MICHEL SERRES AS MORAL PHILOSOPHER

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Abstract

The aim of this thesis is to raise awareness of, and interest in, the importance of Michel Serres' work for moral philosophy. Despite evidence of growing interest in Serres' philosophy, there is a paucity of secondary literature among Serres scholars on his work in the field of ethics. Moreover, there is almost no engagement with Serres' work by those specializing in moral theory or applied ethics. I argue that Serres is a moral philosopher worthy of sustained study because he makes distinctive and interesting contributions to contemporary debates in metaethics, normative ethical theory, and, perhaps most especially, in applied ethics. I further argue that other ethicists ought to consider adopting a Serresian approach to ethics, both because of his contributions and because his approach demands conscientiousness about its own ethical impact.

In making this case, I will unpack the figure of "contracts" in Serres' philosophy and discuss its significance in metaethical debates connected to the fact/value distinction. I will also show that Serresian metaethics is an interesting intermediate variety of moral constructivism that decenters human subjects via the notion of quasi-objectivity and position him between robust realism and agent-dependent constructivism. As a philosopher of the intermediary spaces, Serres also shows how to navigate the challenges of moral absolutism and relativism; his normative ethics is connected to a variety of structuralism that allows for both moral sameness and difference. I argue that Serres recommends a new kind of democratic moral reasoning that transcends the traditional methods relying exclusively on "theory" or "practice," and, finally, outline a set of criteria of adequacy for ethical theories. I argue that Serres meets

these criteria, and that more ethicists should consider adopting a Serresian approach to ethics.

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Declaration

I hereby declare that this thesis is my own work and has not been submitted for any other degree at the University of Staffordshire or at any other institution.

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Section One: Introduction

Michel Serres, French born-and-trained philosopher and polymath, is still an under-read and underappreciated thinker amongst English language scholars generally and among philosophers particularly. This is despite Serres working for decades at Stanford University, his having authored more than forty books, his working across media like radio and television, and his being a member of the French Immortals. It is curious that an intellectual giant of Serres' accomplishments should be relatively unknown, or, perhaps, deliberately ignored.

There are explanations for Serres' lack of attention. Chris Watkin proffers several plausible factors, including the timing of the release of some of his influential works (e.g., *The Natural Contract*), the breadth of subjects on which Serres writes, his writing style, perceived lack of rigor, and slowness of the translation of Serres' works (Watkin 2020, pp.13-15). There is some justice to these complaints, for there is no doubt that Serres is difficult to read. For the most part, he does not write in academic style—of which he is openly critical—and often employs metaphors or poetic examples to illuminate deep philosophical points. He does not lay out arguments reduced to simple propositions or proceed in linear proof. Many "working" academic philosophers, especially those trained in the analytic tradition, would be quick to dismiss him on those grounds alone.

Like a true polymath, Serres' thought is encyclopedic, demanding that his readers possess at least cursory understanding of mythology, biology, communication and information theory, topological mathematics, geometry, history, physics, and French literature, to say nothing of sailing, culinary arts, rugby, football, mountaineering, and viticulture. Watkin writes that to read Serres is to be "confronted with at least some of the vast ocean of knowledge of which we are barely even aware of our ignorance," which is an uncomfortable experience for scholars who aim to defend a particular school of thought (Watkin 2020, p.15). Even if Serres' use of encyclopedic examples does not intimidate, it manages to disorient readers, forcing them to cast off in search of new bits of information to make sense of what they're reading. Steven Brown jokes that he always has Google open when he's studying Serres, and this author is also no stranger to that practice (Ellis 2020).

Serres is no obscurantist, though, masquerading charlatanism with kaleidoscopic jargon. It is also a question-begging mistake to dismiss Serres' work by accusing him of a lack of rigor. Serres may seem like an easy target for those accusations, because he does not engage in the traditional philosophical activities of definition, conceptual analysis, reductionism, or foundationalist justification. For Serres, concept-based, linguistic models of philosophy do not exhaust all possible knowledge—knowing is not "true justified beliefs," or other variations of that formula. Serres rejects these aims because they amount to "umbilical thinking," or the tendency toward reductionism found in almost all philosophical theorizing. Motivated at least in part by the principle of parsimony and a desire for unification, philosophers tend to seek the simplest metaphysics or to uncover a privileged point of epistemic justification. Serres is

unmotivated by these theoretical desiderata, and, along with them, the idea that nature unfolds purposively. There is no singular method or discipline that commands the sweeping vista of the known and no path that knowledge is "supposed" to tread, his consequent commitment to pluralism, his rejection of the law of excluded middle, his prioritization of synthesis over analysis, and, vitally for thinking about ethics, his non-teleological metaphysics. He seeks to "think the multiple without concepts." Serres therefore develops what Watkin calls a theory of knowledge committed to "aspectualism:" there are many equally legitimate paths to knowing (Watkin 2020, p. 108). Serres further seeks to move beyond the law of excluded middle, or the "excluded third," because of its injurious tendency toward "violence," and, since analysis (separation) is a kind of exclusion, he argues that true knowledge involves inclusion, or synthesis, of manifold possible aspects (Serres 2015a, pp. 142-143). Knowledge therefore integrates (and creates) an understanding of the global by integrating insights from a wide variety of local sources.

While his style may seem obscure, his metaphysical and gnoseological commitments are *exemplified* by his written work—Serres simultaneously "says" and "shows" his readers what he is trying to express. If one defends the claim, as Serres does, that no single discipline has a unique window into knowledge, and that there are many vistas to the same insight, one must *show* that by revealing to the reader those various perspectives. If philosophers are meant to be the shepherds of the possible, as Serres suggests, then they ought to confront their *own* uncertainties and acknowledge the indispensability of ignorance to pursuing new knowledge. It is not without purpose that Serres disorients readers and avoids academic style.

Section Two: Literature Review

Despite the stylistic differences, deviation from academic norms, and other impediments to Serres' wider reception, his work calls for greater and deeper study. The number of English-language scholars researching Serres' philosophy is growing.

For instance, Martin Jay (1994), Carolyn Korsmeyer (1999), and Nicola Perullo (2016) engage with Serres' philosophy of perceptual experience. Jay's interest is primarily historical; he situates Serres among other 20th Century French thinkers arguing against the primacy of vision in human sense experience. Gustatory aestheticians Korsmeyer and Perullo, on the other hand, are more interested in the reflections on taste found in *The Five Senses*.

Others, like Barker (2015), are interested in Serres' philosophy of communication. Barker locates in Serres' information-theoretic work on noise and communication a way of understanding the relationships between media technology and the natural world. Ben Byrne (2017) tunes in to Serres' philosophy of sound as one way to listen to and approach experimental music. The latter, I think, shows the diversity of areas in which Serres' voice might resonate.

But that does not mean that Serres lacks reception in more traditional areas of philosophy. Massimiliano Simons (2019) and David Webb (2005, 2019) both draw connections between the work of Serres and French epistemologist Gaston Bachelard and explore Serres' contributions to the history and philosophy of science. Steve Brown (2004, 2005, 2013, 2016) elaborates Serres' impact on the philosophy of social sciences and applies key figures of Serres' philosophy to social psychological areas like organizational theory and management education. Maria Assad (1993) unfolds the

dynamism and complexity—the topological knots—characteristic of Serres' metaphysics of space and time, Lucie Mercier (2019) develops an account of the structuralist influences of Leibniz on Serres' thought, and Vera Buhlmann (2020) formulates a Serresian philosophy of mathematics.

However, with some notable exceptions, there hasn't been much exegesis of Serres' underlying and interwoven ethical theorizing.[1] Like most philosophers worth studying, Serres has much to say on ethical matters. Furthermore, it's not hyperbole to argue, as Webb does, that there is a deeply ethical dimension to Michel Serres' philosophy more generally (Webb, 2006, p. 125). The ancient atomistic aspects of his metaphysics carries with it a commitment to both a certain approach to physics *and* ethics. The two are entwined, and there is ultimately no sharp gap between "being and wellbeing" (Webb 2006, p. 133). Or, perhaps in language more appropriate to the claims I will defend, physics and ethics share structural isomorphisms, deep commonalities that appear in both discussions of being and wellbeing. Thus, to work within Serres' metaphysics commits one to *doing* ethics; nevertheless, relatively few of his commentators have drawn out those implications. Perhaps this is because, as Brown notes, Serres does not make it easy to translate the core concepts of his work (e.g., the parasite) into a straightforward ethical theory (Brown 2016, p. 149). Nevertheless, one cannot appreciate Serres' work fully without addressing his value theoretic commitments. It is therefore somewhat surprising that more researchers have not taken up a study of Serres' ethics.

[1] The rare trailblazers who have done work on Serres' ethics include Brian Lueck, Chris Watkin, and David Webb. I will highlight their contributions later in this thesis.

Maybe the most significant example of this absence is felt in Chris Watkin's recent book, *Michel Serres: Figures of Thought (*2020). Watkin provides a masterful overview of, introduction to, and way of reading Serres that has helped map my journey through Serres' work. But despite the breadth of Watkin's analysis, some of which touches lightly on important moral questions, he stops short of teasing out some of the further implications for ethics as a field of study.

For instance, in the chapter addressing Serres' writing style, Watkin discusses Serres' choice to employ quasi-literary figures as "character concepts" that help gather together and illustrate his insights without resorting to traditional philosophical concepts (Watkin 2020, pp. 194-196). Omitted, though, are two explicitly moral character concepts—the "wise man" who exemplifies the epistemic and moral virtue of *ataraxy* (Serres 2018, p. 116) as well as the closely related figure of the "helmsman," or contemporary sage (Serres 1990, pp. 92-95). Neither does Watkin address in great detail Serres' reflections on virtue or dwell at length on how Serres might help an individual person reason through a moral quandary.

I should be careful to note that this is not negligence on Watkin's part, but merely a consequence of the limits of the project. As a general overview of Serres' thought, it cannot, of necessity, develop every aspect of his polymathic philosophy. Watkin also takes up some of this work in other writing, as he recognizes that Serres' moral and political philosophy are "chronically underexplored." (Watkin 2019, p. 527) Watkin writes that ethics grounded on radical alterity—a theme common to other contemporary French moral philosophers like Levinas--hinges on a hard distinction between "self" and "other" that is untenable once faced with Serres' refusal to accept false dichotomies of

exclusion (Watkin 2019, p. 520). He also concludes that ethical or political theories grounded principally in balances and exchanges (e.g., classical social contract theories or reductionistic economic explanations of social phenomena) are both undermined by, and presuppose, the more basic parasitic relation Serres develops through his oeuvre (Watkin 2019, p. 526).

Other commentators, like Posthumus (2007) and Krell (2012), take up questions related to environmental ethics. Posthumus argues that Serres' "ecological," that is, relational, thinking as offering fresh perspectives on the literature of "ecocriticism" developed mainly in North America. Krell articulates a defense of Serres' recommendation that we abandon the classical "social contract" in favor of a "natural contract" vis-a-vis criticism from Luc Ferry. Neither make deeper forays into moral terrain.

The most probing excursions into moral theory come from Brian Lueck and David Webb. Lueck offers Serres primarily as a way of engaging with Kantian deontological thought, demonstrating how Serres' parasitism and noise force a rethinking of the Kantian conception of "respect" (2008), and contrasts conceptions of "moral sensitivity" between the two (2014). For Serres, Lueck argues, moral sensitivity is receptivity to a spectrum of moral possibilities, whereas for Kant it amounts to *a priori* recognition of the necessity of the moral law. Lueck does write an important non-comparative paper unpacking Serres' rejection of "belonging," or our tendency to form identities by creating inflexible boundaries, by highlighting his emphasis on tolerance and building relations. Actions of exclusion are presented as propagating "evil" (2015). Most recently, Lueck

presented a Serresian reading of virtue ethics and raises the question of what reason one can find to be virtuous in Serres' sense (2024).

