very conflict with respect to a perfect regularity that would set a soul in motion, hence a notion of measurable beauty, is elaborated in Paul Valéry, *Dance and the Soul*; although Valéry makes no relation to Descartes.

54 Griffith, 2018, p.145.

world, is interpretable, and so the world itself is interpretable” because the imagination supposes the order of the world, of the body, to operate with a machine-like regularity. It is a regularity that the imagination “perceives” via fabulation through the sensory organs: “The fable is the inaugurating, regulated and regulating, motion of the mind that would imagine the world to have regularity,”⁵⁵ and fabulation depends upon architectonic ideation, capable of imagining what Valéry calls *mathematical pictures*. Descartes’s book *The World* takes the form of a fable, but it needs to be regarded as a fable of objective and natural imagination because the way it is scripted and contemplated is mediated by the algebraic renderings of analytical geometry. There is a method to such fabulation, yet the fable is a rhetorical form. It has morals, it is biased and inclined in one direction or another. What Descartes develops, hence, is a strange thing: It is an impredicative method, the method of a kind of quantitative contemplation. To our ears today this sounds like a contradiction in terms, but this is—if we read Descartes as living up to what the architectonic gesture of *Entwurf* entails—precisely what makes him such an architectonic thinker. The nature at stake with such a method is that it is capable of

55 Ibid.

transcribing, of converting, *light into imagination and imagination into light* without ever hoping to terminally settle the methodic equation for good; doing the algebra in such a convertive equation (between light and imagination) articulates the terms in a codified manner: In Descartes's case, it is the co-habitation of the differently fashioned truths, each of universality but also inevitably subject to dogma in science. What the universal method facilitates is a practical dogmatics whose conflicting aspiration depends upon being sustained by an intellectual kind of craftsmanship. Could it be that Descartes's rationalism was in the service of how moral grounds can be respected and treated with the greatest possible adequacy, rather than establishing a program of normative clarification? Could it be that his rationalism can show us a way of respecting, in science too, the inevitably moral grounds—whereby a *practical* (not a theoretical) dogmatics can help proceed with the greatest possible adequacy for making cases out of singular events?

At the risk of overstretching this point perhaps: Descartes seems to have been thinking of his method in terms of algebra, as a kind of physico-mathematical “communication.” His *mathesis* involved an explicit awareness of code's role in lan-

guage and mathematics. His “rationalism” seems to have not yet broken with the ancient tradition that relates mathematics to learning; the Greek *mathēma* equates to “that which is learnt.”⁵⁶ What he “finds” in the sources from Antiquity, which he names for his *universal method* (especially Pappos and Diophant), requires acts of deciphering, as he writes, it “cannot simply be read in the works of the mathematicians of antiquity.”⁵⁷ It appears to have been through the *codification* of meaning, by placing meaning as the algebraic X in the place of the unknown variable, that we have to think of the mechanist and instrumental manner of reasoning in which his method began to propagate. Instruments, then, are not to replace the role of perception; they are to augment perception and to establish a publicness for knowledge so edified.⁵⁸ Descartes himself thought that the mathematicians in the past “must have made a kind of pact” to keep their true methods from their readers and the world posterior to them.⁵⁹ Mathematics, for

56 From *manthanein* “to learn.”

57 Christian Wohler, “Einleitung,” in *René Descartes. Entwurf der Methode: Mit der Dioptrik, den Meteoren und der Geometrie*, Hamburg, Felix Meiner, 2013, kindle edition.

58 This also resonates with the reading which Simone Weil gives of Descartes, in her thesis “Science and Perception in Descartes,” in *Formative Writings*, London, Routledge, 2009.

59 Wohler, 2013, p.ix.

Descartes, involved an intellectual inwardness or relation to meaning, like dialectics does. His critique against the said “pact” of the mathematicians prior to his own time perhaps targets the occultist or hermetic gesture of building secret societies, based on politically motivated and instituted “rites” of initiation.

Descartes, then, would appear like the propagator of an “open” science. This is the line this chapter wants to incite. If this were so, how would Descartes have conceived of this “openness”? As a political terrain, I will argue.

