

From Knowledge to Ontological Awakening: Thinking Nature as Relatedness

To Alan, a great mentor, friend and mountain whisperer

Introduction

Many environmental scholars and activists have suggested the need of a profound shift of consciousness when it comes to our relationships with Nature (Naess 2008, Merchant 2005, Mathews 2005, Eckersley 2003, Goldsmith 1996). In addition of greening our political ideas, institutions and technologies, they suggest that we need to critically engage the paradigms by which we conceive Nature. The task of clarifying what we mean by Nature has however become increasingly difficult due to the supremacy of an epistemology hostile to metaphysical reflections (Hay 2007, Marsh and Furlong 2002), and the spread of a constructivist and relativistic understanding of the many ways in which humans comprehend Nature (Daly 2008, Dingler 2005, Soper 1995, Meyer 2001). Answering what Nature is has become a daring question, not only because of the supremacy of an epistemology increasingly de-anchored from ontology, but also following the various abuses generated by various essentialist interpretations of what Nature ought to be. As a result, many scholars now prudently claim to speak only about the social and political “effects” of evoking “Nature.” Others are ready to discard this notion altogether, assimilating what would be “Nature” into a cultural scheme prone to challenge all forms of dualism as arbitrary exclusion and all forms of monism as forced inclusion (Morton 2007).

Yet recent ecological findings appear to favor a comeback to ontology. They suggest the existence of an ontological state of interconnection and

interdependency forms the bedrock of Life itself (McIntosh 1985; Capra 96).¹ Many case studies reinforce that assumption by showing that specific patterns of human consummation and exploitation are damaging sometimes irreversibly the plasticity and adaptability of the interrelationships upon which the diversity of life on Earth depends (Rogers and Laffoley 2011, Gardner, Starke and Rosbotham 2011, Starke and Mastny 2010 Cowie 2007, Corvalan 2005). Their findings indicate that the ways in which we live our lives have consequences not only for us as specie, but also for complex symbiotic networks affecting the wellbeing of numerous life forms and organisms. The main idea is that all living and non-livings beings would be intrinsically connected and interdependent in fundamental ways. This realization has triggered various attempts to reconfigure the boundaries of ethics, morality and politics from an ecological standpoint. Still, the notion of ontological relatedness remains difficult to grasp. We may understand the isolated consequence of a detrimental ecological behavior in connection to another one, but many of us still struggle to make sense of the shockwaves or ripple effects we are sending in a seemingly open, mobile and even chaotic nexus

¹ The discipline of ecology as a “science” (emerging through the development of main disciplines such as limnology, oceanography and animal ecology) has itself been subject to many debates and disputes between the defenders of ecology as an experimental science, and the proponents of a more synthetic or holistic examination of the various relations between ecosystems and populations (McIntosh 1985).

Despite the methodological, epistemological and ontological disagreements marking the development of a self-conscious ecology as a scientific discipline, it is possible to identify four broad assumptions attributed to ecologists: 1) everything is connected to everything else; 2) everything must go somewhere; 3) Nature knows best; 4) and there is no such thing as a free lunch (Carter 1999, pp.19-23; Commoner 1971). Of course, the question of what Nature is, and how we can attribute a form of consciousness to Nature (that is without a clear center of agency that can be verified and tested) remains an open debate. And so is the question of knowing what interconnectedness exactly means or implies? Heavily influenced by Darwinism, notions such as evolution and the struggle for existence drawn into the development of the early science of ecology, were all predicated on positive and individualizing assessments of plants, insects or animals striving for survival, not an overall assessment of species in teleological or overarching directional terms (McIntosh 1985, p. 43). The science of ecology was penetrated by the analytical influences and methodologies attributed to the Scientific Revolution, leading to the now dominant epistemic paradigm of “modern science.”

of interrelationships forming what has been described as a “web of life.”² The assumption that we first need to isolate the units, elements, numbers, agents, structures, causes and effects, referents, actors or persons in a self-enclosed or self-referential ways to formulate discriminating statements about the world makes it so much harder to understand the proposition that our ecological wellbeing is weaved at an ontological level that might precede what we perceive as isolated entities. To generate a foreseeing ecological wisdom capable of integrating the notion of ontological relatedness capable of supporting actions and policy remains therefore a tricky project, especially when the privileged scientific methodology is bounded by an empirical reductionism and verifiabilism hostile to metaphysical synthesis concerning Nature (empirical reductionism), when we believe that Nature is merely a conceptual fiction (idealistic reductionism), or when we look at Nature as a threat to our political freedoms which need to be protected against any derivative notions that could superimpose or dictate our choices, preferences or lifestyles (anthropocentric politics).

These difficulties have prompted me to explore what I call the ontological valuations informing our understandings of Nature. In this paper, I have chosen to focus on an ontological valuation I believe has influenced significantly our understandings of Nature: the valuation of what-stands-on-its-own. By “ontological valuation,” I mean the ways in which our understandings of Nature are weaved with normative assumptions or posited preferences that structure or shape the way we think. In other words, our understandings of reality or Nature always contain a number of principles or ideas that inform and organize our readings of Nature. I believe that better grasping these ideas or principles is important if we wish to embrace a shift of consciousness in any deliberate way.

To better circumscribe the ontological valuation I wish to problematize, I will draw on a series of well-known references within the history of Western thought. I will first explore this valuation in relation to Hellenistic philosophy to identify key elements by which this valuation has been articulated. I will then analyze its repositioning within an “externalist ontology” I associate with the Christian doctrine of Creation. Finally, I will draw a relation between this

² The term “web of life” is borrowed from Fritjof Capra (1996). Capra defines “web of life” as follow: “The view of living systems as networks provides a novel perspective on the so-called hierarchies of nature. Since living systems at all levels are networks, we must visualize the web of life as living systems (networks) interacting in network fashion with other systems (networks)” (Capra 1996, p. 35). The web of life consists of networks within networks without the need of any hierarchical pre-arrangement. The web of life would rather consist in intrinsic, dynamic, living mutually reinforcing and co-dependent relations. According to Capra, “the essential properties of an organism, or living system, are properties of the whole, which none of the part have. They arise from the *interactions* and *relationships* among the parts ” (Capra 1996, p. 29. The emphasis is mine).

repositioning and the emergence of what I call an “epistemology of distrust,” facilitating the rise of new criteria of cognitive success discarding ontological or metaphysical objects (such as Nature). I will make the argument that this paradigm contributes to the difficulty of either thinking Nature through an empirical reductionism or an acute form of conceptual solipsism, both detrimental to the project of broadening our consciousness from a deeper ecological standpoint. This will lead me to suggest a relational ontology that may provide an alternative language to formulate an expression of Nature that can better resonate with our ecological findings in terms of ontological interdependency and interrelatedness, avoid the peril of both essentialism, reductionism and solipsism when it comes to thinking Nature, while deepening our attachment toward what David Abram calls the “more-than-human field” (2010).

An Ontological Itinerary: From Integrative to Externalist Ontology

When discussing our understandings of Nature, going back to the Greeks seems unavoidable. Our understandings of Nature have been profoundly influenced by the ontological language and epistemological distinctions elaborated by Greek thinkers, at the heart of which we find the ontological valuation of what-stands-on-its-own. Greek thinkers have been credited for a series of distinctions between what is natural (self-occurring beings) and what is conventional or crafted, revealing the importance of the criterion of what stands-on-its-own (or self-caused) as a prime ontological marker (Soper 1995: 37). In fact, nothing short from the “discovery” of Nature—if by “Nature” we understand an organized physical system governed by immanent laws—has been attributed to the Presocratics by famous historian of Western philosophy Frederic Copleston (1993: vol. 3, 406). Here again, we can see that the importance of the valuation of what-stands-on-its-own plays a crucial role in the formulation of natural laws conceived in an eternal, universal and apodictic fashion. Most Presocratics were indeed convinced of the reign of laws in the universe. Coextensive with human rationality and the structure of the cosmos, they largely assumed that these laws could be deduced by reason (Logos). More precisely, most Presocratics believed in a law-governed universe that is neither the plaything of mere caprices of the Gods, nor the result of lawless spontaneity (except perhaps Democritus on some accounts), which would make any rational attempt to account for the causes and principles of the universe useless.

Matching this ontology, we find a primarily corresponding deductive epistemology associated with the use of reason, believed to grant an unmediated access to these eternal, incorruptible and self-standing laws and principles. For the Presocratics, this epistemological model informs not only their quest to explain the origin of the cosmos in universalistic, often non-mythological and materialistic terms, but also their endeavors to find solutions that are eternally true, capable of transcending the realm of mere

opinions and contingencies (Copleston 1993: vol. 1, 13-21). Drawn to discover “the ultimate substratum of things, the principle that is neither generated nor destroyed, but from which particular objects arise and into which they pass away” (Copleston 1993: vol. 1, 289), the Presocratics have contributed to shape not only an hierarchical divide between what is eternal/universal and what is merely contingent/particular, but also the valuation of what-stands-on-its-own as a clear sign of superiority over its contrary.