Webb's contributions are probably the most intent on developing Serres' ethics as such. As noted above, Webb argues that ethics is an inseparable characteristic of Serres' work. Answers to questions about how one ought to act are not different in kind or radically separate from metaphysical principles governing the formation and maintenance of material bodies or other forms of "order;" proper conduct consists (at least in part) of maintaining minimal deviation from equilibria, e.g., minimizing the proliferation of chaos. (Webb, 2006 p. 133). Webb precedes Lueck in working out a Serresian conception of virtue, contrasting it with the teleological, disposition-based account of Aristotle (2020).

Webb, Watkin, and Lueck have lain important pathways for other Serres scholars to follow, but despite their contributions there remains a paucity of secondary literature. Furthermore, given the vast range of interests his thought includes, more could be done to bring Michel Serres into conversation with various areas of inquiry. While Serres himself is a "troubadour," unwilling to align himself along disciplinary boundaries, and tirelessly encourages trans or interdisciplinary thinking, it does not follow that other scholars should not consider the implications or significance of Serres' thought for their own fields. Consonant with observations above, scholars would profit from bringing Serres home to their own interests precisely because there's something in Serres that can speak to everyone.

It is in the spirit of the latter that I write this thesis. My goal is to make a case for Michel Serres as a moral philosopher whose work in ethics is worthy of sustained

philosophical interest—regardless of one's initial philosophical training. While few specialists in moral philosophers are aware of Serres, he is certainly aware of the work of his predecessors and contemporary colleagues. Though Serres is typically associated with "continental" philosophy, thinking that his engagement with ethics is limited to that tradition would be a mistake. Questioning the subject/object distinction, as Serres does, will have implications for a Levinasian alterity ethics rooted in the phenomenological tradition, certainly (Watkin, 2019), but it also has serious ramifications for metaethics in analytic schools, say. While Serres is rarely direct or explicitly systematic in spelling out his ethical theory, his work contributes to long-standing debates in metaethics (the theory of moral metaphysics and language), normative ethics (principles of conduct, grounds for action and judgment) and applied ethics (how we ought to approach moral quandaries in various spheres of human activity and life). Throughout this thesis, I will shine light on Serres' valuable contributions. Intellectually curious moral philosophers will be intrigued by Serres' thinking, and intellectually honest ones will find in Serres a challenge to a spectrum of comfortable Western philosophical assumptions about morality.

Equally, though, Serres raises questions about *doing* ethics as a field of study[2]. For him, no theorizing is morally neutral, including ethical theory. Additionally, we ought to be sensitive to how our applied sciences, including applied ethics, are done. In brief,

[2] I am aware that philosophers in the tradition of which Serres is a part (e.g., Critchley) distinguish between "ethics" and "morality." I typically will not distinguish between the terms. However, the noted sentence above generally stakes out a pattern of usage. 'Ethics' can be understood as the philosophical study of morality. So, "moral philosophy" would be synonymous with my use of ethics because it is the philosophical investigation into morality. 'Morality' is an amorphous and deliberately ill-defined term in my lexicon because it refers to a spectrum of value-theoretical questions related moral values and conduct. I refuse to define 'morality' further on the grounds that attempts to do so are often question-begging because they are already theory-laden (I will support this argument in Chapter Six).

there are greater and lesser ethical ways to "be ethical," and Serres demonstrates a conscientiousness about how ethical theorizing ought to be conducted. So, trading on the ambiguity in making a case for Serres as a "moral" philosopher, I will argue that a Serresian approach to ethics is *preferable* to more historically established forms of ethical reasoning rooted in "theory" and "practice," because of his commitment to conscientiousness. There ought to be a few more Serresian ethicists working today.

By making this case, I hope to show that Serres opens new vistas for ethicists to explore. This thesis will both widen the secondary literature and deepen the discussion of Serres' ethics by offering a book-length treatment of Serresian moral philosophy.

Section Three: Thesis Structure and Chapter Overviews

I have opted to arrange the following chapters starting from the most abstractly metaphysical and moving toward the more concrete and every day, roughly approximating a movement from metaethics, though normative ethics, into applied ethics. I do not think that Serres himself would acknowledge those distinctions, and I do not pretend that this is the right way, or the only way, to approach Serres' ethics. There are recurring structures or invariants in his work that he uses any number of examples to illustrate, and the same will be true of his moral thinking. So, the "concrete and everyday" examples can be used to *reveal* the abstract and metaphysical, and vice versa, and the choice of thesis structure should not be read to imply a hierarchy of normative significance or ontological priority like that found in Plato's Divided Line. Accordingly, there is significant overlap across chapters, the same structures will appear in several chapters, and the chapters could be read in different order. The latter is

particularly true of Chapter Three on value networks and Chapter Four on Serresian principles.

Equally, though, the variety of paths through Serres' ethical thought means that there isn't a clear departure point and one could think through his work from numerous directions. So, despite some infidelity to the spirit of his work, I have deliberately chosen to arrange the thesis along familiar lines because it may be less disorienting for moral philosophers newly introduced to Serres.

In the second chapter, I will engage with Serres's broader metaphysics with the goal of explicating the connections between metaphysics and normativity and between descriptive statements and prescriptive judgments. I will describe the emergence of spatio-temporal organization via the figure of the "contract," and distinguish between three variations of contracts in Serres' work: existential, social, and natural contracts. Existential contracts are organized and governed by natural laws and exist prior to and independently of human beings; they "do not depend on us," in Stoic parlance. Social contracts refer to the bonds governing societies (e.g., nations or marriages), and natural contracts express the relations and bonds between human beings and the natural world. But by extending the notion of "contract" beyond the human, Serres invites us to rethink the term in informational rather than merely linguistic framework. I will argue that since being is contractual, and contracts are performative, normativity is co-extensive with existence. Anything that is, is spatio-temporal-valuable. Thus, Serres' metaphysics occupies a position in the contemporary metaethical debate regarding moral realism and anti-realism. Serres is a realist about normativity, but I will argue that he is not a "realist" about morality in the traditional sense. One implication of this is the erosion the

long-revered distinction enshrined as “Hume’s Law” between the “is” of description and the “ought” of prescriptive judgment. Nevertheless, Serres’ erasure of Hume’s Law contributes to debates in ethics (and other areas of value theory) by allowing one to evade philosophical logjams around questions of moral truth and knowledge.

The third chapter continues the exploration of Serres’ contributions in metaethics, addressing the process of emergence of moral value, or, put another way, I will explain how general normativity takes on a definitive moral hue. Moral value only occurs within networks of relations, and it is within and through these networks that specific values are assigned or coded to beings. I will call these relational tissues “value networks,” and draw a rough distinction between “local” and “global” value networks. I argue that Serres’ metaethics is constructivist rather than robustly realist, despite the omnipresence of value, and show that Serres’ process is *refractionist* rather than “contractarian” in the usual constructivist sense. Serres’ refractionism is a middle position between metaethical realism and the kind of contractarianism that relies exclusively on the model of human or idealized anthropomorphic agents, and I argue that it is ironically *simpler* than both alternatives. I then explain the formation of value networks and describe the process whereby moral value is assigned. The parasite is one of Serres’ more famous ideas, and here I address its connection to morality. For Serres, all relations are *parasitic*, or one-directional interference relations. So, value networks begin from parasitism. There remains a question of how relations that are essentially subtractive become mutualistic moral relations and statuses, and I will discuss the circulation of *quasi-objects* as the designator of value in value networks involving human beings. Far from being passive “things,” quasi-objects play a role in

creating human subjectivity and in the process of moral construction. Thus, human agents are *decentered* as the exclusive locus of moral value, or from being its exhaustive causal condition. Accordingly, Serres also contributes to contemporary moral debates about beings' moral standing or "moral considerability." I close the chapter by posing a challenge for Serresian (meta)ethics. In the absence of teleological purpose or a "good" that bestows value upon things, value networks seem *prima facie* incommensurable and moral value relative to each. How is one able to navigate moral conflicts or adjudicate in cases of disagreement?

Chapter Four works to answer the challenge of relativism by explaining the function of "invariants" in Serres philosophy. What Serres helps us see is that moral relativism and moral absolutism is a false dichotomy rooted at least in part in a limited notion of universality. Serresian invariants are not traditional philosophical universals; rather, they are relational structures that appear across various phenomena. The notion of structure Serres employs is drawn from mathematics, and invariants permit the tracking of isomorphic similarities between value networks. It is commonality at the level of structure that makes it possible to bridge differences between value networks—moral disagreement is not inevitable without some antecedent "good" to adjudicate between competing moral claims. Indeed, the fact of disagreement signals an opportunity build a new, shared, value network.

I then detail three Serresian invariants that can offer guidance to people making ethical decisions. These navigational invariants are not "principles" in the traditional sense—they are neither foundational in terms of justification nor universal in the sense of having the form of "one over many," yet they remain normative in that they guide

conduct. Thus, these principles constitute what one might designate as Serres' "normative ethical theory." I call them the Principle of Least Disturbance, The Principle of Creative Risk, and the Principle of Loving Synthesis. No single principle is more fundamental than others, and each is useful for navigating (rather than solving) ethical challenges. The principles also reveal the kinds of moral harms that Serres generally enjoins people to avoid. Such harms are not "evils" without qualifications, for there is no such thing in Serres' metaphysics, as even harms have generative power and may take on positive moral value in certain relations. In any event, the harms are violence, death, belonging/exclusion, and domination.[3]

The goal of the fifth chapter is to spell out a Serres-motivated approach to applied ethics and to recommend it as a better way of addressing contemporary moral problems than theories arranged around the traditional axes of "theory" and "practice." I argue that neither broad approach can manage the kinds of problems faced by contemporary decision-makers—what Rittel and Webber characterize as "wicked problems." Making an ethical decision, even about something relatively local or "personal," means confronting vast complexity and problems that do not allow for "solutions." I will lay out the notion of wickedness, and argue that Serres augments Rittel and Webber's work, showing that matters are more wicked than the latter conceived. Wicked problems can only be managed, not solved, so a new approach to applied ethics is needed. Serres offers a new model for applied moral reasoning, suggested via the figure of the WAFEL and the "third-instructed," and suggests a

[3] One limitation of this chapter concerns reading Serres as a virtue ethicist. There is certainly reason to take up that thread of Serres' thought—not least because he spoke and wrote on the subject of virtue—but I have opted not to take it up here. As I noted above, Webb (2020) and Lueck (2024) have addressed Serresian virtue ethics, and with great and careful detail.

dynamic way of conducting oneself in managing wicked problems. The goal of applied ethics is a process of negotiating how to handle problems in ways that are democratic--communicative, integrative and synthetic--rather than commanding or didactic.

I am confident that the expedition through Serres' ethics in the preceding chapters is sufficient to support the claim that he makes valuable contributions to moral philosophy and is a figure worth studying. The sheer breadth of moral theoretic issues to which he makes contributions is itself evidence.