Omitting La vray nature de la lumière from Any Description: Fabulating the Plenum Spatium for an Open World

The argument I wish to pursue in the following is that Descartes was indeed committed to such a notion of openness. I propose that he was thinking of the encrypted content, which his universal method is to range over, through the framing of a codified exegesis, as a form of juridical dogmatics with respect to the natural laws at work in physics. In his algebraic method, what is spelled out within the reservations kept by brackets is meaning fashioned by dogma; meaning accommodated in “settled opinion, a principle held as being firmly

established.”⁶⁰ What I wish to consider is that, and how, Descartes was proposing an architectonics of the world in the light of the laws of nature—laws which are to contract the pursuit of science as a geo-philosophical practice; science set apart (separated) from the culturally specific enactment of theological, religious, or political codes.

In the sixth chapter of *The Treatise on Light*, he asks his readers to imagine a new world “very easy to know, but nevertheless similar to our” consisting of an indefinite space filled everywhere with “real, perfectly solid” matter, divisible “into as many parts and shapes as we can imagine.”⁶¹ Of this world he postulates that “from the first instant of creation”- God “causes some [parts] to start moving in one direction and others in another, some faster and others slower” and that subsequently “He causes them to continue moving thereafter in accordance with the ordinary laws of nature.”⁶² This world model for Descartes is imaginary, a physics common to all things and all beings, for which there exists divine law (universal nature) and ordinary laws of nature (locally diverse, geographic conditions of natural law). Descartes is very conscious about the model

60 From Latin *dogma* “philosophical tenet,” from Greek *dogma* for “opinion, tenet,” literally “that which one thinks is true.”

61 McDonough, 2015, p.1.

62 Ibid.

character of his approach: he wants to begin with a description of light, he says, but he also tells us that he will omit something from this description: namely the “true nature [*vray quelle est sa nature*] of light.”⁶³ The omission of saying anything about the true nature of light is why Descartes speaks of a natural geometry, in distinction to reasoning helped by mechanical instruments. The “nature” that geometry measures is the “nature of light,” which can never be fully adequately described. Descriptions achieved using geometry always tell us about the world’s order—and not a supposed order of universal nature itself.

The new world Descartes is inviting his readers to imagine is a *plenum*, a notion Descartes takes from Aristotle for whom it meant a *plenum spatium*—a space exhaustingly filled with things. For Aristotle, it contrasted the notion of a vacuum, an empty and centrally coordinated space, in which all things are thought to find a place. In the tradition of philosophy, this pair of notions stands for the problem of action, of the origin of movement. It is, arguably, this problem that Descartes wants to treat physically, with his mechanistic rationalism that was to be independent of any particular psychology (theory of the principal seat of animation, namely

63 Griffith, 2018, p.138.

the soul). Descartes wins such independence by liberating imagination from the accounts of it in faculty psychology. He treats the imagination like he treats the “true nature of light;” he does not seek to explain them, instead, he treats them cryptically and starts with their objective givenness. The abstract model of his plenum-vacuum distinction is considered an algebraic model that consolidates the polarizing role of the vacuum (when admitted to play a role in science). For theological sensibilities admitting the vacuum is scandalous because it admits to the possibility of God’s rule being absent. But, in conflict with this, algebra—the core of modern metrical methods, introduced the symbolization of the zero as a placeholder for precisely this. The employment of the symbol zero in modern mathematics almost inevitably raised associations to the theological problem of the vacuum. Descartes admitted to the algebraic employment of the zero, but only virtually so by saying that “God caused some [parts] to start moving in one direction and others in another, some faster and others slower,” he introduced “cracks” into the indefinite space of the plenum. We should think of this imaginary world (the plenum) such that light, in its material *Stofflichkeit* (physics of light), keeps ceaselessly filling up these cracks, he tells us, such that there

never is *actual* empty space. Such cyclical dynamics is well known from mechanical instruments, for the construction of the location for an algebraic point zero—a virtual fulcrum—is also decisive. With his mechanistic worldview, Descartes invented an architectonics of the world that can maintain that the true nature of the world is rule based (light, God’s causation), but also rule generating (imagination constrained by optical devices, generating local geographies of “ordinary” laws).

The world Descartes is describing begins with light being there. It does not need any explanations as to where from or how; but it also does not prevent theological speculations with respect to this. It abstains from wanting to say anything about creation. Descartes’s natural philosophy breaks with the assumption that it should or could give comprehensive and exhaustive accounts of what is. Its accounts are based on regularity and relative precision—and hence reasonable and mechanically reproducible accounts. This world still finds comfort within a cosmos of universal law and nature, but knowledge that belongs to it must be knowledge dwelling in an element of doubt. *Method*, then, becomes something which allows one *to keep with doubt*, a state of mind that can bear with always being of a split mind.