The epistemic criteria elaborated by the Presocratics surely influenced the Ptolemaic vision of a self-standing cosmological order, hierarchically divided between a sublunary world and supra-lunary world each having their respective laws, assumed to preside over the various sources of contingencies plaguing the sublunary world affected by corruption, degeneracy and the need of generation (Koyré 1968: 20). It also contributed to shape our formulations of the question of “what is being?” (arguably the foundational question of ontology), influencing the epistemic views of many philosophers including perennial figures such as Plato and Aristotle. Both these philosophers shared indeed the Presocratic ambition to acquire a universalistic knowledge about the first principles of Being and the ontological assumption of contiguity between the structure of the Cosmos and our apprehension of these structures through Logos (Copleston 1993: tome 1, 287). Plato and Aristotle were similarly driven by a search for what stands in the nature of a being in spite of the accidents that cannot be deduced or defined aprioristically or universally, thus endorsing the valuation of what-stands-on-its-own at the level of in their methodology. At the difference of their predecessors, however, Plato came to formulate a dualistic theory resting on a much more contrasted distinction between the supra-sensible (attainable by Reason) and the sensible (viewed as the inferior realm) as attested by his doctrine of Forms³; while Aristotle attempted to explain the movement whereby object are generated and destroyed rather than the

³ Plato’s Forms are described as the causes and the essences of things we find in the world, crafted originally by the Demiurge (the efficient cause), and driven to imitate the Good (the final cause), namely the eternally self-subsistent and monoeidic Form. Meeting half way the position of Heraclitus (that sensible things are always in a state of flux), Plato accepts the idea of a true Being, but not in the static terms of Parmenides equating the universe with the static One (Copleston 1993, vol. 1, p. 201). For Plato, the One transcends the world. Becoming is therefore not denied, but it is believed by Plato to be a lesser condition affecting the world situated below the eternal and self-sustaining Forms.

ultimate substratum of everything there is.⁴ Because Aristotle assumed that what is eternal, unchangeable and self-generated is superior to its contrary (as most Presocratics did), and because he also assumed that it is impossible to have an infinite series of existent sources of movement, Aristotle came to the conclusion that the principle which explains the origin of all movements can only be found in the existence of an unchangeable being, fully actual, pure act and pure thought, cause of motion while itself not moved, acting as the final cause of everything: the First Unmoved Mover.⁵

My goal here is neither to describe the Presocratics philosophies in a comprehensive fashion, nor to expound the work Plato or Aristotle in all due details and subtleties. My goal is rather to show the contour of a recurring and determinant theme we can see in Hellenistic philosophy: the valuation of what-stands-on-its-own. To be sure, Hellenistic philosophy cannot be reduced to the philosophy of the Presocratics, Plato or Aristotle. Although it can be argued that these thinkers became some of its preeminent voices, I realize that there is obviously more and better to say about all the topics I have touched upon so far. But perhaps enough has been said to concede the point that despite their obvious differences, both Plato and Aristotle shared

⁴ At the risk of oversimplification, we can divide Aristotle's account of movement in two broad categories: movements which are attributable to an external cause (push or pull), and movements which are generated by an intrinsic principle initiated by the very nature of the body in question (toward the goal of bringing it back to its "natural state" through generation). For Aristotle, movement is described as a qualitative process or a state of actualization in a universe divided between a sub and superlunary world in which everything tends to go toward its "natural location" (Koyré 1968, p. 26). The superlunary world would be inhabited by heavenly bodies made of aether that cannot experience any change, other than circular and eternal movement; while the Earth, also spherical in shape, would rest at the center of the universe, which is organized according to an hierarchical principle putting the inorganic matter at the bottom, then the plants, then the animals, then rational humans (whose active component—the *Nous*—pre-exists the body and is eternal).

⁵ Dissatisfied with his teacher's theory of imitation, Aristotle is also famous for his suggestion that only the individual could be predicated with existence (not its "Form"). In short, Aristotle posited that the individual contain the universal qualities observed by Plato, not from a transcendental standpoint however, but from an immanent one (i.e. concrete universal). Aristotle was critical of Plato's theory of Forms (Copleston 1993, vol.1, p. 292). For Aristotle, Plato's theory of Forms offers a poor explanation of the principle of change upon which depended the investigation of Nature. Plato's theory was accused of being merely a doubling of the visible things posing problem in the first place. Multiplying existing entities did not provide, in Aristotle's opinion, an answer to the question of why there are multiple things to begin with. Furthermore, Plato's theory of Forms was accused of teaching us nothing of the things we find in the world, for they are not even of the same substance whose transformation is precisely what we must explain. It neither answers the question if objects may exist apart from sensible things while containing their very essences; nor does it explain the movement of all things, and why they are passing away.

with the Presocratics the ontological valuation esteeming that what is independent, self-generated and incorruptible is superior to its contrary. This valuation can be seen at the heart of most the Presocratic ontological investigations, which singularly assume that only *one* element constitutes an answer to their respective ontological interrogation (water, air, fire, infinity, atoms). I use the word “singularly” because I consider that engaging Nature in order to search for the most fundamental, universal and irreducible of its elements is a peculiar enterprise surely not common to all human cultures.

The endeavor to formulate answers in terms of oneness and universality is in fact both peculiar and promised to a very influential future within the development of what we can tentatively call the Western culture, as I hope to illustrate in the following pages. In particular, it can be suggested that the ontological quests of the Presocratic have contributed to shape the important valuation for what stands without dependency or anterior causation. The epistemic implications derived from this ontological valuation can be delineated as follow: without anterior causation, the most fundamental element of all ought to be posited eternal or without an external causation (which, otherwise, would negate its state of ontological primacy). In short, this element ought to stand on its own. It also ought to be universal and apodictic, as it constitutes the baseline of all others (that is necessarily, and not accidentally). As we can see, the ontological assumptions held by the Presocratics are intermingled with their epistemological criteria. Searching for what is the most primordial element already presupposes the valuation of the notion of *universality*, as the primacy of its Alpha purchase must be true in all cases. Their investigations also presuppose the valuation of the notion of *apodicticity* because the Alpha purchase must be necessarily true, and not contingent on other factors that would dislodge its primacy. They also assume the ontological existence of *autonomous* (as in separate) substance(s) that can be minimally distinguished from one another. Hence, in order to posit a first principle or fundamental substance, they must assume that reality works in terms of *isolation* by which the *Arche* (or Alpha purchase) can be distinguished from what is merely derived. In other words, they must assume the principle of *non-contradiction* between what they assert as the most primordial element or substratum, and the rest of them within what constitutes a top-down hierarchical understanding of reality.

By organizing their ontological inquiries as such, the Presocratics have contributed to shape an epistemic regime valuing as more “true” and “real” what stands beyond contingencies, opinions or conventions. Now the same epistemic regime can be found informing Plato’s and Aristotle’s philosophy, which, in turn, have influenced both the Medieval and Modern thinkers who, while sometimes disagreeing with their answers or accents (often by opposing one to the other), have rarely challenged the deep-seated epistemic assumptions and ontological valuations shared by both philosophers. Among these assumptions, we can see for instance that both

Plato and Aristotle are acknowledging universality and apodicticity as necessary conditions for the formulation of truth. They also share an understanding of the world in which essence/identity/entity are posited as existing in an isolated fashion or as independent realities (from which their relations are then derived); a necessary distinction for Plato to posit the existence of independent Forms paralleling the lower reality, as well as for Aristotle's teleological and causal theory, which, to explain external causation must *first* assume the isolation of at least two beings *then* entering in relation, or, in the case of natural beings, the self-enclosing limit which Aristotle describes in terms of a principle of inner causation toward their actualization.⁶

One of the main implications I derived from this epistemic regime is its facilitation of a worldview in which dependency or interdependency is viewed as lower forms of ontological expression. As we have seen, the search for an Alpha purchase explaining the possibility (or the functioning) of Nature is framed by a valuation of what ultimately stands ultimately "free" from anterior causation. This is not to say that the Presocratics, Plato or Aristotle had no notion or appreciation for the notion of interrelatedness or dependency, but rather that their understanding of such notions is always framed by hierarchical settings, valuing ultimately what stand autonomously or beyond the effect of change and corruption as being superior. It is this need for a hierarchical setting based on the valuation of what-stands-on-its-own that initially raises my curiosity. The philosophies of Plato and Aristotle both exemplify the ways in which this ontological valuation can be construed to inform an epistemic trajectory explaining the world or Nature either by a paralleled reality endowed with objective qualities hidden to the non-initiate (Plato), or by framing our understanding of causation in a hierarchical manner going back a first cause or big bang itself paradoxically uncaused; two tendencies, as we shall see, that have significantly shaped not only the Western ways of comprehending Nature and reality.

An interesting question then becomes: why did so many Greek thinkers come to value what-stands-on-its-own to begin with? And why do we? It is indeed fascinating to observe to what extent our understandings of Nature and/or Reality is still shaped by a quest to locate what comes first, within what is often understood as a great hierarchical chain of beings, or even within theoretical debates between the primacy of agents or structure to account for the possibility of social transformations in domain such as the study of International relations. We can also notice our own hierarchical tendencies expressed in our beliefs that humans are the bearers of some

⁶ This is not to say that more organic, earth-centered or animist traditions were not present at the same time, and sometimes even entangled with these valuations, but that the pervading influences of these ontological valuations on the shaping of western thought and the inherent preference accorded to what is deemed to stand-on-its-own justify that we take their content more seriously.

rational, cultural, symbolic, moral and spiritual capacities we deny to other living beings, making us “properly” and often “superiorly” human. Of course, the human usage of reason and the emergence of the *Polis*, to take only two famous examples, occur “by nature” according to Aristotle (the main idea here would be that we are what our intrinsic nature has indented for us to be when we fully actualize our potential). Hence, we do not need to stand “outside” Nature to posit some kind of human superiority or to endorse different forms of anthropocentric reasoning: this can perfectly happen within what call an “integrative ontology.” Human superiority is indeed justified by Aristotle because we would be in a privileged position within the layered distribution of what is held as the highest ontological attributes highlighted by the criterion of what-stands-on-its-own—in this case our access to a Logos believed to partake to a reality made of self-standing principles and concepts existing beyond the realm of mere contingencies, dependencies and corruptibility affecting the sublunary world. To put it in contrast terms, our access to Logos, rational contemplation, morality and the capacity to live collectively according to self-given laws are estimated as what make us specifically human and superior to other animals and plants for Greek thinkers such as Aristotle and Plato, and not because we would be essentially or irreducibly “free” from the deterministic or teleological aspects of natural laws as human beings. To better understand how we came to view ourselves as fundamentally distinct from what has been understood as a fundamentally deterministic understanding of Nature, or at least the bearers of what can be described as an irreconcilable tension between our humanity and Nature, I believe we need to explore some of the consequences of what I describe as a shift from an integrative ontology to an externalist ontology facilitated by the rise of the Christian doctrine of Creation.