However, the further claim, that Serres' moral philosophy is theoretically preferable, is always also working in the background of each chapter. Throughout I will be highlighting premises important to the sixth chapter, in which I will argue that Serres' ethical theorizing offers a morally attractive approach to ethics. There is no definitively agreed-upon set of criteria of adequacy for ethical theories but supporting the claim that Serres' theory is a preferable alternative requires a discussion of what they might be, and, indeed, Serres may be read as engaging with this very question. C.E. Harris offers a set of criteria: consistency, plausibility, usefulness, and justification. Ethical theories must be free from internal contradiction and must be adequate to explain the "facts" of morality or fit with widely held moral beliefs. The latter is a nod to the notion of conservativism in scientific theorizing, i.e., a theory that preserves rather than disrupts existing knowledge is *ceteris paribus* preferable to one that does not. Harris further argues that applicability—usefulness—is a central demand on an ethical theory and finally insists that ethical theory's central principles provide some justification for their centrality and authority (Harris 1986, p. 40). One could also include other scientific criteria, like parsimony or explanatory scope in the discussion.

Recently, though, philosophers like Birch (1993) and Calarco (2010) have demanded that ethical theories should be ethical *themselves.* Birch and Calarco, along with Serres, demonstrate that ethical theory choice is not a morally neutral activity. An ethical theory may be preferable on the grounds not just of its consistency or simplicity, say, but on whether it is more *conscientious* than its competitors.

I will evaluate the more generally accepted criteria of adequacy and will then make the case that a minimal sense of plausibility, usefulness, and conscientiousness are the core criteria for assessing ethical theories. I will close the thesis by arguing that Serres' work deserves to be taken seriously on these grounds.

Section Four: Primer

Many philosophers, especially those whose training in ethics is rooted in the analytic tradition, will find Serres difficult to "pin down," as he actively seeks to avoid aligning with a school of thought or to "defend" positions. That way of thinking is anathema to Serres.[4] Since Serres' sometimes meandering thoughts can be hard to

[4] It's important to note a tension at this point. Given that Serres *resists* the notion of philosophy as analysis and actively avoids trying to be pinned to specific positions, there is a risk that one might betray the spirit of Serres' way of thinking by attempting to read him in that way. For instance, Serres is unlikely to draw the distinction between the levels of ethical theorizing and would certainly never label himself a "metaethical refractionist." Does it therefore constitute a betrayal of the spirit of Serres' work or a contradiction to do so?

In short, no. It is the role of the scholar writing secondary literature to help introduce *clarity* into a discourse. Given (especially latter day) Serres' deliberate refusal to write in academic style, introducing clarity *requires* those working on his philosophy to do the work of translation into the language of the disciplines to which he may contribute. This thesis is a way of charting connections between Serres' corpus and mapping the contributions they may make to already existing debates. Sometimes those valuable insights will occur within the context of highly analyzed and positioned arguments, but it does not follow from this fact that it is a betrayal of Serres to show where and how those insights are relevant and might shift or decenter the existing arguments. The use of certain concepts in this thesis are meant to translate Serres into the language of those debates as a way of enabling connections and building bridges, which is consonant with Serres' insistence on federating disparate epistemologies.

trace, it might be useful to begin with a brief primer of general aspects of Serres' philosophy. Most of the features mentioned here will be discussed in greater detail later in the thesis, and for this reason I have not made many specific textual references below. Nevertheless, this primer will at least give the uninitiated a sense of direction.

Serres does not take philosophy merely to be an activity of conceptual analysis. The importance of language, like many other central foci of western philosophical thought, is decentered. Rather than obsessing about language and its relation to world, or the centrality of propositional knowledge or the written world, Serres situates human language as a variation of communication and information exchange more generally. Linguistic analysis might be helpful for understanding that human variation, but it fails to reckon with a spectrum of other meaningful exchanges, like body language, postures, gestures, or the songs of birds.

Analysis—the intellectual activity of breaking complexes into component elements—also takes a back seat as the means of "doing" philosophy. And Serres actively seeks to find a way of "thinking the multiple without concepts," which he thinks are ways of forcing the imposition of a rigid meaning on non-standardized multiplicities. Instead, Serres encourages synthesis. Knowledge production is a creative activity of mixture; federating or creating novel insights from a variety of sources. A consummate interdisciplinarian, Serres has no truck with the idea that one subject area, method, discipline, or perspective, has exclusive access to the "truth," or makes stronger claims on knowledge. In other words, Serres refuses to engage in reductionism, preferring instead to preserve variety.

Serres' avoidance of conceptual analysis is also driven by a deeply non-hierarchical vein in his thought. Stratification is deeply entrenched in western philosophical thought. Plato's Divided Line, Analogy of the Sun, and Allegory of the Cave outline higher and lower forms of being and knowing, and Descartes' inverted ziggurat of foundationalist knowledge justification are ready examples—the myriad imperfect forms of being or knowing are dependent on better or more perfect/real beings or truths. The "one over many" implies a power differential—mastery—which Serres finds off-putting because it is philosophically and practically problematic. He therefore works to flatten hierarchies, whether they be ontological or epistemological. This is equally true of his ethics.

Another reason that Serres is difficult to pin down is his penchant for resolving dichotomies. In synthetic spirit, Serres reads the connective "or" as inclusive rather than exclusive, and laments the tendency of philosophers, scientists, and politicians to focus on exclusivity. A disjunction is true if both disjuncts are true, and it is in that direction that Serres proceeds. What appear to be irreconcilable contradictions or incompatible positions, like absolutism and relativism, are resolvable if one works to find the connections between them, or if they can be synthesized in a broader framework.

Furthermore, Serresian metaphysics emphasizes relations and process over stable objects and products. The universe is dynamic and not wholly determined, and all being is open to change, chance, and transformation.[5] Serres does not simply see indeterminism as a thesis of particle physics, but, following Lucretius, as the engine of being. Spontaneity and unpredictability are ubiquitous across phenomena. Beings are

[5] Students of American Pragmatism will recognize similarities between Serres' thought and C.S. Peirce's notion of "tychism."

processes of information exchange, too, and the emphasis on process over product looms large in Serres' thinking about ethics. Serres is more concerned with the way in which moral decisions are made than in delivering final verdicts about the rightness or wrongness of specific courses of action. What, then, should we make of the philosopher's role? It is no longer to act as lawyers for the "truth," or to champion specific positions. Instead, philosophy is recast as the "vestal of the possible" (Serres 1995, p. 24).

With this primer in hand, let us now turn to a more detailed articulation of Serresian moral philosophy.

Chapter Two: Metaphysics, Contracts, and Normativity

My case for Serres as a moral philosopher begins with an explication of Serres' wider metaphysics. As is the case with most systematic philosophers, there is a very close relationship between Serres' central metaphysical thinking and the conclusions he draws about morality. Therefore, the aim of this chapter is to explicate the connections between being and normativity, between description and prescription, and to begin to sketch a picture of the emergence of ethical standards—in short, to outline the first steps of a Serresian metaethics. I contend that Serres makes meaningful contributions to existing debates in that area, not least by helping chart a path *around* those controversies. One particularly interesting contribution of Serres' metaethical thinking is the blurring of the is/ought distinction long thought to be a barrier to moral knowledge and to the soundness or cogency of moral inferences. Though Serres may not have Hume in mind, the moral implications of his metaphysics provide good reason to take Serres seriously as a moral philosopher.

However, this chapter only partially fulfils the goal of working out a Serresian metaethics, because the principal focus rests on an account of normativity in general. A full story about how normativity becomes refined into moral value will require detailing, in particular, how networks or tissues of relations come to be and play a role in designating specific values. That will be the subject of Chapter Three. For now, it will suffice to meet three aims.

The first aim is descriptive; I will work though Serres' metaphysics of emergence and the genesis of spatio-temporal organization. This is important not just because it is

coextensive with the emergence of value, as we will see, but also because apprehending this account helps make sense of accounts of synthesis I will unpack in subsequent chapters. There are several routes via which one might attempt to track Serres' thought. In this chapter I shall follow primarily the paths laid out in *The Birth of Physics, Genesis,* and *The Natural Contract.*[6] On this reading, singularities—individual reservoirs or pockets of spatio-temporal organization—emerge from and ultimately disintegrate back into--a background of disorder. The primordial disorder is conceived as a precondition for organization, roughly, the "stuff" from which beings are created. Serres frequently describes it with two very different metaphors. The first, expressed in broadly Lucretian terms, is modeled as atoms falling in laminar flow. The second form of disorder is modeled as *noise, a* term borrowed from information theory, which for Serres functions as a "new object for philosophy" (Serres 1995, p. 2) Noise is a precondition and persistent element of all information or communication; in its pre-organized state, it is a muddled chaos of overlapping senselessness, a kind of non-standard multiplicity. Principally, I will work though the emergence of order from this chaos via *The Birth of Physics,* focusing on terms of flow, rather than noise and information.[7] The latter will factor more prominently in Chapter Three. Beings emerge from this muddled chaos, or conceptual uniformity, via the uncaused spontaneity of *deviation*—the action of the *clinamen.*

[6] I have focused on these three texts for several reasons. First, *The Birth of Physics* and *Genesis* both offer explanations of the emergence of phenomena yet contrast in their specific explanatory model. The former renders an account of Serres metaphysics in terms of atomic physics, and the latter in terms of information theory. The structure of the explanation is the same, despite being illustrated in varying fields. The discussion of *noise* in *Genesis* also links well with the account of moral emergence from *The Parasite* I outline in Chapter Three. *The Natural Contract* is (pardon the pun) a natural choice, since the figure of 'contracts' is a central focus.

[7] The meaning of 'chaos' employed here in describing atomic laminar flow is the sense in which 'chaos' stands in for formless matter.

The second aim is work through Serres' figure of the "contract." Nature is composed of contracts; Serres employs it as an explanatory device to illustrate conjunction—bonds, federations, exchanges—that are both rudimentary and sophisticated arrangements that become order from noisy chaos. Importantly, though, using the figure of contracts—a notion already pregnant with *normative* significance—Serres signals his commitment to value theoretic thinking. Everything that exists is not just a spatio-temporal organization but is better thought of as spatio-temporal-valuable. I will also tease out three senses of "contract" in Serres' work and argue that Serres is innocent of the charge of anthropomorphizing nature. Making this case depends on working out a notion of the performative that is not couched in merely linguistic terms.

The third aim is to address the long-revered distinction enshrined as "Hume's Law." David Hume's account of knowledge and the kinds of statements than can bear "truth" (relations of ideas or matters of fact) underpins a sharp distinction between assertions of fact and value judgments. The is/ought gap has been seen as a challenge to the possibility of moral knowledge and to the possibility of making ethical arguments that meet the standards of soundness and cogency. However, the bifurcation between "is" and "ought," erodes on a Serresian metaphysics. There is no ultimate separation between the two. One virtue of the erosion is that one can avoid the problems associated with Hume's attack on ethical theories. Let us now turn to making that case.

Section One: Serresian Metaphysics—Order from Disorder

The aim of this section is to understand the Serresian answer to the question of how there is "something rather than nothing," and, ultimately, to track the path

connecting being and normativity. The latter, I will argue, is always enmeshed with the former for Serres, so it is natural to start with the metaphysical question. Serresian metaphysics can be approached via a variety of pathways, but I will begin my analysis working through the models of reality described in *The Birth of Physics, Genesis,* and *The Natural Contract.* Other important dimensions of Serres' metaphysics, parasitism and relations, for instance, will be taken up in other chapters.