Method does not *lead* us anywhere that could already be located on a map. And yet it delivers the one who follows it somewhere—into exposure of a self to openness.

*Coda. Diachronicity, Politics and
Architectonic Constitutions*

Descartes's universal method has nothing in particular to teach, I argued; now we can better see why: because it allows to build the self of such self-instructive and autobiographical fabulation, in building the self that proceeds by it *subtractively* and *discretely*, on the grounds of architectonic ideation.

In what came to be the founding document of Bauhaus, Walter Gropius wrote, "The idea of today's world is already clearly in sight, yet its Gestalt is still unclear and confused."⁶⁴ The "old and dualist world picture, the self—counter to the All (universe)—is fading," he continues. In its stead, the idea of today's world bears "the thought of a novel world unity within itself," in which "all oppositional tension is in absolute balance." Gropius spoke about "a dawning understanding of unity of all things and appearances." He thought this unity could lend "a common and profound *worth* to work

64 Walter Gropius, *Idee und Aufbau des Staatlichen Bauhauses*, Munich, Bauhausverlag, 1923; here my own translation.

[*Arbeit*]”—work which would manifest our universal innermost being. Bauhaus was inspired to think that the meaning of this work thereby becomes self-referential, as self and All (universe) no longer form a dualism. Both are supposed to crystallize in “work” and manifest in what “work” can produce. One hundred years later, this Bauhaus vision is painfully present in the now current discussion on the “post-political” condition.⁶⁵

The notion of public space has always sought to address what is indispensable, indisposable, and at the same time, from an economic standpoint, unsalvageable. Indeed, the room for the stranger turns a village into a city. It is also through such hospitality that the notion of the public can never rid itself from its ties to the sacred. Today, this latter aspect is not properly named, and arguably presents itself hidden in the themes of safety and pollution.⁶⁶ The current lines of interest in spatial culture discourses consume themselves in asking how public space could be thought of relationally, and this without it dissolving into urban space or lived space—that is, space conditioned by economy and particularist interest; space as itself but as a

65 E.g., Chantal Mouffe, *On the Political*, Abingdon, Routledge, 2005.

66 Mary Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*, New York, Routledge, 1966.

product, one commodity to be socially produced along with all other commodities. The Bauhaus vision, viewed in today's light, confronts us with a connection to vanity inherent in its aspired universalism. If today there is a project underway to found a New European Bauhaus, we must ask ourselves with the following in mind: What does it mean to be European? Is the New European Bauhaus speaking about a "citizenship of the universe," understood as an a-territorial kind of citizenship? If so, how can the complete de-politicization implicit in this formulation be prevented?

Cartesian rationalism is European in the sense that it is coined by a cultural set-up that affirms its struggle to keep with differences, a culture that lives from giving authority to inventive but reasonable systematics over any one particular and local tradition and custom.

European culture in this sense is a culture that admits to the necessity of change, without trivializing the metaphysical implications of this issue. The initiative of building a New European Bauhaus is so timely today because like in Descartes's own time, we are challenged with a similar set-up that needs to affirm its own struggle to keep with difference to cultivate diversity. Here lies the crux: it cannot be about a universal citizenship; it is about a universal

culture. How and what kind of “culture” can “grow” from the pursuit of rationalism in and along an impredicative universal method? It is here that we can truly see the importance of such a rationalism: Because the explication of the *Entwurf* of method *contracts* responsibility without legitimizing its own validity. It makes subjects properly *nameable* (proper names, “proper” relative to contracted objectivity), and it makes objects *addressable* (somewhere within the spectrum between global and local, singularly relative to the contracted (named) subjectivity). In that sense, the rationalism of a universal method *constitutes* a publicness of space that is a-territorial, but geo-philosophical. Common sense may well be what is given to start from,⁶⁷ but it is not per se in any proportion to a particular nature of the human, or psychology of faculties. For Descartes, common sense is *therefore* given in the terms of a *physics*—a physics of light where-with a plentiful imagination, that dwells in an element of doubt, is capable of learning imagining the edification of reasonable intellection. This is what the world is all about, for the geo-philosophy of a Cartesian rationalism. The subtractive education at

67 As Descartes begins his “Discourse on Method,” some translations work with “good sense” and others with “common sense;” the French original is “bon sens,” the German translation is usually “gesunder Menschenverstand.”