Nature as Created: The Rise of Externalist Ontology

Let me first attempt to clarify what I mean by an integrative versus an externalist ontology. By “integrative” I mean an understanding of reality in which the first ontological principle(s) is not posited as being exterior to Nature itself. As an example of an integrative ontology, we know that Nature is perceived as having no beginning or end for most Greeks cosmologists: Nature is viewed as eternal. It is sometimes explained by acts of union between primordial forces deemed to have existed forever, and sometimes

described as regenerating along cyclical patterns that keep circling back.⁷ Whenever a demiurge is evoked, as in Plato's *Timaeus* for instance, divine's interventionism is described as shaping a preexisting "matter." In other words, although Nature is sometimes described as a craftsman by a number of Greek thinkers, the Greek Gods are not viewed as the creators of Nature *ex nihilo*.⁸ Aristotle's First Immovable Mover, to take a notorious example, is not to be conflated with the Creator-God outside Nature we find in monotheistic religions. In Aristotle's cosmology, the First Immovable Mover forms the world from *within* (as its ultimate *telos*); it does not create the world, which, for Aristotle, exists from all eternity. On the epistemological level, the assumption that Nature is eternal played a fundamental role: because it was assumed that was eternal, Greek thinkers and mathematicians (among them Pythagoras, Euclid and Plato) believed that they could *rationaly* deduce knowledge and theorems of the same quality, namely theorems or reasons

⁷ My analysis is indebted to the work of Michael B. Foster who have explored the ontological differences between Ancient, Christian and Modern worldviews. The theologian M.B. Foster contrasted the cosmological beliefs of Christian theology with Greek cosmology in a series of articles published in the 1930s (Foster 1934; 1935; 1936). His goal was to demonstrate the filiations between the rise of modern sciences and Christian theology. Foster explored the cosmological underpinning of modern sciences, especially in regard to the empirical methodology allegedly made possible by a cosmology of Creation. See the work of C. Wybrow (1992) *Creation, Nature, and political order in the philosophy of Michael foster (1903-1959): The classic mind articles and others, with modern critical essays*. Lewiston [NY], Queenstown [ON]: E. Mellen Press.

⁸ As Friedrich Solmsen put it: "The early Greek cosmogonies know nothing of a god who 'created Heaven and Earth' or who 'separated light from darkness.' In Hesiod's epic on the origin of the gods, the Theogony, Earth, Heaven, Light, and Darkness are among the first entities that come into being but they are not in anyway fashioned or created" (Solmsen 1963).

that were necessary, aprioristic and forever true.⁹ To strive for true knowledge was therefore to search for what was *necessarily* true, eternal and *a priori* (i.e. beyond the realm of our mere opinions or subjective observations).¹⁰

Breaking away from the cosmological conception that placed humans and gods “inside” Nature, the rise of monotheistic religions transformed the relationship between humans and Nature through the notion of an origin and personal God transcending Nature. Contrary to the assumption we find in many Greek cosmologies, the Christian doctrine of Creation posits that Nature has been *created ex nihilo* by the *will* of God (Foster 1934, p. 448). Therefore, Nature cannot be eternal from a Christian cosmological

⁹ We should be careful here not to suggest any unequivocal correspondence between so-called “Greek rationalism” and its modern counterpart as if they were identical things. We know, for example, that modern rationalism has been deeply influenced by the emergence of monotheism and the inputs of Revelation. Foster brilliantly illustrates how the modern philosophers who celebrated the autonomy of a rationality finally emancipated from the authority of faith through notions such as “common sense” (Descartes) and the “natural lights” (Locke) were in fact experiencing an “internal revelation of what had previously been revealed externally to faith.” [...] Neither rationalist nor Empiricist philosophy was really based upon the evidence upon which it pretended to rely. No experience, to take one example, could serve as evidence to Locke of the existence of material substances, nor any reasoning demonstrate to Descartes the existence of a material world. No doubt, the assurance of ‘common sense’ might suffice for the one, and ‘natural light’ for the other. But then it must be admitted that ‘common sense’ is something other than sensation and ‘natural light’ something other than reason; and the way is open to enquiry: what is the source of that certainty which is derived neither from reason nor from the sense?” The dogmatic heritage of Revelation in the form of “internal revelation” (i.e. the positing of a self-evident basis for our knowledge) which allowed Modern thinkers to bypass the peril of skepticism is Foster’s answer to this question; a form of hidden dogmatism Foster claims was discovered by Kant, who perceived quite clearly that the whole of the ontological doctrines of modern Rationalism were covertly dependent upon the authority of Revelation (which allowed Kant to dismiss them all on such ground). But, as Foster argues, by this time the dogmatic philosophy had done their work: a body of sciences had arisen upon the unquestioned presumptions that the Rationalist and Empiricist philosophers had laid down (Foster 1934, pp. 450-452).

¹⁰ This is not to suggest that all the so-called “Greeks” were necessarily thinking along these lines, or even in an identical fashion. But while Hesiod and other orphic poets were busy tracking the cosmological origins of the Universe in the various mythical successions, another tradition of thought that progressively imposed itself as one of the most important foundations of our understanding of the world was essentially looking for what remains unchanged in the flux and succession of events. That tension between at least two traditions of thought illuminates a crucial aspect of our inherited scientific ethos: historical and mythical narratives were often disregarded by truth-seeker philosophers—among them Plato—for whom such narratives were often incapable of being sure either of our distant origins (hence the recourse to myths) or of the future attached to temporal succession, conceived either in linear or cyclical fashion. Hence they were regarded as lower forms of knowledge compare to modes of knowledge capable of deducing aprioristic and necessary truths, like geometry.

standpoint: it ought to linearly start at one point and end one day. Because God is posited as the only eternal and necessary being, everything else beside God must be finite, contingent and corruptible. The theological explanation behind this is simple: no principle or being may equate God in His perfection. In other words, the whole of Nature must become a finite, contingent, historical and corruptible reality. Nature is viewed as a perishable entity created by the *voluntary* activity of its Creator, “created” by what the Greek epistemology discussed earlier holds as a “contingent principle” believed to exceed determination by reason: the will of God. In short, the rationale explaining why the world has been created is now believed to exceed human rational capacity; a human rationality contrasted with the omnipotence and eternity of God’s attributes assuring the continuity and cognoscibility of Nature as its Origin and Redeemer.¹¹

With this shift came of course the delicate task of formulating ontological doctrines without the Pagan assurance of the contiguity between reality (or Nature) and the Greek Logos.¹² The pagan notion that matter was eternal and not created (contradicting the central tenet of monotheistic cosmologies), the Greek notion of a Logos rising above contingencies (contradicting the dogma of divine providence), and the belief that only the

¹¹ The theological rationale given by the Scriptures (Gen, 3, 4) can be formulated as follow: (1) if God created the human will and reason following His own image, which, logically, must be nevertheless distinguishable from His in order to stand apart from Him; (2) then God necessarily created a reason that was not perfect by virtue of its mere resemblance—not identity—to God. (3) The consequence of which is: human reason was logically destined to fail. But God cannot be the instigator of such evil contradiction by virtue of His own perfection and goodness. Therefore, the Fall of humankind is attributed to an act of free will (the disobedience of Adam), much like the possibility of its redemption is attributed to an act of free will from God, out of a love that defies reason alone (for no one can be brought to perfection and still stand apart from God). Will is therefore the ultimate mechanism used by Christian theology to explain both the Fall and Redemption of humankind. An act of will has made Adam fallen from paradise, and an act of will alone (not reasoning) can allegedly save his descendants by embracing the doctrine of Christian fate.

¹² The problem of universals is a telling example of the problems occasioned by attempts to harmonize the philosophical heritage of the Ancients with monotheistic dogmas. We find medieval scholars arguing that universals must either have a concrete existence or be the outcome of attributing nominally a similar quality to different existing beings: a position which assumed by extension that only individual entities could be predicated with existence (i.e. Roselin, Abelard and Aquinas). The implications of this problem may seem trivial to us, but this problem was threatening to many of the dogmas of monotheistic religion. To take only one obvious example, original sin was believed to be transmitted via the fault of Adam to all humankind, which seems at odds with individuality of existence that follows from the doctrine of Aristotle. Refusing this implication, however, led to the equally unacceptable alternative that God was responsible for infecting every new born child with this sin when created *ex nihilo* (Copleston 1993, vol. 2, p. 141).

rational part of the soul was eternal (contradicting the conception of personal and physical resurrection, and the supremacy of dogmatic faith) were all sensitive topics that had to be reconstructed to accommodate monotheistic theologies. As the writings of early Christian thinkers from Clement of Alexandria to Augustine confirm, it is in fact because the Christian doctrine of Creation assimilated much of the Greek ontological premises and valuations that the shift to a creationist cosmology called for the major restructuration of its epistemology (Baird 1973).