Firstly, it should be noted that I have used the term "how" rather than "why" there is something rather than nothing, which is a shift from the long-standing metaphysical question. This is purposeful. "How" shifts the focus to explaining the process of emergence and creation and away from emphasis on foundational justification or the finality suggested by framing the question with "why." Serres is not a foundationalist and believes neither that any ultimate justification for existence can be found nor that any individual epistemology or area of inquiry, including science, has the right to claim exclusive access to truth. Neither does Serres think that reality is "finished" or completed in such a way that would admit of a totalizing or final explanation. Beings are composed of open systems that undergo constant change; a more accurate explanation of the world, he thinks, would move away from one based on geometry and a physics of solid objects to one mirroring fluid dynamics. Serres' ontology is best understood as one consisting primarily of events, rather than "things," a metaphysics of process (Serres 2018a, p. 25). And, as I shall discuss below, this flowing process of change is not guided purposively nor exhaustively causally determined. Possibility and chance are engines of reality, not divine providence or a principle of universal causation.

Second, it is helpful to acknowledge some of Serres' theoretical influences. He recognizes a reflection between the leading knowledge-bearing sciences of an era and the concomitant work of contemporary philosophers. Perhaps his most oft-discussed connection is between geometry and methods of philosophical analysis; ancient thinkers like Plato and modern philosophers like Descartes are enamored with geometry, the practice of which provided a model for drawing out philosophical inferences (Spinoza's *Ethics* offers a particularly ready example). Contemporary sciences, though, have shown not the falseness but incompleteness of those aged tools for discovering and explaining the world. This is not to say that revered thinkers are no longer relevant—far from it. It is only to insist that contemporary philosophy's toolbox expand to include new ways of interpreting reality or modeling knowledge (Serres 1982, p. 72). The world the contemporary philosopher seeks to explain is complex and unlikely to yield to a single unifying theory or method. Accordingly, Serres' metaphysical ruminations draw upon a spectrum of sources. Prominent historical influences are Lucretius, the ancient Roman atomist, and Leibniz, the 17th & 18th century German polymath.[8] Contemporary influences include principles drawn from theoretical physics, thermodynamics, information theory, and topological mathematics. I do not have the space here to unpack all of these connections, some of which will be addressed in later chapters. I will refer specifically to influential ideas as necessary to explain Serresian thinking.

[8] Serres wrote his doctoral dissertation (thesis) on Leibniz: *Le Système de Leibniz et ses modèles mathématiques.* I have not read this particular work, yet Serres' emphasis on relational networks over discrete things, and his account of knowledge as federation show how large Leibniz looms in his thinking.

The Material: Atoms and Noise

Any explanation of reality must rely on or assume certain conditions. Following Lucretius, Serresian metaphysics postulates a primeval building material from which reality is constructed.[9] The building material conceptually precedes individual instances of being, and exists *eternally*, in the weaker sense that it isn't articulable in spatio-temporal terms. Furthermore, in this sense the primeval building material is immune to destruction by the operations of natural "laws" that govern existing bodies. It just always is, but at the same time, it isn't really any*thing*. As Serres cheekily puts it in *Genesis,* this pre-nascent material is "nothing," in so far as it conceptually antecedes or is a condition for "things." Being as such is a blank canvas upon which all existence and subsequent meaning are written (Serres 1997, p. 48). Nevertheless, the primeval material forms a necessary condition for the possibility of existing things, so, flipping the script on the old saw, *something always comes from nothing.*

The pre-emergent state of reality is therefore undifferentiated and indefinite—one Serres links to pre-Socratic philosopher Anaximander's notion of *apeiron* (Serres 2018b, p. 59). It is "naked," in the sense that it bears no properties, defies description, and is either imagined as "blank," and empty of content, or chaotic, meaning that it is a non-standard multiplicity without order, form, or organization. Serres also refers to this as the "blank ballet of the transcendental" (Serres 1995, p. 43). This is an obvious reference to Kant's critical philosophy and transcendental argumentation, which, broadly speaking, argues from the existence of certain phenomena to the conditions that make experiencing them possible. And in some sense, this is what Serres is attempting to do

[9] Note that I'm using the term "material" here in the sense of something necessary for constructive activity, rather than in the sense of its being opposed to the mental or spiritual.

by directing our attention to the conditions of being. But Serres is not traversing the same terrain. Kant is attempting to describe the transcendental conditions of human experience and knowledge; Serres, on the other hand, is describing transcendental conditions for individuated beings of all sorts (footballs, bodies, mountains, and societies included). We should also not understand *noise* in the Kantian sense of the noumenal, which is in principle unknowable. For Serres, the nature of reality as such is revealed in certain kinds of non-conceptualized perception. Hearing, for instance, by contrast Euclidean visual experience, is a mode of experience that offers direct access to being as such:

> Hearing is a model of understanding. It is still active and deep when our gaze has gone hazy or gone to sleep It is continuous while the other senses are intermittent. I hear and I understand, blindly, when evidence has vanished and intuition has faded out; they're the exceptions. I begin to fathom the sound and fury, of the world and of history: the *noise* (Serres 1995, p. 7).

And Serresian models of knowledge themselves reflect how reality is organized, including its metaphorical basic elements. In any case, one condition for existing beings is *possibility*—and blankness and chaos (*noise*) for Serres are understood as the fields of pure possibility from which all manner of actual beings emerge. Possibility is a kind of undifferentiated nothingness which contains the seeds of every kind of existence.[10]

Furthermore, for Serres, knowledge is decoupled from literal description. With all due respect to younger Wittgenstein, Serres rejects the idea that the "limits of my

[10] There is an echo of Leibniz here, too, in the sense that God selects the actual world from a total spectrum of possibilities. However, Serres differs from Leibniz by abandoning the idea that a moral intelligence or divine providence actively *selects.*

language are the limits of my world." Serres' *noise* is knowable, though it is not directly describable. Any given proposition will fail to refer to anything because its content is, by definition, non-conceptualized. Nevertheless, non-conceptualized chaos is perceptible and can be experienced.

Organized beings or states of affairs that emerge from the primal chaos can be described, but, when it comes to the ultimate object of metaphysics itself, we must "learn to think the multiple without concepts" (Serres 1995, p. 4). One implication of this is neutrality on the question of materialism—it is not clear that *noise* fits *any* ontological category. So, trying to develop an understanding of this "stuff" is difficult; if it cannot be said directly, it may best be approached and illustrated metaphorically. Using metaphor as a means of expressing deep metaphysical notions should not be held against Serres; he roundly denies the unique fitness of descriptive empirical statements to bear truth (e.g., Serres 1997, pgs. 75-77). In fact, he frequently uses mythological and religious figures, to say nothing of examples from cooking or mountaineering, to show isomorphic structural connections between widely diverse disciplines and scientific or metaphysical claims. Their use is consonant with his gnoseological commitment to interdisciplinarity and integrative efforts to understand the world.[11]

Instead of concepts, Serres employs "figures of thought" to help bind together the world and human knowledge about it. "Figures of thought" are a kind of embodied dynamic process of information exchange—a function—that not only help express metaphysical ideas without reductively describing them conceptually, but also work to *create* new realities. They are often, but not always, personified in mythological

[11] I will provide a more detailed account of Serres' theory of knowledge and a robust discussion of isomorphism in Chapter Four.

characters like Hermes, Gilgamesh, Hercules, Odysseus, and, especially, Hermes in a manner that highlights Serres' receptivity to ancient wisdom traditions. Figures of thought also play a useful role illustrating isomorphic relationships across discourses or disciplines; they are markers of commonality and agreement despite apparent differences (Watkin 2020, p. 25). I will detail two Serresian figures of thought that help illustrate the conditions of being: the atom and background noise.

The first way of thinking about the primeval material is atomistic terms. Serres employs the figure of the "atom" as a model of the basic stuff of metaphysics. Following the ancient atomists, atoms—the smallest, indivisible, metaphysical units—exist in equilibrium falling in parallel sheets, or laminar flow (Serres 2018a, p. 24). Atoms descending in these sheets, and the sheets themselves, are indistinguishable; there is no criterion by which one might differentiate them at this point. It is important to bear in mind that Serres is not committed to the actual existence of atoms, like a strictly natural scientific form of atomism. That is to say, Serres is not a "physicalist" in the contemporary sense of the term, i.e., that every form of existence is physical in nature and that therefore physics can act as a unifying science. Serres is not just working in particle physics or chemistry, and consonant with his commitment to interdisciplinarity, the scientific sense of the atom should therefore not be taken as decisive. Serres is also committed to atomism about information, for example, and thinks of letters as being the atoms of words; that is, as a pre-condition of meaning (Serres, 2018a, p. 170). One might just as easily substitute phonemes as an atom of verbal linguistic meaning or the byte as an atom of digital information, and the commitment remains the same. Thus, Serres is committed to atomism as a way of thinking about the emergence of order, and

not literally as a physics. The atomic model is fruitful for thinking about the world in its physical dimensions, though, including questions about material objects and the forces, bonds, and laws that govern them. Serres frequently refers to the aspects of the world described by natural sciences (as opposed to social sciences) as “hard,” or, to borrow a turn of phrase from the ancient Stoics, as the forms of organized being that “do not depend upon us.” So, while the figure of the atom is not exhaustively a natural scientific one, it retains an important explanatory place in those discussions.

Of course, atoms “falling” must be also interpreted metaphorically, as directionality of any sort is incoherent without spatio-temporal orientation. Furthermore, as we shall see, measurable space and time are the product of atoms, not their condition. Therefore, the laminar sheets of flowing atoms are not occurring in a place or time. The reliance on the metaphors should not obfuscate matters, though, or implicate the model in contradiction—it is merely a way of expressing a pre-organized state of a condition of being. The laminar flow is “ideal and in effect theoretical” (Serres 2018a, p. 24).

In *Genesis* Serres recommends “noise” as the new object for metaphysical contemplation, in a movement away from the concept of “substance” or from universals (Serres, 1995, p. 13).[12] Noise is thus a second way of thinking about material conditions. For Serres, existence is noisy. Everything that exists is constituted of, and produces, *noise*. Noise in this sense does not refer narrowly to something that produces or is conveyed on soundwaves but carries the broader connotation of broadcasting

[12] As alluded to above, Serres is heavily influenced by thinkers working in information theory, and information theoretic ideas infuse his work across his corpus. Noise attains a different significance in Serres, though, compared to its role in Shannon and Weaver’s work (at least). Again, this will be explored more deeply in the following chapter.

potential information. Everything that exists sends out information omnidirectionally, Serres characterizes this as “shouting” (Serres, 1995, p. 55). The shouted noise can take any form; for instance, it may be the color conveyed by light after reflecting off a surface and interacting with the cones of someone’s eyes. It can also take forms imperceptible or incomprehensible to humans. In its unresolved, unchanneled, unfiltered, or untranslated state, the background noise of being is a non-standardized multiplicity. It cannot be subsumed under a concept or reduced to something more fundamental, and its sources are disparate and manifold. Everything, everywhere, at all times, broadcasts noise, which creates a tumultuous, background hubbub out of which meaning or significance—information--must be constructed. This is one sense in which chaos is the basis of order. Meaning is at least partially built by modulating some noise) and creating channels for communication, but it is important to understand that there is no such thing as silence in Serres’ metaphysics—violent, chaotic noise is ever-present and remains a backdrop and element of all existence. Noise is also ever-ready to drown out sense in brutal cacophony. I will expand upon noise and the associated figure of the parasite in Chapter Three.