stake with Descartes's universal method is self-instructive education that serves the rendering of all the diverse dogma of "common sense" back to a comprehensive dogmatics of universal culture—a dogmatics that lives in *practice*, not in theory. The equality at stake with Cartesian discourse-as-*Entwurf* needs to be actively sought for each situation where ordinariness gets into trouble. The equality at stake can never be settled; a sense of equality can never be assured of itself—it must be actively and delicately maintained. We can see now how the importance of natural laws for Cartesian philosophy is perhaps precisely to *unsettle* any notion of justice or equality that would claim for itself to dwell in an element of righteousness. In this role, natural law can be an analytical "foundation" for civic law.

But where, then, does the generic cogito of such a rationalism "dwell"? To imagine this, in a way that were adequate—proportionate, in the sense of co-efficient with—the effective abstractions at work in our science and technology today, as did Plato with the *Timeaus*, as did Descartes with his imaginary world as a *Plenum* with cracks. Our time too needs to fabulate architectonic tales in a metaphysical gesture. Mathematics thereby is not our enemy; it is our unobtrusive guide. Elias Zafiris, a mathematician and theoretical physicist,

has recently written on the importance of what he calls “an involution for architects”—a turning outside-in, an inverse movement to that of evolution. What he has in mind thereby is a re-gaining of self-consciousness that leads out of the currently submissive and self-destructive relation architecture maintains with technology. This relation is arguably due to a separation between the liberal arts and the polytechnical disciplines (and their respective mentalities), instituted throughout the 18th century.

Contrary to what this division suggested, mathematical thinking works in both. Zafiris tells us how we can think of this: “The two most predominant characteristics of mathematical thinking is abstraction and diachronic validity,” he emphasizes. “By the former we understand a process of percolation, which allows the filtering out of all irrelevant details pertaining to a particular problem, so that the invariants are eventually revealed. It is precisely the latter that enunciate the diachronic validity of mathematical thinking.”⁶⁸

With this peculiar relation that only mathematics can maintain to time, the New European Bauhaus can counter the direction its former version

68 Elias Zafiris, *Mathematical Thinking: An Involution for Architects*, Vienna, TU Academic Press, 2024 (Forthcoming).

ended up taking, namely, to fill up the world with goods and commodities drawn from inside (the self) out, delivered into the world. The New European Bauhaus would be about the interiorization of All into the selves—to bring about and care again for something indisposable, unsalvageable but also indispensable, thereby reinventing architectonic constitutions for a politics of universal culture.

Once Upon the Autonomy of Words

One exposes oneself when one makes, one imposes oneself when one unmakes. When one unmakes, one is never wrong, in effect. I know of no better way to always be right.

—Michel Serres,
The Troubadour of Knowledge, 1997.

What does it take to engage with words by way of interest in the experience they seek to convey—not the rationalized meaning they are said to grasp? From the reality of experience, our words seem to keep only what has been rationalized of the experienced richness they articulate.

By urging for the autonomy of words, I am not talking about the autonomy of the aesthetic, which we are all too well used to position and reserve “there,” there on the other side of reason, intellection, and rationality. I would like to talk about the autonomy of words, which is to say, I wish to speak

of the silence which words make graspable. It is a kind of silence that gives birth to experience, and the thought I want to ponder is that this silence is constituted intellectually and architectonically. I am interested in a kind of autonomy that cannot be positioned against something, an autonomy where affirmation, as a certain kind of surrendering, sets itself and the thing to which it surrenders free. This sounds paradoxical, but if given the scope of passing time that affects the experience of a thesis that seems, on first impression, imponderable, in such a scope of passing time within which multiple encounters are possible without stopping at an integral summation, paradoxes can very well be reasoned. It is just impossible to reason them exhaustively. Who would deny that even formulated paradoxes convey meaning in some way? Nevertheless, engaging with the autonomy of words is not something one can “try out.” One needs to act in surrender to it. As such, as an act, surrender is whole and real, or it is not at all. We need to surrender to the words that we have and to those which we don’t have—not only those of which we accept that they do or might well exist even if oneself does not live with them, do not hear their talks in one’s thoughts, but also to those of which we find it hard to grant even this. the words of a language can always say

“it” all; they are not right or wrong—they can. They are of a sensible and intelligible puissance that is intransitive, like the action which we are used to grant to certain verbs only, as to snow, or to rain, or to exist. Intransitive words are impertinent; they manifest a leaky kind of withholding power.