Among the restructuration, Michael B. Foster argues that the Christian doctrine of Creation contributed to overturn the foundations of Greek epistemology by sanctioning the authority of revealed knowledge and the use of inductive reasoning based on the use of our sense data (Foster 1934). The authority conferred to Revelation is here supported by a straightforward theological argument: the belief that human reason alone cannot possibly know the reason why and how God created the world. Faith in the knowledge handed by God is thus posited as superior to the use of rationality alone. Because reason is perceived limited, fallible and incapable of owning cognitively God's plans, inductive reasoning based on the use of our sense data becomes the best alternative for what was left unspecified by God's Revelation.¹³ In short, the confidence the Greeks had in our rational abilities to deduce aprioristic and eternal truth is basically shattered by the ontological implications of Christian cosmology positing that the whole of Creation depends on a contingent principle that the Greek logos cannot foresee or own, namely God's free and unpredictable will. According to Foster, it is the valorization of the inductive use of our sense data based on a fallibilist understanding of human rationality that has paved the way for the emergence of inductive rationality based on sensuous experiences and verification by empirical experiment (Foster 1934). This valorization, in turn,

¹³ This theological justification will later be challenged most famously by Descartes who challenge the reliability of our sense data in his *Metaphysical Meditations*, locating instead the ontological anchor of our knowledge in the subjective existence of a thinking substance, that while doubting of everything, cannot doubt that it is thinking (*Meditations IX, 13*). But even if Descartes was able to restore our confidence in our capacity to attain an undeniable and necessary truth by the power of our reason alone (the *Cogito*), his call for the adoption of a method for "thinking clearly" indicates de facto his commitment to a fallibilist understanding of human rationality (if left unchecked), a commitment we also find at the heart of the Christian doctrine of Creation.

would have facilitated the emergence of the foundational paradigm of modern sciences.¹⁴

Far from opposing modern sciences and Christian theology, Foster thus establishes a direct connection between the theological assumptions emerging with the Christian doctrine of Creation positing the idea that Nature is created, and the epistemic framework adopted by modern sciences. Foster's analysis shows not only how important our ontological assumptions about Nature are, but he also unveils significant epistemological implications resulting from what appears to be a small shift from "Nature as eternal" to "Nature as created." I am of course not the first interested by the epistemic and ecological implications associated with the emergence of Christianity. That Christianity contributed to the cultivation of dominative attitudes toward Nature is a point that has been already argued most famously by Lynn White Jr., who suggested that Christianity has generated the horizon of a dualism (Nature opposed to God) and an anthropocentric conception when it comes to our relationships toward non-human beings, paving the way to destructive, chauvinistic and selfish attitudes toward Nature (White 1967).¹⁵ Christianity has been also imparted with the creation of a powerful narrative portraying an idyllic picture of Nature (i.e. the Garden of Eden) provoking nostalgic needs and redemptory attempts to domesticate Nature in a similar fashion with the result of destroying the integrity of existing "untamed" ecosystems and wildlife (Merchant 2003). Adding to the corpus of critiques already formulated,

¹⁴ As Foster put it: [...] the contingent is knowable only by sensuous experience. If, therefore, the contingent is essential to Nature, experience must be indispensable to the science of Nature; and not indispensable merely as a stage through which the human scientist must pass on his way to attaining knowledge by reason, but indispensable because knowledge by reason cannot be adequate to a Nature which is essentially something more than an embodiment of the form [Foster refers here to the Greek cosmological notion of form versus matter]. This "something more," the element in Nature which depends upon the voluntary activity of God, is incapable of becoming an object to reason alone, and science therefore must depend, in regard to this element, upon the evidence of sensation [...] and the conclusion follows that only a created Nature is proper object of an empirical science. (Foster 1934, p. 465. The emphasis is mine)

¹⁵ To be fair, it is true that a number of apologists of Judaism, Christianity and Islam have defended the intrinsic value of Nature, while advocating for stronger environmental ethics or measures. It should however be add that such defense of Nature has always been under the assumption that Nature has an intrinsic value (here independent of human valuation or needs) precisely because created by God. It is because God is the Alpha point of their ontological valuation that apologists of monotheistic religions assert that Nature possesses an intrinsic value beyond human needs, and not, contrary to my own position, because Nature has an intrinsic and immanent value without the need to assert any higher or external principle to justify its worth (which does not necessarily mean that I hold that Nature's intrinsic value can be posited independently from our human valuations).

Foster's analysis helps us to illustrate more clearly that the Christian doctrine of Creation assimilated not only an ontological language subordinating notions such as interdependency, contingency and corruptibility to their contraries, but took the extra step of placing the origin of the highest ontological qualities in a divinity outside Nature. This move, I suggest, basically shifted the course of our thinking from an integrative to an externalist ontological standpoint, generating significant consequences on the ways in which we understand both Nature and knowledge.

Among these consequences, we can notice the change of location, so to speak, of the valuation of what-stands-on-its-own. By being associated with God-creator, this valuation no longer serves as this ontological criterion by which levels of being are distributed within a hierarchical ontology (as within Greek cosmologies), it now informs a radical differentiation between two ontological orders: that is between God and the rest of the world. At a fundamental level, it is now the will of God versus the rest of His Creation. What-stands-on-its-own is ultimately posited as an external element of Nature that now stands in a deterministic relation to God's will—with the noticeable exception of Mankind's divine gift of freewill by which the introduction of evil is explained. Most importantly, Nature is stripped of its self-causing properties, agency and immanent teleology. All these are now attributed ultimately to God. The epistemological consequences of this shift are significant: as Foster convincingly demonstrates, the Christian doctrine of Creation has generated a theory of knowledge limiting the scope of human rationality by positing an understanding of truth that can never be assured of its findings on a rational basis alone (hence the need for empirical verifications). An alleged "finite mind" cannot possibly deduce the universal and aprioristic truths that would dictate or precede God's will in virtue of their eternal nature: this would amount to hubris for the Christian mind.

Following Foster's argument, we are invited to draw interesting parallels between Christianity and modern science in its positivistic/empirical acceptance. To begin with, just like the ultimate causes explaining why the world exists are put beyond the reach of human rationality by Christianity, the empirical and inductive reasoning that inform the modern scientific method forbid its user to posit the existence of an irrefutable/eternal truth. Scientific researchers do posit the existence of truth. But while doing so, they ought to assume that it is always possible that new findings or the discovery of a mistake may refute what was once assumed irrefutable. Both Christianity and the practice of modern science thus assume the fallibility of the human mind, hence the need to recourse either to the authority of faith or to an accepted method of verification to check a rationality no longer trusted in its ability to grasp the truth on its own. More specifically, what the modern scientific method has inherited from Christian theology is basically the legitimation of a mode of knowledge that Greek epistemology couldn't accept on the basis of its ontological commitments and its valuation of what truth *ought* to be

(aprioristic, necessary, universal, and more importantly based on deductive reasoning). In other words, it appears that the modern spirit has assimilated the element of skepticism posited by the Christian doctrine of Creation, reframed by the scientific mind in the assertion that our representations of reality and reality itself can *never* perfectly coincide. This metaphysical and theological background, I suggest, has facilitated to the emergence of what I call an “epistemology of distrust” positing that human rationality needs extra sources of verification in its pursuit of truth (historical evidences, empirical verifications, and so on).¹⁶ Let us now explore some of the repercussions that this “epistemology of distrust” have had on the emergence of a new paradigm of knowing informing a revolutionary understanding of science or *episteme*.

From Ontology to Functionalist Methodology

One of the main repercussions emerging with the ontological and metaphysical implications associated with the Christian creationism has been the challenge offered by logical and empirical research—ironically restructured around the failibilist implications of the Christian doctrine—against the authority of theological doctrines. The effect of this reversal can be observed in the progressive separation between philosophy and theology mediated by the greater importance attributed to the logical treatment of theological arguments viewed as capable of being studied independently (Copleston 1993, vol. 3, p. 419). This separation facilitated, in turn, the rise of the “nominalist spirit” and renewed forms of skepticism, best expressed by

¹⁶ This is not to suggest that Skepticism is a new phenomenon introduced only with the Christian doctrine of Creation. Skepticism has indeed a long philosophical tradition, stretching from Protagoras, Sextus Empiricus, to modern thinkers such as David Hume. One of the main differences, I suggest, between pre- and post-doctrine of Creation skepticism amounts to the fact that while ancient Skepticism often opposes the hypothetico-deductive possibility of knowledge, making the world and its objects fundamentally unknowable, the “epistemology of distrust” I suggest holds that it is still possible to know the word and its objects providing (initially) faith in God and the right method of investigation. It confirms our sense data and inductive reasoning *on the basis of theological implications* as a way to confirm hypothetico-deductive knowledge (viewed as unreliable on its own). Put otherwise, it doesn’t use inductive reasoning to advocate the skeptical thesis that knowing this world is impossible. My larger point in this article is that the power given to the scientific method of investigation eventually outruns its speculative or metaphysical dimension by adopting a series of cognitive criteria that favors pragmatic ideas such as “what is true is what works,” and others pragmatic and instrumentalist perspectives that gradually discard the need to pursue metaphysical speculation to guarantee the “progress” of science. While it is certainly true that metaphysical speculation and concepts still occupy an important role in scientific research, I argue that the cognitive criteria of success implied by the scientific method of verification are now shaping a mode of knowledge in which epistemology outpaces open metaphysical inquiries by requiring that metaphysical speculation—in fact any valid scientific discovery—be ultimately amenable to the criteria making their empirical verifications possible (isolation, falsification, predictability, subject of repeatable experiences, and so on).

the influential work of Montaigne who questioned the usefulness of metaphysics on the basis of our rational incapacities to achieve certainty (1533-92).¹⁷ While not plainly abandoned, metaphysics tended to move toward the exploration of logical analysis, bringing an increasing distance between rational and theological argumentation while isolating logical from ontological argument, with the consequence of relegating the question of God's existence to one's faith alone. God being held as the ultimate ontological guarantor that Nature exists objectively, the logical refutation of theological arguments contributed to shake, and eventually sever, the ties we had with an external reality we cannot trust anymore except on the account of dogmatic faith. It can thus be suggested that the first wall of Western solipsism I wish to problematize was erected through the emergence of an "epistemology of distrust" initially supported by a revolution of theological