Thus, atoms falling in laminar flow and the hubbub of noise play a similar role in Serres’ thought. Noise is the background of information, just as “atoms” are the physical building block of things. They describe conditions of phenomena. Both might be used interchangeably, perhaps, but one or other may be more apt to illustrate the stuff of reality, depending on the context under discussion. For instance, by foregrounding noise over atoms in *Genesis,* Serres diverts our attention to sound and the sense of hearing. If *noise* is meant to be the new object of philosophical contemplation, this point is easier

to show if we think about information given through a sensory modality that is more inherently integrative. That means de-emphasizing vision and the visual experience of generally well-defined and bounded, grocery-sized objects.[13] What we hear is not as well-bounded or easily circumscribed spatially. After all, a shout broadcasts in all directions, unless the sound waves it creates are impeded by barriers or drowned out by other noise. Hearing, as distinct from listening, opens one up to information from innumerable broadcasters. An unfocused auditory experience is a confused jumble. We *hear* non-standardized randomness and multiplicity, even if we can't see it. For example, as I write this chapter, my ears take in the noise of a football broadcast from my computer speaker, the whooshing of my air conditioner intake, my clicking ceiling fan, the random and fluctuating ringing of wind chimes, the sporadic noise of cars driving by, the voice of Ricky Gervais on the TV in my living room, the sound of typing as I stroke the keyboard, and, beneath it all, mild tinnitus I experience constantly.

Alternatively, one might understand atoms and noise as idealized extrema. Atoms flow in perfect order on one hand, noise diffuses, chaotically, on the other. Both are modeled on fluid dynamics—pouring downslope leads to a point of diffusion. Between these poles, spatio-temporal, existing forms of organization emerge randomly, "stochastically distributed" as islands of order in the metaphorical river between laminar flow and noisy, chaotic diffusion. In any case, according to Serresian metaphysics, all forms of organized existence emerge from a background of noise or from the fall of

[13] A deeper motive for this will be taken up later; visual experience is easier to connect to Euclidean geometries and the desire for analytically sharp distinctions. Borders or boundaries in visible space are typically sharper and better defined than one experiences through other sensory modalities. Accordingly, vision has enjoyed pride of place in the history of philosophy, being more closely associated with knowledge.

atoms in laminar flow. How does this happen, though? By what cause or mechanism do beings emerge from chaos? Spontaneous deviation or inclination occurs; following Lucretius, Serres offers the *clinamen* as an explanatory device.

The Mechanism: The Clinamen

For the remainder of this chapter, I will focus on the atomic model and the account of emergent order arising from the spontaneous action of the *clinamen* and the subsequent use of the concept of "contracts" to understand the organization and persistence of singularities of space and time. It is enough to have introduced the notion of "noise" at this point. I will return to a deeper discussion of noise, parasitism, and relational networks. In Lucretian atomism, the *clinamen* refers to an infinitesimally small, imperceptible, random, deviation or inclination in the fall of an atom. Stochastically distributed events of spontaneous diversion occur, and this inclined shift breaks the parallel symmetry of the laminar cascades of atoms. In a diffused noisy cloud, it might be a "thunderbolt" that carves a distinct, Brownian path through a nebulous non-standard multiple. In any case, what is necessary for the formation of any sort of organization is a deviation from a state of equilibrium. There is no further or more basic explanation regarding this break in symmetry. There is no purpose for which the deviation occurs. There is no aim toward which the *clinamen* tends, no direction it is meant to travel. The motion of the clinamen is therefore teleologically arbitrary and cannot be reconciled with a cosmic design. Neither can one explain how it happens. The *clinamen* is an uncaused cause. Thus, the *clinamen* is another instance of unpredictable chaos and illustrates a further sense in which chaos is the basis of order;

it is an uncertain and unpredictable event which subsequently gives rise to organization.[14]

Once an atom's fall is inclined, no matter how minutely, it must inevitably cross paths with the atoms of another lamina and create the possibility of intersection and collision between two or more atoms. The collisions are haphazard, accidental, and entirely contingent on atomic *clinamen.* The result of these collisions is sometimes an entanglement of atoms that form a vortex, a turbulence of metastable equilibrium. The turbulence's constituent atoms have fallen out of symmetry with the flow of other atoms, but their entanglement creates a new relation—one that lasts so long as the entanglement persists along the cascade of atoms from which it emerged. In other words, it is deviation or inclination that conditions the possibility of existence. "Perfection," understood as a lack of deviation or the perfect symmetry of laminar flow, can only be understood as a precondition for the emergence of actual order. So, imperfection and asymmetry, which Serres often refers to as "evil," is the cause or condition of the formation of order:

> …we know of no system that functions perfectly, that is to say, without losses, flights, wear and tear, errors, accidents, opacity—a system whose return is one for one, where the yield is maximal and so forth. Even the world itself does not work quite perfectly. The distance from equality, from perfect agreement, is history. Everything happens as if the following proposition were true: it works because it does not work" (Serres, 2007, p. 13).

[14] The *clinamen* also foreshadows, and acts as a figure for, symmetry breaking in contemporary quantum physics, which illustrates another isomorphism between Lucretius's "poetic" writing of *de Rerum Natura* and more literal descriptive science.

I will discuss imperfection and evil in more detail in Chapter Three. For the time being, it is enough to acknowledge the crucial role played by asymmetry, difference, or inclination is to individuated beings. However, inclination on its own, the disturbance that the *clinamen* creates, is only necessary, not sufficient, for organization to emerge. The creation of spatio-temporal islands of being requires a second condition. It demands the creation of bond of some sort, cooperation, harmony, or exchange between colliding atoms. In short, it requires the introduction of what Serres calls “contracts.” Bonds form via the spontaneous collisions of atoms—they become entangled and form vortices—and as these bonds form, spaces (local geographies) and times (cosmic/geological times) emerge in and through those relations. The significance of the use of “contracts” as an explanatory device will be addressed in the next section of this chapter.

Furthermore, the flow of atoms itself is disturbed; since the vortices are constituted of atoms from multiple laminae, the flows now mingle, fold, and twist together. The spaces and times that emerge from this turbulent action are thoroughly topological. Space and time are not modeled on Euclidean geometry and arithmetic, then. Furthermore, Serresian space is not “absolute” and separate from the objects of the world, contrary to Newton, and neither is it reduced to a Kantian *a priori* form of intuition. Rather, it is closer to the Leibnizian relational conception of space--the complexity of topology requires non-linear and dynamic models to express. Serres sometimes uses kneaded bread (Serres 2021, p. 50 and 2015a, pp. 68-69), or, more famously, the image of a crumpled handkerchief to illustrate the topology of space:

> If you take a handkerchief and spread it out in order to iron it, you can see in it certain fixed distances and proximities. If you sketch a circle in circles area, you can mark out nearby points and measure far-off distances. Then

> take the same handkerchief and crumple it, by putting it in your pocket. Two distant points are suddenly close, even superimposed. If, further, you tear it in certain places, two points that were very close can become very distant (Serres & Latour 1995, p. 60).

Space is also experienced topographically, like a landscape, or "a mosaic of spaces," rather than a location collecting or containing objects (Serres 2015a, p. 155). Multiple spaces of overlapping, interfolded, and constructed meaning constitute space, and topological space does not permit the delineation of clear or distinct boundaries. Serres writes that:

> My body, therefore, is not plunged into a single space, but into the difficult intersection of this numerous family, into the set of connections and junctions to be established between these varieties. This is not simply given or is not *always already* there, as the saying goes. This intersection, these junctions, always need to be constructed (Serres 1982, p. 44).

Earlier in this passage, Serres refers to the space of labor as being Euclidean, but rejects that our lived (or any space, for that matter) is that simple. For instance, understanding the "space" that constitutes a working vineyard requires us to recognize its irreducible complexity. A vineyard is at once its hills and slopes, its soil, the vines that grow grapes, a home to wine growers, a workplace, or, perhaps, a subject for a painter. A vineyard is not reducible to any one of those things; it is the combination, synthesis, or partnership of each of those forms of organization. The space that is the vineyard is dynamic and changeable with (at least) each season, further problematizing the idea that space can be fixed. Thus, being 'located' is an equally complex concept—

and one that is not exhausted by simply standing on a patch of ground or by being plottable on a GPS.

Since temporality is inextricably bound up with space, each locality initiated by the clinamen instantiates a new local sense of time. Like space, time is spontaneous and irreducibly complex. Serres employs the dual meaning of the French word *temps* to illustrate both indeterminism of weather and time (e.g., Serres & Latour 1995, p. 58 and Serres 2021, p. 47). Time does not consist merely of a unidirectional flow, i.e., the seemingly *a priori* claim that "time moves ever forward." Accordingly, Serres refers to the (metaphorical) movement of time as "percolation," or a kind of disrupted, swirling, and behaving paradoxically. Time "…folds or twists; it is as various as the dance of flames in a brazier—here interrupted, there vertical, mobile, and unexpected" (Serres and Latour 1995, p. 58). Furthermore, things are manifolds of various temporalities and participate in time on different scales. The carbon elements that make up living things, for example, participates in cosmological time—its duration is shared with the universe itself (Serres 2019, p. 7). A vineyard's delivery driver, say, lives enmeshed in far more histories than that. He exists within the temporal boundaries of his own lifetime, but also as a moment in the span of the history of his DNA and genetic sequences. He is also caught in the temporal loops of his workday and delivery schedule. Constitutive temporalities are diverse and irreducibly complex, mirroring the knotted configuration of spaces. Times, too, can be folded to alter proximities—the ancient world may be remote on a linear conception of time, but quite close when one reads Lucretius or visits the Colosseum.

Serres does frequently refer to three broader "times." The first form of temporality is the reversible loops and deterministic time of Enlightenment science. Such is the time

of the stars and astronomical bodies, regular and repetitive enough for events like eclipses, lunar phases, or sun rises to be predictable to the minute. This time alone is inadequate for understanding time generally, though, because it is rooted in solid mechanics. Serres reminds his readers that classical mechanics and its temporality failed to explain flight—a readily observable behavior of in animals (Serres 2021, p. 44).

The second kind of time is the irreversible, eternal flow of atoms. This is modeled in contemporary science by the second law of thermodynamics, i.e., that every form of organization will eventually reach an entropic state-- either disintegration into an indistinguishable flow of atoms or drowning in the chaotic hubbub of background noise. Nothing exists permanently. But the unidirectional flow of entropic time is one kind of temporality, and it is a condition of the other, reversible, temporalities.

Since everything exists in a state of decline, descending a slope back toward non-existence, a further kind of temporality emerges. In the languages of thermodynamics and information theory, organization emerging from chaos is “negentropic.” The negentropic time of existing things is one characterized by resistance, or upstream movement *against* the currents of entropic time. This sort of temporality constitutes in part the career of a given form of order. Nothing that exists has but one kind of temporality, therefore. Time, as well as space, are mixed multiplicities inaugurated by the disturbance of the *clinamen*.

The asymmetrical mixture of local spaces and times interrupts the indistinguishability of the laminar flow of atoms. What was uniform sameness is now populated by stochastically distributed entangled turbulence, and each turbulence can be individuated. They are local, singular, spatio-temporal pockets of order swirling in the

mixed flow of atoms. Furthermore, once an existing vortex is formed, it can be described, not least because it begins to communicate its existence. So, the *clinamen* is the driver of sense and meaning; it creates the conditions of both the "is" of both identity and of predication.[15]

Section Two: Contracts, Performativity, and the Normative

As mentioned in the preceding section, Serres refers to the bonds caused by the spontaneous collisions of atoms as 'contracts.' *Prima facie*, this is an unusual term to use to describe the coherence between non-standard elements. The everyday sense of 'contract' refers to a formal agreement or promise, usually in written form, which specifies terms and conditions of performance. Those terms and conditions bind the contracting parties with ties of duties or obligation and those so bound have a right to expect the conditions to be upheld—a contract is inherently normative in nature. These contracts are frequent enforceable by legal authorities, too. It's the sort of agreement one enters when one gets married, purchases property, buys telecommunication service, registers for classes, and so on.