What does it take to engage with words by way of interest in the actual experience they are capable of conveying, and how to think about the domain of “experience”? Where can experience “live”? Where does one find oneself when the act of surrendering to the autonomy of words sets us free in a manner we all know well from things of which we say that we know about them from experience, that is intuitively and positively but not fully rationalized, without knowing how to convey it adequately?

To surrender must be an act; it cannot be tried out. But this is only if we keep this act in the domain of pure time, where all this act could ever produce would be consequences, something that follows from it, and hence is derivative to it. An act of surrender in time cannot provide emancipation; it inevitably yields subjugation. But can one think of an act of surrender in space? I don’t mean in the theatre, on a stage, protected by an “as if” in an unambiguous location. With autonomous words, I am not talking about action words (verbs); I am talking

about words standing still in the active space within which action words take place and do what they do (have an impact, affect things). In space, the act of surrender does not meet with consequences; it meets with contingencies. An act of surrender in space is not being followed by anything that would originate in this act; rather, it is being touched upon by what has already been there. It is a kind of emancipation that comes at the cost of paying the price of not laying claim to being “original” and “creative.” Asking how one could think about the act of surrender in space is asking if there can be a form to the act and if there can be something impersonal about it. Can there be something general at work in an act? The motivic interest hereby is to prompt formally how something can be touched upon by what is already there. What follows is a chain of tropes, each seeking to grasp through providing aspects of what such an act conveys, namely, an unlikely kind of likelihood. The following tropes are neither meant to be lyric nor prosaic; they are meant to accommodate communicatively by conversing with one another in an impertinent manner through quantum entanglements between locality, globality, and generality as different abstract aspects of one and the same actuality—an actuality, as I im-

agine, where naturing affairs of any sort have long
been breeding, breathing, and inhabiting.

Local.

*The Talk of things in Statuesque Words
(Words that Are Written)*

How can one think
how can one be in thinking,
comprehended within
an act of surrendering in space?
One would have to listen
exclusively,
without picturing anything,
to an act's actuality.

All would depend upon
not being captivated
by what the act's decidedness
appears to entail in the countable time
that one keeps in the imagination.

For one cannot see an act in space.
Bare of time, the form of an act is pre-specific.
One can also not locate it,
being pre-specific,
the form of an act is also pre-topical.

If one were to think the act of surrender in space,
one needed to think the act's form.

Action words are of a magnitude of their own;
they are not just passing in time.

What is the *sine qua non*—the pedestal—
for an act in time

(namely, to be whole and real,
entirely decided, or not to be at all)
is precisely what lacks for itself
what it is to give in space (namely support).

Can this lacking, this incapacity to support,
this impertinence proper to
action as a magnitude,
be collected?

Is there a way to collect this leaking
in a kind of reservoir, within a mold,
for encyclopaedic, or perhaps better, entropic and
lake-o-paedic pre-topicalities
and pre-specific subject matters?

A glyptotheque of statues,
standing stills of experience under water,
named by words only when speaking
in their silently autonomous terms,
each rendering present something that has been,
is no longer and yet still lasts, “here”—
leaking through the transparent and

distortive plane
of a water surface that is never really
entirely “still.”

Encountering the autonomy of words does not
make one capable of presenting what they grasp.
Surrendering to it means giving them up. It means
crossing a line. It means “to deliver over” and also
“to render,” that is, “to give back” to the words that
one thinks it is that they grasp and keep through
time. Respecting the autonomy of words is to give
them back what has always already been, apparent-
ly, their proper content.

Global.

The Cosmocratic Speech in a Quantum City

A form is what has autonomy
all by itself.

Forms know how to convert
the necessary into a virtue.

This is why forms don't live in time.
they articulate space by facilitating roundabouts,
rotations, through which they project
from the plenitude of time into space,

by organizing and containing
something that is capable of aging.

Forms breathe into extension
what is about to take place.
they contain massive tension
by way of rendering it exterior and lasting,
like words contain vibrating breath
in an exterior manner
by way of sounding and articulating this breath.

Can one perhaps think
an act of surrender in space rather than in time
through granting words decisiveness,
a referential illustriousness,
a formal kind of autonomy that is to be
—by apparent paradox—entirely their own?