¹⁷ The nominalist spirit, according to Frederick Copleston, is a disposition inclined toward "analysis rather than to synthesis, and to criticism rather than to speculation," with the consequence of leaving "faith hanging in the air, without (so far as philosophy is concerned) any rational basis" (Copleston 1993, vol. 3, p. 11).

nature, which eventually turned against its own metaphysical and dogmatic base.¹⁸

Confronted with renewed and sometimes radical forms of skepticism dismissive of metaphysical explanations as a result, a number of thinkers strived to articulate new metaphysics and natural philosophies that could explain Nature *in toto*, and/or could grant to human rationality the possibility to enounce indubitable truths (Copleston 1993, vol. 4, p. 19).¹⁹ In contrast to scholastic philosophers who already believed in the existence of self-evident principles, the hope this time was for a fresh start under the guidance of the

¹⁸ Of course, the authority of ecclesiastical powers was also weakened by a series of events that had little to do with the inner contradictions resulting from the epistemology endorsed by the Christian doctrine of Creation. The translation and diffusion of various texts from Ancient mathematicians and physicists, for instance, did expend significantly the knowledge of Ancient philosophy beyond Plato and Aristotle medieval commentaries. The Renaissance period was then marked by a significant revival of Skepticism (Montaigne), Stoicism (Justus Lipsius), and Epicureanism (Gassendi), leading to various conceptions of Nature (Brush 1966, Saunders 1955, Sarasohn 1996). Involving astronomy, alchemy and astrology, provocative works and new cosmologies emerged, such as Giordano Bruno's idea of a divine immanence found in Nature and a pluralist conception of the universe constituted of multiple solar systems in a limitless space, or the critique of Aristotle's account of movement by Albert of Saxony, proposing a theory of impetus which foreshadows the 17th century mechanistic theories of Nature (Bruno 1998, Zambelli 2007, Beitchman 1998). Helped by the invention of printing press, the Renaissance period was marked not only by the diffusion of ancient ideas, but also of theological disputes, political ideas and scientific discoveries to a wider audience (including women), which, under the form of a book, simultaneously favored non-communal forms of communication away from the collective control of thinking, in the solitary comfort and relative safety of reading one's ideas to make a mind of its own (Tarnas 1991, p. 226). The unitary worldview provided by Christianity under the tutelage of the Church came also under stress when a number of its adherents took its narrative (increasingly translated and printed in vernaculars) in different directions, using the irrational supremacy of faith, the power of divine providence and inspiration, as well as the claim of an individualized relationship between the individual and God, to challenge both the authority of ecclesiastics and political ruling institutions. The rise of various Christian sects, including the Levellers, the Diggers and the Familists, diffused new ideas about Nature seen mostly as benevolent, while condemning existing social hierarchies (Merchant 1989). Believing in the immanent return of Christ on Earth, these sects often organized themselves in collective communities modeled on their visions of what would be life on Earth after the return of Christ among us. The fragmentation of a centralized Christian dominion was also speeded up by a series of bloody and ruinous religious wars intermingled with political struggles between nobility factions, encouraging the development of an international system of sovereign states independent—at least technically—from the centralizing govern of the Catholic Church.

¹⁹ This renewed Pyrronism mostly attributed to Montaigne's philosophy asserted that the mind is dependent on sense-experience, that sense-experiences are relative and unreliable, and that consequently we cannot attain any absolute truth. In short, Montaigne was denying the possibility that we could construct any reliable metaphysical system, an argument he illustrated by the fact that metaphysicians often arrived at different and incompatible conclusions. In sum, the whole project of metaphysics was being discarded.

right method of investigation, informed by the inputs of skepticism combined with mathematical reasoning to deduce the necessary truths that would give us concrete, applicable and cumulative information about Nature. In other words, we started to believe in the inputs of methods held independently from the content of the world, gradually shifting the locus of what-stands-on-its own from a primarily ontological location (the search for self-standing elements in a hierarchical fashion) to a methodological or epistemological one (the search for a self-standing method or logic capable of explaining the contingencies of the world), as the key for the human mind to get access to certainty.

Francis Bacon (1561–1626) and René Descartes (1596–1650) are perhaps two of the best representatives of these hopes. In his major work *Novum Organum*, Bacon argues that the traditional inquest into the final causes (or purposes) of Nature is useless. He furthermore argues that Forms, as abstract natural kinds, do not exist. Metaphysics is here reduced to the study of the formal causes or the general laws (or principles) by which natural events may be understood in a productive manner. In short, Bacon denounced metaphysical entities as fictional. Contra Aristotle, Bacon objects to the conception of a natural philosophy devoted to understanding things by understanding their nature: that is, by privileging the study of the internal movements by which a being goes toward its intrinsic finality. On the contrary, Bacon holds that it is the “violent movements,” which Aristotle discarded as unpredictable accidents, that we should consider. Bacon situates the causes of movement at a mechanic and corpuscular level; they are the microscopic parts whose distribution and behaviors would explain the macroscopic features of bodies, without reference to some Grand and strange First Unmoved Mover (Gaukroger 2006, p. 361). In sum, what empower humans (according to Bacon) are not sterile discussions about the intrinsic nature of things, but the ability to understand the connection between parts and the movements they can produce. To the Aristotelian notion of deduction, Bacon favors the systematic elimination of non-conclusive experiences in order to produce a more robust knowledge of Nature oriented toward concrete control over our natural environment (Gaukroger 2006, p. 166). Moving away from an understanding of metaphysics as a science of *being qua being*, Descartes’ metaphysical meditations are also concerned by the conditions that guide human knowledge toward certainty and clarity. At the core of Descartes’ work we find explicitly the reworking of the valuation of what-stands-on-its-own within an externalist ontology, starting with (A) the belief that God is exterior to its creation, (B) the proposition that philosophy ought to start with the meditations of the self-reflecting ego, and (C) the suggestion that there are two basic substances with independent existence: mind (the essence of which is thought) and matter (as extension considered apart from motion, time and energy). It is this ontological reworking that made possible Descartes’ dualistic and mechanistic metaphysics, which operates from

deductive assumptions based on his definition of matter as extension, and movement as local motion. This allows Descartes to produce a powerful vision along the formulation of a mechanical theory of everything (including the physical portion of living beings), in which the principle of causality is understood in mechanical terms. For Descartes, the scholastic notion of final cause (which explains for instance that the natural tendency of a stone is to fall to the ground for Aristotle) results from attributing a mental or cognitive quality to a physical object. The realm of thought and matter must therefore be carefully distinguished by following the right method, which, for Descartes, emphasizes the supremacy of clear, ordered and distinct ideas accessible only after exercising a methodological doubt purging prejudices, confusions and false opinions.

Although certainly influential in shaping the modern faith in methodological procedures and ways of solving problems, the new metaphysic or natural philosophy remained however incapable to meet the standards established by new cognitive criteria of success based on empirical/mathematical demonstration, cumulative knowledge and the concrete mastery of reality, gradually associated with engineering and technological powers. It can indeed be argued that Bacon's theory on the "false idols of the mind" did not provide any guarantee for the accumulation of concrete knowledge. Bacon's speculative parallelism between the micro and macro that informed his theory of matter cannot be demonstrated from an experimental standpoint anymore than Aristotle's metaphysical system. Descartes' *Cogito* may have produced a form of certainty on the basis of Man's rational powers alone, but this new insight didn't support any concrete contribution when it comes to mastering reality or Nature. Despite their insights into quantifying the micro level or reality, thinkers like Beeckman, Hobbes and Descartes were incapable of translating such micro framework to macroscopic empirical events: no unified worldview generating concrete predictive powers on reality could be generated (Gaukroger 2006, pp. 397-400). Even Kant's later attempt to rescue the notion of a priori synthetic judgment only fortified the very limit which all future metaphysics could not transgress: the limit of experience itself. Despite Kant's attempt to invert the problem of metaphysics by assuming that objects ought to conform to our cognition rather than to external reality, Kant was only capable of saving the so-called forms or categories of pure experience (space and time) as a priori laws governing all objects of experience at the cost of ascribing them solely to those objects we can experience. Of course, it can be said that Kant rescued the traditional metaphysical division between form and matter (form as an a priori feature of experience that our mind imposes on matter through cognition), but by themselves, these concepts could not produce any cumulative or predictive knowledge about the world amenable to concrete manipulation. In sum, it appears that all the modernized metaphysical doctrines still suffered from an old problem: they remained highly speculative

with no tangible ways to discriminate their content on the basis of concrete or positive empirical knowledge that could be translated into cumulative technological advancements. As such, metaphysical doctrines appear to be poorly equipped to compete with the emergence of new criteria of cognitive success increasingly geared toward scientific advancements, mathematical precision and the concrete capacities they could provide to its users.

Galileo is perhaps the best-known exponent of the new cognitive criteria of success based on the use of mathematics and empirical demonstrations, geared toward what we can call a functionalist and instrumentalist paradigm of knowledge. His research in hydrostatics and mechanics and his inventions, which included the thermometer and the amelioration of the telescope, contributed not only to the reliability of the experimental method, but, more importantly, to the refutation of the scholastic appropriation of Aristotle's physics by proving via facts and experiment that mathematized laws about movement were possible (Koyré 1968, p. 39).²⁰ Moreover, his discovery of the moons orbiting around Jupiter contradicted Aristotle's theory that all celestial bodies should revolve around the Earth, and his observations of the gibbous and full phases of Venus contributed to refuting the geocentric Ptolemaic theory endorsed by the Church, confirming experimentally Copernicus' comprehensive heliocentric cosmology.²¹ Galileo's contribution helps to illustrate the epistemic tendency in which metaphysical deductive explanations and cosmological theories have been receding in favor of experimental and instrumentalist-based theories formulated upon the success of pragmatic discoveries and technological inventions. It took in fact the combination of experimental natural philosophy and mathematical speculation to overcome the persistent belief that an account of Nature needed to investigate the process of change from the standpoint of metaphysical or aprioristic categories such as essence, form or matter. The strength of this new combination revolved around its capacity to trade the ontological question of "what is" for the formulation of mathematized and demonstrable laws showing "how does it work." To bring technologies to

²⁰ For Aristotelians, movement was essentially a teleological process linked with a qualitative appreciation of the object being moved or at rest (according to their natural tendencies). Mathematics was believed not suitable for the study of physics or movement, assumed to be of a contingent and accidental Nature irreducible to mathematical demonstrations (which could only be applied to the study of heavenly bodies). Galileo's demonstration that objects fall at the same rate whatever their mass refuted such a static conception of order, proving by the same token that the body is completely indifferent to being in movement or at rest. The movement of a body came to be perceived only in relation to another body perceived as still (Koyré 1968, p. 33).