Of course, there is also a philosophical sense of 'contract' that extends the conception of legally binding agreement to societies. Social contract theories like those of Hobbes (1651) Locke (1689), or Rawls (1971) employ the idea of a hypothetical (or in some cases actual) agreement between individuals as an explanation for the formation of societies. Hypothetical social contracts typically postulate a pre-societal state, a

[15] I should also note that the *clinamen* as spontaneous deviation is not simply limited to a genetic cosmology. Indeterminacy is a fact about reality and occurs at every level of scale. This point will be relevant to arguments in Chapter 5 about methods of applied ethics.

"state of nature" for Hobbes, or an "original position" for Rawls, from which individuals seek to extricate themselves. The reasons will vary according to the theorist, but rational self-interest or access to goods otherwise inaccessible outside of society are usual suspects.[16] As an aside, Serres complains that this sort of contractarianism immediately errs by excluding nature, which has had widespread and baneful consequences in contemporary life—a ready example being those of our current climate crises (Serres 1990, p. 3).

In any event, both legal and philosophical contracts appear to have certain conditions that affect their legitimacy, even outside of the terms and conditions specified in the agreement. One widely accepted and apparently essential limit has to do with consent—a person can't be contractually obligated if they didn't agree to the contract. Additionally, the legitimacy of consent itself requires conditions. The contracting parties must be informed, i.e., be aware of the obligations or permissions to which they consent. They must also be of "sound" mind and body (e.g., not drunk or under physical duress) and free from external coercion. There are certainly other fine-grained limits that are not terribly important to rehearse here.[17] The principal point is that contracts require some manner of consent or agreement, both as a condition of a contract's existence and its legitimacy.

[16] Actual, smaller-scale social contracts are common and may involve both tacit and explicit agreement from its parties. These sorts of contracts are rarely codified in law, but nevertheless express exchanges of obligation. For instance, actors on a stage and the audience in a theater are bound together in the context of an aesthetic experience. The actors are responsible to perform, and the audience is bound by certain expectations not to disturb the performance (e.g., talking aloud during the play is forbidden).

[17] Joseph Ellin (2003) also argues that it is morally problematic to claim that binding contracts are able to obligate parties to perform evil deeds; e.g., "contract" killings. On these grounds, he rejects contracts as a basis of morality. Moral value must precede the formation of contracts in order for this restriction to obtain.

If that is the case, what sense can be made of Serres' metaphysical use of 'contracts?' Skeptical readers might argue that employing contracts as a general metaphysical explanation raises the possibility that Serres projects a distinctively human arrangement onto reality; that is, contracts as a figure are read *into* nature rather than drawn out of nature. After all, contracts seem to be rooted in performative speech acts; they are essentially a formalized promise. Does Serres simply stretch the notion of contract too far by anthropomorphizing things in nature? I will call this the "projection criticism."

I think the projection criticism is mistaken, but it does raise an interesting challenge. Thinking of realities at their most primitive in contractual terms compels us to rethink the notion of contract, or, perhaps, the notion of performativity. One issue with the projection criticism is that it assumes a human exceptionalism and a radical separation between the social and the natural. Human interests and language are necessary, if not sufficient, for the formation of contracts. Serres denies that humans are metaphysically exceptional, and by his lights there is nothing in the social world that does not have an analog—an isomorphism, more precisely—with some phenomenon in nature. Human beings and their social constructions are not radically separate from other beings in the world; Serres rejects the dualism of humanity espoused by Descartes or the Christian substantialism about "souls." Neither do complex mental activity, use of language, tools, or creativity distinguish human from non-human beings. What distinguishes humans from other beings is an openness to possibility and variation—humans are possibility spectra and more capable of creating novel variations than other beings. But humans have in no wise *departed* our natural state. Any human

practice or institution ends up being isomorphic with, and a variation of, some other pre-existing natural structure.[18]

Thus, Serres' reference to 'contracts' is not *merely* metaphorical, or a legalistic projection onto reality: "Far from a political convention being projected upon nature, it is on the contrary the natural constitution that, in the final instance, accounts for every other federation" (Serres, 2018a, p.146). The contract is no human accident. It is a central metaphysical and nomological figure. All of reality is contractual, and, if this is true human legal and social contracts are merely a sophisticated variation of this pre-existing metaphysical feature. Put another way, the projection criticism assumes that we read the human into nature; Serres reads the human out of nature.

Serresian ontological contractarianism, then, thinks of objects as *constituted in and through relations.* The material of those objects, whatever figure is used to understand it (noise or atoms), remains an undifferentiated, non-standardized multiplicity, until that material enters into harmonic relations—contractual exchanges—with others within that multiplicity. There are no objects that are not already relational in nature. Serresian contracts are not static—the relations, terms, conditions and parties in the contract fluctuate--since nothing in the world is permanently anchored. All contracts create open systems. Things drift, floating along the currents of "duration," or entropic time, porous and metastable. The contracts that bind a given form of organization are thus constantly being renegotiated over time. The contract is not a foundation, or an original justification; it is itself a continuous process of information exchange, translation, and negotiation. This is true across the spectra of beings.

[18] I will unpack the notion of isomorphism, invariant, and variation in Chapter Four, which deals with Serresian moral invariants.

Three Varieties of Contracts

To elaborate this point further, I distinguish three variations of contracts in Serres' thinking: the existential contract, the social contract, and the natural contract. One may feel slightly unfaithful to Serres by drawing these distinctions, for he is resistant to such analyses because it relies upon a form of reason he de-emphasizes.[19] Nevertheless, Serres himself suggests the boundaries of the analysis I will take up:

> Several series of double arrows can be conceived of. *At least three.* A physical contract between us and our equilibrium. New, unthought of. A social contract among us. The senseless hope for the end of parasitism. A gnoseological contract between the subject, on one hand, and the object, on the other: until now, only a simple arrow united them (Serres 2007, p. 169, emphasis mine).

This passage from *The Parasite* suggests the sorts of contracts that mitigate the abusive parasitism Serres argues is native to all relations (more on this later arguments). The physical contract expresses what I refer to as an existential contract and the gnoseological contract relates knowledge and how knower and known are united in the act of knowing. This term is a variation of, and foreshadows, what Serres will later describe as a "natural contract." Since Serres himself distinguishes variations, there is no treason in exploring the distinctions more deeply. Furthermore, I think distinguishing the varieties of contracts is useful in trying to understand Serres' ethical thinking. It's helpful because the notion of existential contract further clarifies contractual relations that exist independently of human beings and helps illustrate the *dependence*

[19] I will discuss this at greater length in Chapter Four.

of social contract theories on the nature from which classical theories are keen to extricate us, and, given the direction of the dependence relation, further insulates Serres from the projection criticism. It also paves the way for an account of normativity that decenters human beings; if contracts are normative and can exist apart from human interests, then oughtness precedes human agreements and formalized social contracts. Exploring the distinction will also help make sense of what I shall call "value networks" that ultimately act as the process whereby general normativity is refined into specific ethical values.

Existential Contracts

The first, and most basic kind of contract is one I shall call "existential." 'Existential' here refers to a form of organization that could be the bearer of properties or predicates—something describable. The existential contract refers to the bonds of agreement and conjunction introduced by the *clinamen* that are conditions for the creation of local spaces and times. These are the "conjunctions that make stable objects" (Serres 2018a, p. 149). Existential contracts are expressed in physical or informational terms and do not require explicit consent in the same way that many social contracts do (e.g., student/institution compact). In the *Birth of Physics*, Serres indicates that Lucretius refers to this sort of connectedness as *coniuncta:* "These are the ways that relation is established. These various kinds of mandatory liaison ensure the stability of natural things, that is to say possible experience" (Serres, 2018a, p. 149). The existential contract is an extra-social circumstance (or being) that is created by the bonds formed between atoms/noise.

The bonds that form existential contracts, what we might refer to as its "terms and conditions," are what we'd commonly call its laws:

> The *foedera naturae*, the laws of nature, are *foedera coniunctorum*, laws of conjunction, but they are themselves only possible through this conjunction; *coniuncta foederum*, composition of laws. From fact to law, the distance is null; the deviation between things and language is reduced to zero. In both cases, but there is only a single case, every formation is just liaison, everything is just relation. Outside of relation, there are only clouds in the void, letters or atoms (Serres 2018a, p.148).

Serresian nomology tracks with that of Lucretius. Natural laws are created haphazardly alongside the emergence of the phenomena they "govern." Natural laws are necessarily "true" because they act as the ligaments of reality and reflect the current state of any given existential contract. Natural laws are stabilizing relations which operate negentropically—they are a form of order resisting dissolution into *noise.* Nevertheless, the stability provided by natural laws is contingent and arbitrary because the laws might have been otherwise (though all are subject to the clinamenic metaphysical truth of inclination).

There is also no guarantee that any two existential contracts, or its corresponding laws, will be the same. In fact, the deviation and spontaneity of the *clinamen* makes perfect similitude impossible. Furthermore, there are existential contracts at all levels of scale; the term could refer to the bonds of physical particles, to the partnership between organs in an organism, or to the gravitational pull of the Earth on the moon. Within the cosmic existential contract that binds our reality together (the global), there are nested infinite, stochastically distributed, existential contracts that comprise its parts (the local). The global existential contract is a federation of those patchwork local forms of order. Since all contracts, including existential ones, create dynamic, metastable open

systems that constantly change, the corresponding content of laws—since they emerge alongside and within existential contracts--must be equally fluid. They are constantly being negotiated, governing only temporary spatio-temporal pockets of being. Therefore, what we call “laws” shift as those pockets evolve, mutate, or decay. This remains true globally, as well. The laws of nature correspond directly to the bonds that cohere the cosmos, and as the conditions of the cosmos change (and decline over time), what seems to be necessarily true of nature’s operations must undergo similar revision. Natural laws are not eternal constraints on reality.

But certain patterns recur throughout all forms of organizations; there are structural invariants throughout the infinite variety of existential (and other) contracts. The contractual model of existence is one such invariant isomorphism. While the laws *qua* terms and conditions may vary locally, the contractual pattern is universal. Other invariances act as external constraints on the formation of contracts. Some we have already discussed: the inclination and spontaneity of the *clinamen* and the inevitability of dissolution into chaos. We will consider more such invariants in Chapter Four on Serresian normative principles.

Existential contracts serve at least two important functions. First, they are an ontological condition upon which higher forms of organization, like societies, depend. They constitute the world on which any overlapping order social order must be built. Idealist (or anti-realist) philosophies that dismiss reliance on the extra-mental, or positions that root understanding or being in pure subjectivity, or political philosophies—especially social contract theories--that downplay the importance of the extra-social all do so at their peril, Serres admonishes us. Nature will intrude. The most famous

example inaugurates *The Natural Contract.* Serres analyzes Francisco Goya's *Fight with Cudgels,* a painting depicting two combatants duking it out while immobilized in mud:

> On the one hand there's the pugnacious subject, every man for himself; on the other, the bond of combat, so heated that it inflames the audience, enthralled to the point of joining in with its cries and its coins.
>
> But aren't we forgetting the world of things themselves, the sand, the water, the mud, the reeds of the marsh? In what quicksands are we, active adversaries and sick voyeurs, floundering side by side? (Serres 1990, pp. 1-2).

If human beings and their institutions are variations of order found in other parts of nature, there is no sharp break or discontinuity between the human and the non-human. Humanity is utterly reliant on something outside of its own mental representations or political institutions. Goya's combatants, like philosophy, have neglected to account for nature, or, in my parlance, its dependence on existential contracts.