Can one engender through thinking
instruments that are capable of sounding
the domain of exteriority, which words engender?
By assuming it is the same domain of extension
into which forms breathe their massive tensions,
—can we sound the world in which words are real
and silently live a ghastly life of their own?

What if only the autonomy of words,
on condition of being credited, recognized,
were capable of informing the act

of surrendering in space,
and thereby providing this act
with an aspect of form
that sets it free?

If there is formality to an act of surrender,
then perhaps words can present themselves
for the first time
in a manner that can be adequate for words.
They would be anarchic and yet civic acts—
acts of building, not of developing.

Architecture is where adequacy
is always already coded cryptographically.
Therefore, adequacy here is always at once
decisive as well as referential,
and it is inexhaustible,
the source as well as the means
of all acceptable measures taken or given.

In time, an act cannot be tried out.
It needs to happen, or it is not.
In space, an act cannot be anything
else but a trial,
because it must fulfill itself.

But what does it entail to say
that an act is to fulfill itself in space
in order to incarnate autonomy through time,

rather than to realize itself fully
in an immediate present?

If an act is to fulfil itself in space
through articulating a void
its subject needs to comprehend itself anew.

In space, an act is not followed by consequences,
it is being touched upon by contingencies.
It is facing up, not looking up,
to the autonomy of the words which it
surrenders to.

General.

Architectonic Form, Action as a Magnitude

Architecture is fulfilling, paradoxically, through articulating voids. It articulates voids by conjugating an interplay between six words in a delicate balance, as if in the contrapposto pose of a statue—yet one that is lacking its pedestal, its elevated means of support. Let's say each of these six words here is not a statue but its inverse, and let's say that the inverse to a word is a concept (*ein Begriff*, in German). The six concepts then are algorithms that work upon data that constitute syntactically how a lively

experience can be kept in memory. With its conjugated interplay, architecture strives to meet as well as it can an invariant and tripodical aim: namely, to educate and temper the insatiably active (because consumptive as well as gratifying) fulfillment of three cryptic civic values: *utilitas*, *venustas*, and *firmitas*. These cryptic values become cryptographic articulations of cosmocratic speech that strive to be *adequate*, without knowing how to, in singularly composite ways, to each particular building project. Those six concepts, which were put into the spotlight for the first time by Vitruvius (or so the legend goes), render aspects of an act in space. They are concepts and not words because they treat the act in general. They are the following:

Eurythmia

the building must be of rhythmical order,
well proportioned.

Under this aspect, a building must relate
four quantities

A : B as C : D

in harmonious manner.

This aspect of the act gives grace to a building.

Proportion is reasoned here
in terms of harmonic means.

Ordinato

A building must translate
the harmonic (*eurythmia*)
to the geometric.

What this aspect of the act refers to
arranges the rhythms
of the harmonious proportioning
in a constellation,
by indexing the rhythmic movements
of an abstract order
capable of expressing the constellation.

This aspect of the act builds upon proportion
and it results in symmetry.
Proportion is reasoned here
in terms of arithmetic means.

Disposito

How *ordinato* and *eurythmia* in a building
are to result in symmetry
is to be pictured and planned
in the disposition of a building's parts,
by simulating its dimensions.

This aspect of the act that constitutes a building,
listened to as an act of surrender in space
is to give a building elegance,
tastefulness and distinction.

Proportion here is reasoned
in terms of geometric means.

Symmetria

this aspect of the act consists in dimension.

It incarnates the *ordinato*,
and also the *disposito*, and *eurythmia* as-
pects of the act.

By its results, the act maintains itself in a
delicate balance,

a contrapposto pose with no support ex-
terior to itself

in the cryptic but rational
organisation of all parts.

Decorum

this aspect of the act refers to the propriety
of the symmetry,

to how the incarnated cryptic rationale
comports itself

through the passing of time autonomously.

Autonomously, that is to say
either by keeping discretely with
proportion considered as analogy
either to nature as an organic whole
or to the cosmos as an ordered whole.

The comport of itself by means
of keeping discretely apart from
but also with the temptingly promised
continuity of an analogy
is to respect by challenging forth
the established customs and morals.

Such comporting of a building
depends upon
metaphysical gestures.

Distributio

this aspect of the act of surrender in space
that constitutes the architectonics of a building
is also called *oikonomia*.

It refers to a reasonable balance of
costs and yieldings
for the particular building project.

Distributo conjugates the domesticity of a building
with its public persona, its visible face in
the quantum city

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