²¹ On Galileo confirmation of Copernicus's cosmology, see Morphet, C. 1977. *Galileo and Copernican astronomy: a scientific world view defined*. London: Butterworths.

harness the powers of Nature was the ultimate sign of success of such approach. Galileo's system of dynamics, later completed by Newton in 1687, contributed to make such criteria of cognitive success irreversible. Replacing the geometrical conception that attempted to explain the movement of planets, we were finally presented with a full dynamics explaining how the motion of each body accelerated *in toto*. Newton's laws, together with the laws of force (such as the inverse square law of gravitation), provided a reliable, accurate, unified and useful account—although arguably still metaphysical by its central element, i.e. the notion of force—explaining the motion of bodies this time both in heavens and on Earth (Penrose 1992, p. 124).²²

With the penetration of mathematical schemes of thinking and scientific rigor in all spheres of our lives, many believed that we could finally take our leave from natural theology and abstruse metaphysical speculation. But again not everyone agreed on such premise, and certainly not everyone were ready to give up on the project of regenerating a natural theology upon “scientific” examinations of Nature. What made the renewed attempts at natural philosophy so interesting to many thinkers of the 17th and 18th centuries, especially in England, were the prospects it presented for the renewal of natural theology on the grounds that it could inspire humility and awe in the face of the wonders of the Creation (Gaukroger 2006: pp. 23-29, Westfall 1992). In other words, the gradual dominance of the modern scientific method alone was not a cure to theism, creationist or teleological arguments. As Stephan Gaukroger suggests, the conception of a “scientific culture” free at last from theological influence, adopting an adversarial paradigm only for the sake of the pursuit of truth, and leading humanity

²² Of course not everyone rallied in favor of this instrumentalist and reductionist vision of Nature, as exemplified by the defenders of naturalism, vitalism and even magical views, who merged Nature and conatus by attributing to the natural elements intrinsic powers and intelligence. But, as Carolyn Merchant explains, the project of Renaissance magicians to gain power over an intelligent and sensitive Nature was swiftly recuperated by the mechanistic paradigm of thinking arguing for an understanding of matter as passive, Nature as soulless, and movement as resulting from external forces (Merchant 1989, p. 117). The mechanist paradigm presented the advantage of being more suitable to the calculating and experimenting mind alike, eager to assert that the individualized parts of a fundamentally passive matter that could be numbered, added or subtracted, and delimited empirically. This powerful representation of Nature as a machine or a clock helped to legitimate mathematical and experimental ways of solving problems that could leave behind the various metaphysical quarrels about what Nature is (or is not). I do not suggest here that “Scientifics” are no longer speculating and event using concepts and ideas that cannot be demonstrated empirically, for instance the notion of force or gravitation, but that ontological inquiries of hypothetico-deductive nature about the status of Nature gradually lost its importance in favor of an ethos geared pragmatically to control concretely its surroundings.

toward technological progress should be greatly nuanced (2006, 34-39).²³ The mechanical, atomistic or mathematic representation of Nature did neither kill the idea that God created Nature, nor the use of metaphysical speculation or concepts in science. Robert Boyle was indeed convinced of the dogma of divine creation, as were Newton, Descartes, Leibniz and many other influential figures associated with the Scientific Revolution. It was in fact often believed that God, as Creator of Nature, secured the parallelism between mathematical deductions, experiments and the actual system of Nature understood mainly in teleological terms.

Arguably, however, all the concerted efforts to formulate a scientific-based natural theology and the personal beliefs of early scientists didn't suffice to reroute a paradigm of knowledge increasingly committed to a positivistic and functionalist understanding of Nature in which no-preordained destination, normative finality or divine plan are seen as necessary to support the coherence and accumulation of progressive knowledge. These criteria even came to inform theories of Nature explicitly dismissive of the favorite arguments associated with Classic or scholastic metaphysics (i.e. teleological reasoning, the presence of an intelligent design, and so on). Darwin's evolutionary theory is a great example of this. His theory provides a devastating alternative which basically undermines the need to explain organic adaptation and the biological differences observed in Nature from the standpoint of a design theory or any other grand teleological explanations (although Darwin did not refute theism *per se*). Darwin achieves this by repositioning the concept of teleology in materialistic and predominantly individualistic terms (Sober 1992, pp. 98-103). For Darwin, not only the idea of teleology is completely refocused, but no overall or pre-existing harmony could be deduced from his scientific findings. In Darwin's view, the human species is no longer central to explaining the purposes of Nature; the Lamarckian idea of a Nature positioning the human species (and its rational attributes) above all other species is completely obsolete for Darwin. Nature is no longer conceived as an agent or as an organizing entity greater than its parts. Rather the contingent natural processes of selection operate at the

²³ As Gaukroger indicates, the creation of a "neutral space" of enquiries was not the outcome of modern scientific work alone; rather the emergence of such space was also the result of external influences, such as Gratian's codification of the canon law around 1140, which, by harmonizing various legal traditions, shaped a new juridical culture that opened a "neutral space" for disputation, innovation and argument (Gaukroger 2006, p. 34). By establishing corporate bodies on its own model (cities, guilds, universities), the codification of the law helped to create a form of decentralization by which autonomous spheres of professional and civic activity could boast innovation and free inquiries under a protected aegis. When it comes to the question of truth, the motivation behind the emergent scientific *ethos* was less the disinterested pursuit of truth *per se*, than a pursuit of what is useful and can endow human life with new discoveries and power (Gaukroger 2006, p. 39).

level of ontologically-isolated individuals in relation to a milieu through time, which, by transmitting their adaptive qualities to their immediate descendant, shape the outer aspect of species no longer viewed in static and essentialist terms.²⁴ Not only is Earth no longer viewed as the center of the universe, and the sun no longer the only sun there is, but Nature itself, after Darwin, seems indifferent to the place human species occupies in the “tree of Life.”

From such a resolute “scientific” perspective, it appears that ontological and metaphysical speculations are no longer essential to support what came to be understood as the pursuit of concrete and cumulative knowledge. “Serious” scientific research is reputed to have kicked the ontological ladder from under itself a long time ago—at least the hypothetico-deductive one. When it comes to Nature, the deductive quest to know being *qua* being has been replaced by combinations of empirical and/or mathematical enquiries focusing on *how* the universe behaves the way it does, not so much *what* the universe is in term of essence. New criteria of cognitive success have been formulated in accordance with the multiplication of “practical spheres” that no transcendent principle or overarching authoritative source of evaluation is conceived capable of generating a common vision of the world (Angus 1983, p.162). This is not to suggest that Scientists no longer speculate and posit metaphysical or ontological theories. It can be argued that Scientists still use ontological and metaphysical concepts, such as the notion of force or gravitation, which, in and of themselves, cannot be empirically verified (only their attributed effects can). But it is hardly disputable that metaphysical or ontological theories are now subsumed under the authority of the scientific method of verification, which cognitive criteria of success are increasingly geared toward instrumental, technological and pragmatic measures of efficiency which makes the usage of reference to some grand notion of Nature increasingly obsolete.

After so many blows against the possibility of learning anything new from metaphysics or ontology, it is therefore not surprising that questions such as “which entities are fundamental?” or “what can be said to exist?” have been relegated mostly to the history of philosophy. It is a now widely shared assumption that the study of Nature belongs to modern physics or evolutionary biology, whose specializations into so many branches makes

²⁴ The Aristotelian logic, which sees the individual’s particularities as mere accident of a universal and teleological Nature, is here completely turned on its head. After Darwin, the individual’s particularities (seen as adaptive markers) are precisely what define a species in its dynamic evolution, which is not preset by any finality but rather contingent on what the individuals are transmitting to their offspring(s). Even if we suppose that God is the Creator of all what Darwin is describing, Darwin’s research made such a hypothesis not only unnecessary for conducting his enquiries, but even problematic if we understand that struggle and the blind elimination of the weakest elements are the driving forces behind natural selection and so-called evolution.

unlikely any grand synthesis or grand normative assessment over the question of what Nature is. At this point, we can be tempted to ask the question: what can we possibly mean when we evoke Nature? In a setting in which the progress and usefulness of knowledge are reflected by their technological and effective applications, the answer seems overly blurry and of second importance really. Due to its commitment to epistemology prior to ontology, and its dismissive attitude toward the problem of “valuing values,” it appears unlikely that what we call “modern sciences” will ever produce a unitary and/or universal understanding of Nature. While it is certainly true that modern physics holds that the laws it asserts are universal (although always refutable), this is not the same thing than saying that modern physics needs an overarching or unitary picture of Nature in order to do so. The fact is that it does not. The strength of the modern scientific method lies precisely in its rebuttal of any teleological, grand design or unitary vision of Nature that would supersede dogmatically open scientific enquiries. In sum, the supremacy of the scientific methodology depends less on the production of a universal concept of Nature, than on the radical dissolution of all evaluative comprehension of Nature with the propagation of an alleged neutral, value-free and a-cultural method of investigation, itself consolidated with piecemeal discoveries committed to an epistemological principle of falsification and future amendments. The supremacy of the scientific *method* (not scientific speculation) resides in its capacity to reroute the criteria of cognitive success according to a principle of falsification that allows for the possibility of future revisions based on empirical experiments, introducing a level of contingency that makes close to impossible the formulation of any comprehensive and definitive understanding of what Nature is *in toto*.