Second, existential contracts are the condition of scientific (propositional) accuracy. To my knowledge, Serres never makes a clear and concerted effort to develop a theory of truth. I suspect this may be due to his gnoseology, which is an attempt to integrate various paths to knowledge. He also refuses to privilege one form of knowledge or discourse over another. Whether one's understanding of the world is given via religious teaching, athletic activity, literature, or a chemistry experiment is a matter of indifference—each activity helps people discover the world they inhabit. Be that as it may, it would still be just to demand an account of certain kinds of scientific accuracy.

It seems natural—*prima facie* intuitive, even—to assume that truth (at least some form) bears a relation to being, and that true judgments are true because they "get the world right." This may not be obvious or intuitive of certain kinds of judgment, e.g., claims about propositions in mathematics, but the justness of empirical statements seems to require existing things or states of affairs to norm them. Serres goes further and argues that the congruence between language and reality is assured because the process of their genesis is the same. Language, he says, is "born with things, and by the same process. Things appear bearing their language. *Coniuncta*, *foedera*, the are the same words. Stable assemblies of elements, of whatever kind" (Serres 2018a, p. 148).

Propositional truth, then, is evaluated by reference to the circumstances and laws of order created by the bonds in existential contracts. To the extent that current scientific claims correspond to the boundaries and terrain of the existential contract they describe, those claims can be evaluated as "true." Truth in this sense is not representational; it is only a kind of verisimilitude, for the world does not sit still to be mirrored by the network of scientific discovery. Serresian truth is a variety of parasitism, or dependence upon, circumstances.[20] This close kinship between law, circumstance (facts) and judgment has philosophically interesting implications for the dreaded 'fact/value gap,' which I will take up shortly.

Social Contracts

The social contract refers to the person-to-person (or, intersubjective) sorts of relations, bonds, or agreements. The contractarianism of Modern and contemporary

[20] I will address parasitism in more detail in the next chapter.

philosophy is not entirely wrong. Despite its exclusion of nature, it marks an important advancement in understanding the formation of societies or cultures. According to Serres,

> This [social] contract may be a mythic or abstract notion or event, but it is fundamental and indispensable to understanding how obligations that bind us to one another were born, assuming that we don't want to see them as born of original sin or our very nature. The cord of contract came before the cord of obligations. It is said that the social contract formed all societies, including the one we're living in (Serres 1990, p. 54).

"Societies" can include the sciences as institutions, legal bodies like nations, states, clubs, or teams. Social contracts also function in social settings and practices (e.g., the implicit expectations laid upon theatergoers or trick-or-treaters). Social contracts are "nested," or enmeshed, one might say, both vertically and horizontally. Some social contracts depend upon others for their existence. This is a "vertical" relationship. For instance, student unions depend upon universities for their existence, and universities depend upon governments for theirs, and so on. Other organizations formed by social contracts might exist independently of each other yet form contracts between them, such as when businesses enter partnerships. This is a horizontal relationship. But, again, human collectives do not exist in vacuums and thinking that social contracts *extract* individuals from nature, or at least create well-defined boundaries between the social and the non-social, is a mistake. Nature, *qua* a federation of local and global existential contracts, is not something "outside" of our human collectives. Nature *always* intrudes. Drawing up a contract requires a metaphorical (and often literal) paper and pen. That is, they *require the existence of things* for their emergence. Trees or other

plants are the material condition of not only the paper on which the contract is written, but also the petroleum from which the plastics constituting the signers' pens. In other words, all social contracts have a vertical dependence on reality. Existential contracts are necessary conditions for social contracts, but not vice-versa. This dependence is a parasitic form of "natural" contract.

Natural Contracts

I propose reserving the term "natural contract" for federations forged between people and societies and the larger natural world. The term "natural contract" could also be used to refer to the elemental relations that stabilize objects, but designating those as existential contracts preserves the sense in which Serres thinks a "natural contract" is something that humanity needs to forge or renegotiate with nature (Serres 1990, p. 38). Thus, as I will use it, natural contracts form the bridging relations between humans and their societies and the non-human realities coinhabiting the world.

Natural contracts take on endless variety because they are created by the mingling or connection of social and existential contracts. As mentioned above, the simplest form of natural contract is the dependence of human collectives on the natural world. I shall call this a *parasitic natural contract.* An obvious example is that human beings, and, by extension, societies, ontologically depend upon the natural material from which bodies are composed. Collectively societies also require and are shaped by their spatio-temporal geography; one ready example is cuisine and its influence on culture. Prior to the only recent global availability of different cuisines, geography determined what people ate and helped contour the rituals around meals. The reliance on local food sources and ingredients shaped culinary traditions, festivals and individual tastes. American Thanksgiving, for example, features the turkey prominently; it was

introduced to European settlers by the First Peoples residents of Massachusetts. And this is but one way a social contract depends on existential contracts (e.g., the land inhabited by turkeys and the turkeys themselves).

However, parasitic natural contracts can also be exploitive, treating non-human beings as objects of plunder, exploitation, or dominance. One-sided parasitic relations, wherein a single party benefits at the expense of the other parties, despite their destructiveness and tendency to ultimately detriment the parasite, have too often been the rule of contemporary cultures. Using the climate crisis as an example, Serres shows how abusive parasitism has tended towards pollution and global death.

Serres recommends forming a second kind of natural contract which I will call *symbiotic natural contracts:*

> Back to nature, then! That means we must add to the exclusively social contract a natural contract of symbiosis and reciprocity in which our relationship to things would set aside mastery and possession in favor of admiring attention, reciprocity, contemplation, and respect…a contract for symbiosis, for a symbiont recognizes the host's rights whereas a parasite—which is what we are now—condemns to death the one he pillages and inhabits, not realizing in the long run he's condemning himself to death, too (Serres 1990, p. 38).

Symbiotic natural contracts involve reciprocity; social collectives are called to remember and to repay the natural world for its bounty and the gifts it gives humanity. Symbiotic natural contracts might take the form of the agreement between humans and dogs to coexist cooperatively, extending legal standing to ecosystems or non-human living beings (i.e., animal personhood questions), enacting a non-aggression pact to cease

abusively exploiting natural resources (e.g., stopping deforestation), or partnering with viruses to create vaccines. Balanced, symbiotic natural contracts create and maintain equilibria between humanity and nature. We must recognize the world of existential contracts as our *partner,* not an object of plunder, and treat objects themselves as legal subjects (Serres 1990, p. 37).[21]

Harpedonaptai: The Performative and the Normative

Now, if we take the model of contracts as an explanation of the formation of order, and if there is an isomorphic relationship between existential contracts and social contracts, then being is created *performatively by acceptance.* At the outset of the third chapter of *The Natural Contract* Serres evokes the historical Egyptian *harpedonaptai,* or "rope-stretchers," to help describe the emergence of contracts. *Harpedonaptai* worked as the Pharoah's officials; their job was to partition land back into parcels after the Nile's flooding by using knotted ropes and suspending them between pegs. They are credited with inventing land surveying (some of their methods are still in use today) and influencing early geometry, especially in Greece and India (Kutatleadze 2008, p. 2). The *harpedonaptai* were legal officials, so, by using this Egyptian figure as an example, Serres draws attention to the connection—both historical and conceptual—between geometry and law.

The Nile's flooding represents the primordial chaos out of which order emerges, and here, the *harpedonaptai* stands in for the *clinamen*; the official makes the first move towards establishing order and organization. First of all, the *harpedonaptai* partitions a

[21] The symbiotic natural contract is a variation of a Serresian norm that I call The Principle of Loving Synthesis. This norm will be addressed in more detail in Chapter Four, but, briefly, it is a guideline that requires respectful, careful, and reciprocal integration of difference when forming global wholes. It is at once a norm governing creation (ontology), gnoseology (knowledge) and conduct (morality).

space of land along the Nile. The borders of this space are arbitrary, depending entirely on the fiat of the surveyor, and gain their legitimacy only once there is concord with others. This is also the creation of a temporality; the borders are distinguishable only until washed away by the next season's flooding. The recurring process of arbitrary allotment, acceptance, and disintegration continues *ad infinitum*. But since this is the pronouncement of a legal figure, law comes into being coextensively with space and time. The birth of the conditions of geometry and evaluation are simultaneous and indistinguishable. Through the *harpedonaptai*, Serres observes that the word "property" has both a geometrical and a legal sense—one in terms of characteristics of a figure, the other in terms of rights (entitlements) to ownership. Furthermore, both geometry and law are in the business establishing *limits* or *boundaries;* these terms have both a descriptive and normative sense. Again, the delimiting of space is a condition of a space's identity and permits its boundaries to be described (Serres 1990, p. 52). But the term 'limit' also carries with it a proscription about permissibility or impermissibility. Limits ought not to be transgressed, and boundaries should be respected. The circumscription of space creates the "sacred," and creates the conditions of inclusion or exclusion.

According to Serres, geometry and law have a common ancestor that the *harpedonaptai* represents, and it is mere historical accident, he thinks, that western society has prioritized the geometrical over the legal/normative:

> Geometry in the Greek manner goes back to the Egyptian *Maat*. This word signifies truth, law, ethics, measure, and portion, the order that comes out of disordered mixtures, a certain balance, of justness and justice, the smooth rectitude of the plane. If some Egyptian chronicler, and not

> Herodotus, had written this story, we would have concluded that this was the birth of law, for it is as if *a single process of the emergence of order*, which the Egyptians had been orienting toward legal proceedings, had been drawn toward science by the Greeks (Serres 1990, p. 53, emphasis mine).

The single process is performative, which is at the heart of the notion of contract. Serres acknowledges that genesis requires a *performative exchange*--the moment of anything's beginning is triggered performatively. Performative language, like contractual promises, are utterances that do not merely describe but rather *create* the state of affairs they express; this is because performative utterances are simultaneously generative actions. For example, the sentence "I promise to take out the trash" creates a circumstance wherein the promisee (the one to who I've promised to take out the trash) obtains positive rights against the promisor (me). The bond is *created* by the act of promising. In addition to the horizontal bond or contract created between promiser and promisee, a vertical bond is also created. Serres tells us that "…the truth, the conformity of the spoken or the prescribed with the facts, ensues immediately from its prescription or its speaking. The performative makes speaking an efficacious act, a sort of fiat" (Serres 1990, p. 75).

For Serres, the performative is arbitrary fiat in three senses. First, at the level of existential contracts, it is teleologically arbitrary, insofar as there is no ultimate cosmic purpose to which a performatively created circumstance must submit. Second, also at the existential level, the performative is rationally arbitrary, because no pre-existing reason can be cited, no explanatory "because"

can be provided for why a circumstance is so and not otherwise, and neither can a justification be given that things ought to be arranged thus-and-so. Reason and justification are *consequences* of fiat; because the performative is a condition of existence it cannot be assessed by standards subsequent to it. And, finally, Serresian performativity is arbitrary in the sense of being a global or universal operator. The genesis of any given thing is done via performative exchange.[22] Nevertheless, the arbitrary is the condition of truth, and necessarily so (Serres 1990, p. 76).

It is true that legal judgments, promises, and agreements have this creative power. But those seem to rely on language. Since Serres argues for a generalized performativity, and if the creative power of performativity exists in language, then, according to Serresian thinking, there must be an isomorphic analog in other natural, pre-linguistic phenomena. Serres points to befoulment as a means of marking territory as one such performance that creates a space and communicates boundaries of exclusion:

> Tigers piss on the edge of their lair. And so do lions and dogs. Like those carnivorous mammals, many animals, our cousins, *mark* their territory with their harsh, stinking urine or with their howling, while others, such as finches and nightingales use sweet songs (Serres 2011a, p. 1).