Hence my initial question: what are the consequences of the dominance of an epistemic paradigm committed to an instrumental/methodological understanding of knowledge for the project of formulating an ecological *wisdom* that wishes to take seriously the notion of relationality and co-dependency at a fundamental level? If positivistic “scientific” thinking dismisses the objects of holistic or integrative thinking as inadmissible metaphysical speculations because not amenable to any empirical criterion of verification, on what basis should environmental discourses promote or justify the inference of ontological interrelatedness and interdependency? How can we defend the protection, the preservation, the diversity, the regeneracy or “chaotic potentiality” of Nature, if the gap between the various empirically based studies in ecology and the idea of Nature as a whole cannot be bridged?

Discussion: Toward a Relational Ontology

I must admit having no simple answer to these interrogations. In an attempt to clarify what I see as a profound difficulty between what gradually became a dominant mode of knowing and the need of a wisdom taking into

account metaphysical principles (ecological interrelatedness and interdependency), I have offered a meditation on the ontological valuation of “what-stands-on-its-own” as I was struck by the implications between our understandings of Nature (either as eternal or as created) and the different epistemic regimes these fundamental assumptions have facilitated. My attempt shouldn’t be perceived as an invitation to dismiss the scientific method, nor technology, both of which can be extremely helpful in demonstrating the ecological impacts of human activities (especially between two-isolated phenomena). My questions should rather be seen as probing the possibility to articulate a wisdom that may help us to move beyond the choices of either siding with an empirical reductionism and verifiabilism, or the tendency to fall back on simplistic and possibly totalitarian monistic/closed/static understandings of Nature. Thinking this possibility begs the question if we should distance ourselves from the attempt to seize the truth of Nature according to the problematic assumption that there is something independent, invariable, simple, first, pure and independent at the root of the phenomenal world that we ought to make explicit, either metaphysically or methodologically. From an ecological standpoint, this assumption is clearly problematic: everything seems to be interrelated, dependent on numerous open sets of relations, interconnected by dynamically evolving loopback effects, intrinsically complex, responsive and diverse. So why do we still privilege the isolation of what-stands-on-its-own or what appears to be independent to inform the ways in which we attempt to know the world, rather than valuing, for instance, the relationships by which things are allowed to emerge, including the truths we formulate about our experience of reality?

Exploring the deeper causes that might help to explain why we came to endorse almost unconsciously the valuation of what-stands-on-its-own, I have first suggested that this valuation has informed a specific understanding of truth, endowed with the character of universalism, apodicticity and apriorism, and a worldview upholding what is autonomous, pure, self-caused on so on as superior to its contrary. I have then suggested that this ontological valuation played a key role in producing an externalist ontology via its association with the will of a monotheistic and creationist God. As a result, I have argued that Nature was stripped of its eternal and self-causing character. The basis of “what-stands-on-its-own” was relocated within God’s, and later Man’s free will: no longer in a Nature viewed mostly as externally determined. Following the work of M.B. Foster, I have argued that the supremacy of the deductive mode of knowledge that characterized Greek epistemology was overthrown by the introduction of an element of irrationalism found in a contingent ontological principle based on theological grounds: God’s will. An “epistemology of distrust” emerged as a result, favoring the use of inductive reasoning and empiricism until the theological skepticism that initially facilitated their epistemic validation started to undermine its own dogmatic base. I have suggested that this “epistemology

of distrust” facilitated the rise of new cognitive criteria gradually de-anchored from traditional ontology and theological doctrines and debates. I have suggested that these criteria formed the basis of an empirical, experimentalist and mathematical language of objectivity geared toward pragmatic, functionalist and technological notions of efficiency. The adoption of these criteria, I have argued, made progressively the holistic notion of Nature obsolete because such knowledge remains non-amenable to an empirical and verifiable account under the *methodology* privileged by the positivistic model of science. The realization is that within our current predominant paradigm of knowledge, which is increasingly dominated by an instrumentalist vision of science, can perfectly function without the need of a holistic or normative notion of Nature.

I have then formulated a series of interrogations problematizing the valuation of what-stands-on-its-own from an ecological standpoint, ending up suggesting that the remaining problem with “Nature” is not so much about what Nature is *per se* (a field of inquiry now gladly left to biologists and physicists), but rather with the possibility of grounding human freedom when a deterministic account of Nature is evoked. This problem, I suggested, emerges at the juncture we find between the deterministic and materialistic assumptions embedded in the scientific worldview, and its reception by a modern mind still uncomfortable with the unilateral collapse of humanity in a deterministic Nature, or (sometimes) vice versa. Reframing the body/soul dualism first popularized by Christianity, the seventeenth century mechanist view of Nature we still find at the heart of our modern worldviews contributed to this tension between what is believed to be a soulless world reducible to empirical/mathematical predictions and manipulations, and the element of human consciousness itself believed to be irreducible to empirical determinism. Human consciousness must indeed be posited irreducible to determinism if the experience of synthetic knowledge of otherwise scatters empirical data, freedom, morality and law ought to be possible.

In other words, what-stands-on-its-own became associated with the notion of will (human and/or divine) generating a twofold ontological order primarily composed of two independent realities: the unpredictable element of human will and the deterministic element of the empirical world in which it emerges and evolves. The unsettling question thus became: which order of reality comes first, triggering interrogations such as: are our thoughts shaping how we perceived reality? Or are our thoughts an epiphenomenon of something more fundamental and empirical? If humans are also part of Nature, and the bodies and behaviors also amenable to empirical/mathematical predictions (i.e. subject to determinism), are we really free or even accountable for our tendencies and actions? In this context, Nature is either placed at the limit of what is believed to be an aprioristic mode of consciousness, or described as a contingent cultural construct justifying societal taboo, political and social inclusions.

In both case, we can see that Nature falls prey of our anthropocentric reductionism and solipsism. On the one hand, we are depriving Nature of any mode of agency, consciousness or intrinsic finality in order to secure both what is believed to be properly (and often superiorly) human. On the other hand, we reduce Nature to the status of ever-shifting cultural narratives with no way of knowing what Nature truly is, at least certainly not as a whole.

It is here that I propose the notion of a relational ontology to formulate an integrative and comprehensive ontology based on the notion of relatedness. I see in a relational ontology as a reversal of the ontological valuation of what-stands-on-its-own for the valuation of what-stands-in-relations. Inspired by recent ecological findings that suggest the intrinsic interdependency of all living beings, a relational ontology can be understood as an invitation to value the dynamic and open relations by we emerge on an equal standing. It is an invitation to replace the assumption that we ought to start by securing the primacy of what-stands-on-its-own (or what stand independently) by a more flexible and open assumption suggesting that we ought to attune ourselves to the various relationships by which we emerge, evolve and eventually pass away. The argument justifying a shift from one ontological valuation to another cannot ultimately be subject to strict empirical method of verification; it remain a metaphysical choice that we have to make, hence the word valuation.²⁵ Yet there are still good reasons to prefer one ontological valuation to another when it comes to the problem of thinking Nature. For instance, we can think of the inductive conclusions coming from

²⁵ Our understanding of reality or Nature always presupposes specific ontological valuations (such as the valuation of what-stands-on-its-own), which makes untenable this idea of a strictly impermeable division between the realms of what is (facts) and ought to be (value). The ought/is distinction is itself a metaphysical construct in the sense that it cannot be proven by the methodology that sustains its inference. The notion of “fact” for example, which separates values from objective realities, cannot itself be empirically proven or experimented upon; it is metaphysical construct we create in order to isolate arbitrarily an object we posit independent from another one, by which we then try to understand the relation between the two (or more). Our understanding of a “fact” already presupposes a specific understanding of reality based on the metaphysical assumption that there is a reality independent from our minds. This assumption remains metaphysical in the sense that it cannot itself satisfy the scientific criterion of empirical falsification or verification via the framework of the scientific method. It becomes a “factualist worldview” when the methodological operation by which we construct “independent facts” becomes the justification for the theory positing that the world is ontologically made of objects that necessarily correspond to the structure of “facts” as we imagine them to be. Similarly, it becomes a “realist worldview” when we jump from the assumption that we are ultimately referring to the same objects or entities by virtue of communicating about them to the conclusion that there is only one true reality out there to which only one mode of knowledge can truly correspond (an assertion we cannot prove by the methodology used to construct “facts”); and furthermore a scientific worldview when we assume that all of human knowledge ought to be reduced to the cognitive criteria developed by the scientific method.

ecological studies suggesting a dynamic ontological state of interrelatedness working at a fundamental level in-between living species sharing an ecosystem (and of course in-between a living being and its ecosystem as well), and the ethical effects that this shift in valuation may produce on human behaviors.

To be clear, I am not condemning worldviews because they hold metaphysical assumptions that cannot be proven scientifically. On the contrary, I hold that it is quite inevitable for any theory of knowledge or worldview *not* to posit a number of foundational metaphysical assumptions that cannot be proven in a scientific manner. I am simply suspicious when worldviews assume that their metaphysical assumptions are not what they are: namely, *posited* assumptions that allow, but also limit, the expression of a mode of knowledge about what a group of significant relations that can loosely be labeled as one's experience of reality. After all, by proposing a relational ontology I also suggest a metaphysical idea as foundational: that of relationality. One of the main differences I see between a relational ontology and an ontology valuing what-stands-on-its-own is a shift of focus from identifying and valuing what ought to exist first or independently, to identifying and valuing relations as the base of our experience of reality via a more reciprocal, intrinsic, interdependent and equalitarian model. It reverses the main valuation at the center of the Western understandings of Nature we have examined in this article: a relational ontology is an understanding of reality that no longer needs to search for the first or most independent being, element or reality to organize its knowledge of reality, or to assume that there is a single reality beneath our many approximations of it. It rather bases its knowledge of reality on an immanent appreciation of the differences that compose and structure its given in a dynamic and open fashion.

We should be careful, however, not to oppose cultural expressions and relationality, as if culture were only a distortion of something more true and authentic. Of course, the knowledge of relationality necessarily emerges through specific cultural narratives and experiences, which more or less accept or negate other cultural expressions of the relationality they share. By the expression "the relationality they share" I do not mean a more primordial reality; relationality rather constitutes the immanent and immediate experience through which we experience both the difference and the unity of our conditions as interrelated and interdependent beings. Inspired by the formulation of Robin Durie, the project of suggesting "relational ontologies" can be seen as an invitation to begin from relations as such, from which the sense of entities or regions as emerging from these relations is viewed as derivative, rather than beginning from some static conceptions of ontological regions, and then seeking how these "regions" may interact (Durie 2002, p.

162).²⁶ It is to view our “attributions” or “designations” as possessing a “double expressivity” to the extent that they are fundamentally relational and differential at the same time.

Adopting a relational ontology can create a broader sense of ecological relatedness without compromising the processes of differentiation without which the notions of singularity and discrimination are lost. The notion of relational ontologies can help us to understand Nature as an active field of infinite relationships through which emerge various singular entities by virtue of the relationships they have with other than themselves to begin with. As such, Nature designates what always exceeds in a differential mode—and yet sustains—our conceptual constructs from the outset. In other words, a natural being is not considered ontologically independent by virtue of that which cannot be fractioned anymore at the risk of destroying what makes it precisely that (the atomistic view); what is irreducible are rather the inter-constitutive relations that all living beings have with other than themselves by which they may receive, sustain and transmit life. To use Aristotelian formulation, we could say that no passage from potentiality to actuality can rely solely on its own; the passage to actualization requires infinite interactions, which themselves can be viewed as integral to any form of actualization. Nature thus appears as a relational and open matrix of infinite relationships through which various natural beings constitute themselves through multileveled states of interactions and exchanges by which cyclical processes of regeneration, reproduction and destruction can be maintained.

By understanding Nature as an active, responsive and dynamic web of infinite relations in synch with the activities of our consciousness, we can relax the grip of the Idealist\Realist paradigm which makes Nature or Reality either the product of our minds (either subjectively or culturally) or a pre-existing and objective reality that our minds can only approximate.²⁷ Both Nature and our minds emerge equiprimordially in our experience of the world; that is through an ontological state of both differentiation and unity from the outset. As the Latin etymological root of the word “consciousness” formed by

²⁶ On the subject of relationality and the possibility of thinking a metaphysic or relatedness, see the excellent work of Oliver 1981, 1984, 2006. I am indebted to Oliver for many of my insights of the topic.

²⁷ As Purser, Park and Montuori suggests: “Our observations should not be interpreted to mean that the environment or Nature is merely the artefact of a collective social construction. That would amount to a form of ecological solipsism. Nature is not simply a product of the social world; it has properties that exist independent of humans (photosynthesis in plants has survival value and occurs regardless of our view of Nature). Rather, we are only trying to draw importance to the fact that social-construction processes are involved in shaping concepts of and relationships to Nature—that such processes are intertwined with epistemological, ontological, and ethical issues” (Purser, Park and Montuori 1995, p. 1058).

the coalescence of cum (“with”) and scio (“know”) already suggest, to be “conscious” means to “know with”; it suggests both a relation to something beside oneself (the introduction of a difference we may relate to), and a state of awakening to the experience of that relation itself. In that regard, nothing would be more remote as a point of departure for the experience of consciousness than a mono-understanding of either divinity or the soul or any notion of atomic being. From a relational standpoint, there is no single point of departure for consciousness. Consciousness rather consists in an integrative and expending mode of relating to what is always already beside itself to begin with. In other words, a relational standpoint can be seen as an encouragement to experience ourselves as constituted through an ever-expanding, dynamic and boundlessness relationality, which makes the limits between inside\outside a secondary topic if we agree that what constitutes our singularities and unity are mediated through dynamic and open relations which generate both simultaneously. As a result, the need to assert one’s cosmology, identity, nationality or any other self-referential concepts by excluding (or barely tolerating) others can also be relaxed. A relational commitment to ontology can help us to understand that the epistemological, pragmatic or metaphysical criteria by which an agreement could be negotiated must not precede, but rather emerge immanently from the encounters themselves.

The adoption of a relational standpoint could also produce an interesting alternative to the enduring debate opposing the One and the Many (or Singularity and Universality or Monism and Pluralism), casted in mutually excluding terms since at least the time of Parmenides and Heraclites.²⁸ Adopting a relational paradigm by which relations are

²⁸ See on this topic the excellent analysis of Colin E. Gunton in *The One, the Three and the Many. God, Creation and the Culture of Modernity* (1995). Gunton does a fantastic job at outlining the problems associated with both the tradition of Monism (One) and its counter he sees in pluralism (the Many), suspicious, under its modern form, of the tendencies of Monism of encouraging a conception of unity which suppress human particularity and freedom (p. 213). Gunton is also critical of Modernity and its dogma he describes as this implicit belief “that the prime reality is the human will which is ontologically either so distinct from the rest of the world or so continuous with it that the only conceivable orientations are the alternatives of domination or resignation” (p. 219). He advocates a notion of relationality to overcome this impasse, and as a basis to rethink our relationship with God. Although his analysis of Modernity is remarkable and his critique of immanentism truly insightful, I must condemn Gunton’s anthropocentrism sadly typical of Christian dogmatist thinkers in remarks such as this: “Personal beings are social beings, so that of both God and man it must be said that they have their being in their personal relatedness: their free relation-in-otherness. *This is not so of the rest of the creation, which does not have the marks of love and freedom which are among the mark of the personal*” (p. 229. The emphasis is mine). I am also puzzled by his remarks that associate immanent version of relationality, Modernity and atheism (see Durie 2002 for example) with the demonic (p. 38, 72, 89).

understood as that which both unites and differentiates us at an ontological level could initiate a profound shift impacting not only on our comprehension of Nature, but also on the Western conception of the self, which is mostly understood in atomistic terms as an agent progressing from dependency to independency as a sign of maturity (rather than focusing on increasing well-being through interdependence and interrelatedness).²⁹ Such shift could also have significant impacts on the various Western cosmologies, haunted by the problem of finding a single cause or point of origin to the world (rather than accepting the impossibility of having a single point of origin for the world if we accept a relational ontology) or by the hierarchical understanding of ontology, rating beings from dependent (inferior) to independent (superior). This could provide a conceptual canvas to negotiate our differences from an immanent standpoint, without imposing or sacrificing any universality and particularity that may be expressed in the experience in question. A relational ontology could help us to open ourselves to the plenum of an encounter, and to better attune with what we may perceive as otherness by inviting on an equal standing the relations by which the singularities of each and everyone—humans, non-humans and more-than-humans—are revealed.

Relationality surely hints toward a number of ethical guidelines built into the relational dimension of our existence; providing that we accept the notion that we are interrelated and interdependent ecological beings. It calls for the maximization of equal standing with other beings and the appreciation of diversity as an asset to an open understanding of relationality, motivated by the desire of dynamically harmonizing ourselves with the wellbeing of all other creatures and ecosystems known to us. Of course, this relational worldview can still be opposed by the dominance of worldviews insisting on the accumulation of a knowledge that can be immediately useful to humans, mostly under the scope of new technologies that allow us to master our environment, principally in extracting and transforming “natural resources” more efficiently. But the suggestion of a relational paradigm is precisely questioning the values at the center of the modern understanding of reality, showing that the cult of infinite accumulation, growth, power and domination can be replaced by an understanding of reality based on a different valuation, namely a mutualistic and relational valuation of wellbeing for all sentient and non-sentient beings. It also challenge the dualistic tradition that has cultivated the assumption so far nowhere found in Nature that what is pure, uncaused, immaterial, eternal and so on, is superior to its contrary. It asserts that, on the contrary, cultivating what binds us together as interdependent beings in a

²⁹ As Purser, Park and Montuori suggest, the Egocentric mode of organization which predominates in Western societies assumes a self-contained individual, “a sovereign agent, whose personal sense of identity is constructed and felt to be contained within the ‘private’ boundary of his or her skin-encased body. As such, ‘Egocentric organizations’ conceive of their identity as existing in opposition to the larger socio-ecological environment” (Purser, Park and Montuori 1995, p. 1062-64).

direction that maximize the wellbeing of all parties involve is a better wisdom than modeling on such mono-fantasy to cultivate selfish, greedy, solipsistic and anthropocentric conceptions of what is a successful life.

As such, we can see that pledging for a relational ontology is more than just positing that the world is constituted of relations that would precede the units we perceived as tangible, hence real. A relation, after all, can still be asymmetrical, hierarchical or unjust. In other words, there is no link of necessity between valuing relations and the normative commitment to a greater equality among all those in relation. But the normative implications of adopting a relational ontology should be seen as either necessary or not, thus valid or not; it is after all an ontological valuation, meaning an invitation to think consciously the fabric of our world in a different light, to challenge the basis by which one begin to claim a privileged or superior status over another, to see that at a fundamental degree the reunion of the opposite held by our binary logic—yet without flattening the singularities upon which thrive relationality. It is an invitation to understand the power of our valuation at the heart of our understanding of reality that can be directed toward a caring, empathic, mindful and loving wisdom that understand that our identities are not something to close, assert and defend, but rather a momentary and perhaps too brief opportunity to open up, to share and commune with the greater mysteries that surround us.

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