Humans, too, befoul as a means of partitioning, and, perhaps, all claims to property—geometrical or legal--involve a measure of befoulment or pollution. As bullies in lunchrooms are wont to do, people claim pizza by licking or spitting on it. Their act of

[22] The universal operator in predicate logic stands in “for any arbitrary member.” So, for anything that exists (for any X), X is created performatively. $\forall x(Px)$

soiling something is an act of claiming by despoiling, and is a variation both continuous with and subsequent to animal performativity:

> Necessary for survival, the act of appropriation seems to me to have an animal origin that is ethological, bodily, physiological, organic, vital…and not to originate with some convention or positive right. I sense there a collection of urine, blood, excretions, rotting corpses…I see those actions, behaviors, postures as sufficiently vital and common to all living beings to call them natural. Here natural right precedes positive or conventional rights (Serres 2011a, p. 12).

Of course, this tactic is effective and the performance successful if and only if it is acknowledged and accepted by others. While language is not necessary for Serresian contracts, communication is. Communication is broader than language and not exclusive to humanity. Indeed, the hallmark of any form of organization in Serres' metaphysics is information exchange. To be is to receive, store, translate, and emit information, and this is true at every scale of existence, from the microphysical to the astronomical. In effect, everything that exists emits noise, and sense—meaning—begins to emerge with the introduction of harmony or concord. When a second thing takes up the noise of the first, or when it joins it in its trajectory or in an exchange of information, a contract begins. This amounts to a kind of acceptance.

The shift from 'agreement' to 'acceptance' is significant. Thinking about contracts as agreements evokes the image of contracting parties shaking hands over a deal or signing a legal document—an exchange. However, acceptance has a wider significance and need not include consent as a condition. Initially, acceptance is won by capture, domination, usurpation, or force without consent, as the above examples show. Some contracts are one-sided devils' deals where one side benefits at the expense of

others. Serres believes that the first form of relation is such a devil's deal and that balanced exchanges must be negotiated (Serres 1990, pp. 36-37). *Just* contracts of exchange are secondary.

Furthermore, 'acceptance' also has the meaning of *inclusion*, or to integrate something or add it to a collective body. Often, this may include language and speech acts, like when students are accepted to a university course. However, it is not essential to this sense of acceptance. Consider, for instance, that we speak of an organ recipient's body "accepting" or "rejecting" a donated organ. In either case, the crucial point is that acceptance creates a new bond and synthesizes previously different things—it is performative in the genetic sense.

In the context of the establishment of law and geometry, Serres reminds us that this acceptance is indispensable for forming order or contracts: "The first priest holding this piece of string who, having enclosed a plot of ground, found his neighbors satisfied with the borders of their common enclosure, was the true founder of analytic thought, and thence of law and geometry" (Serres 1990, p. 53). The concord is necessary—there is no contract without the acceptance of "terms" laid out in the performance. Another kid in the lunchroom might be put off by the bully licking a piece of pizza, but it's not likely to deter the family dog or a fly from snatching a bite.

Extending the question further, if all existing things are constructed via contracts, then there must be a sense of the performative and acceptance in *non-living* systems as well. Down to the atomic level, Serres argues, the relations of conjunction are isomorphic with performative genesis:

> My text, my word, my body, the collective, its agreements and its struggles, the bodies which fall, flow, flame or thunder like me, all this is

> never anything but a network of primordial elements *in communication* (Serres 2018a, p. 148).

Since Serresian contractual bonds obtain between the constituents of "inert" matter, performativity requires neither complex mental states nor biological brains: beliefs or desires, in folk psychological terms, or pro-attitudes in reductive materialist psychologies. Serres therefore stands in contrast with other thinkers who use performativity's creative power in ontological explanations. For instance, John Searle attempts to give a naturalistic explanation of the existence of social institutions using an account of social or institutional "facts." He argues that social facts like contracts, the rules of football, the norms of cocktail parties, and the value attached to money depend upon a human collective intention to assign given phenomena specific status-functions. These status-functions include "deontic powers" that impose obligations on those who've collectively accepted the status-function. The logical form of this acceptance, he claims, is 'We accept that (s has power (s does a)),'' and upon acceptance this power is generally binding (Searle 1995, p. 104). In Searle's view, institutional facts are an extension of human mental activity, making them ontologically dependent on human beings, or "ontologically subjective" while their collective acceptance makes them "epistemologically objective," or publicly knowable and not merely private mental phenomena. (Searle, 1995, p. 10).

Serres is comfortable with the idea that human reason is often involved in social (and legal) contracts. Social contracts do "depend upon us," to voice it in the Stoic register. Nevertheless, as demonstrated above, human beings are not essential to the notion of contract more generally. We should not be fooled into thinking so by the

example of the *harpedonaptai,* the figure of which merely stands in for any given performative expression. Second, if neither minds nor brains are necessary for performativity, then it follows *a fortiori* that language—at least understood as the representational form employed by most human beings—is also needless. This entails that at least some (perhaps most) facts established by performativity are "ontologically objective," or, again "do not depend on us." They are not merely institutional facts.

Furthermore, the fact that neither language nor "minds" as such are required for contracts leaves open the possibility, indeed, the necessity, of agreements or conjunctions across different forms of order. Serres reminds us that the "Earth speaks to us in terms of forces, bonds, and interactions, and that's enough to make a contract" (Serres 1990, p. 39). Communication *qua* transmission, reception, and processing of information happens constantly and is not bounded by whether the transmitter or receiver is biological or inert; partnerships form in all kinds of ways. A trivial example is conjunction I form with my computer as I write this thesis. We exchange and process information constantly in terms of meaningful inputs and outputs. My dogs communicate their desires via gestures, postures, barks, and whines. My well-tended citronella plants tell the local mosquitos to keep away from my yard, and so on. Communication and the formation of contracts may not always be easy to articulate, and certainly isn't always well-understood, across the many levels or forms of being, but contracts across the human, living, and "inert" material local constituents of reality are not barred in principle and occur frequently in practice. Thus, the wider performativity required for natural contracts is secured via information exchange.

As noted above, the content of performative proscriptions or contracts have a dual aspect. Because they involve the circumscription of "limit," contracts are both *descriptive,* insofar as they create circumstances or facts, and *normative,* because they involve evaluation. *Maat* is the common, undifferentiated, sense of order that comes from disorder, and it can resolve into "truth, law, ethics, measure, and portion…a certain balance of justness and justice" (Serres 1990, p. 53). Thus, if being is created contractually, all existing phenomena are already pregnant with value. Evaluative limits are created co-extensively with the limits of circumstances; the world that can be described by natural sciences is not just spatio-temporal. Existential contracts, and all subsequent forms of organization, including social and natural contracts, are spatio-temporal-valuable. Facts and values are inseparable, in other words, and denying this distinction has important implications.

Section Three: Serres and the Fact-Value Gap

In his *Treatise of Human Nature,* David Hume expresses puzzlement over the possibility of inferring evaluative judgments from factual premises. Value judgments seem to him to be an entirely separate order of assertion to descriptive statements, and he notes a general tendency in ethical theory construction to elide this distinction:

> I cannot forbear adding to these reasonings an observation, which may, perhaps, be found of some importance. In every system of morality, which I have hitherto met with, I have always remark'd, that the author proceeds for some time in the ordinary way of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when of a sudden I am surpriz'd to find, that instead of the usual copulations of

> propositions, *is,* and *is not*, I meet with no proposition that is not connected with an *ought*, or an *ought not*. This change is imperceptible; but is, however, of the last consequence. For as this *ought,* or *ought not,* expresses some new relation or affirmation, tis necessary that it shou'd be observ'd and explain'd; at the same time that a reason should be given for what seems altogether inconceivable, how this new relation can be deduced from others which are entirely different from it. But as authors do not commonly use this precaution, I shall presume to recommend it to the readers; and am persuaded that this small attention wou'd subvert all the vulgar systems of morality, and let us see, that the distinction of vice and virtue is not founded merely on the relations of objects, nor is perceiv'd by reason (Hume 1960, p. 469).

The modesty with which Hume expresses this paragraph contrasts starkly with the attention paid to the distinction between "is" and "ought" by subsequent English-language moral philosophers. Doubtless this is because, as he claims, it appears to "subvert" systems of morality (moral theories). There are at least two significant concerns that arise if Hume is correct. The first is a problem for moral knowledge claims and the second is a problem for moral inferences or argumentation. I will only give a brief, coarse-grained overview of these problems because the literature addressing them is both deep and vast; for instance, the metaethical debates between cognitivists and non-cognitivists hinges on the question of whether moral assertions are truth-functional, and that debate dominates a considerable portion of 20th Century analytic moral philosophy.[23]

[23] Classic contributions on the non-cognitivist side, which more or less accepts Hume's distinction that value judgments are not descriptive statements, include Ayer's emotivism (1951), Hare's prescriptivism (1952), and Blackburn and Gibbard's quasi-realism (1998 and 2003, respectively).

How does Hume's claim threaten the possibility of moral knowledge claims? Let us first assume the traditional philosophical posture towards theoretical knowledge, i.e., that a person may know a proposition if and only if the proposition is true, that person believes the proposition, and that person has good reason for holding that belief (e.g., justification or warrant). If propositions can be true only insofar as they are related to *matters of fact*, to use Hume's parlance, or are relations of ideas (something known *a priori*), and if moral judgments like "cheating on a test is wrong," do not belong in either category, then, by Hume's empiricist epistemology, one cannot *know* a moral judgment because such a claim does not meet the condition of "truth." A value judgment exceeds the facts and includes imperceptible qualities (i.e., "wrongness").

That segues to the second concern. If a moral judgment cannot be true, then it seems impossible to draw evaluative conclusions from merely descriptive factual premises. The introduction of evaluation into an argument's conclusion plays havoc with the relationship of entailment that otherwise obtains between premises and conclusions in a deductive inference, or the evidentiary bonds of inductive arguments. This is because ordinary statements constituting premises are presumed to describe *facts*, whereas evaluations are prescriptive judgments about how things ought to be. The subtle shift to prescription is prestidigitation; the new proposition does not seem to follow from the grounds of the argument—it packs the conclusion with an additional kind of content that isn't given by the observable facts. The apparent strangeness can be shown using the simple rule of reiteration from natural deduction, which asserts that a proposition follows from itself (P ∴ P):

1. Yellow-headed parrots live in Florida A

2. Yellow-headed parrots ought to live in Florida 1, R

Reiteration is a valid rule of inference because it expresses a tautology. But the proposition expressed in the conclusion *includes more* than the proposition expressed in the premise and therefore does not seem to be a simple reiteration—the conclusion does not follow because an evaluation has been smuggled in. In other words, it is not tautologically true. Thus, by Hume's Fork, this should result in moral claims being consigned to the flames as sophistry, being neither a "relation of ideas," nor an empirical matter of fact.

Though Hume's principal target here are ethical theories, the is/ought distinction threatens the possibility of inferences to evaluative conclusions in other normative domains, like aesthetics. The claim "Beautiful yellow-headed parrots live in Florida," even if it does not necessarily involve oughtness related to conduct, also involves additional evaluative content and refers to more than mere facts. Hume's argument also undergirds the "value-free" doctrine of sciences, which holds that both natural and social sciences should be as free from biases and value judgments, cleaving as close as possible to the "facts."

Hume does not pick up the gauntlet he casts, perhaps because it struck him as "altogether inconceivable" to find a way to bridge the gap. Given that his departure point is a particular form of British empiricism, his doubt is warranted. A ready response would be to deny the theory of knowledge that undergirds Hume's distinction or to deny the legitimacy of Hume's Fork. Quine (1951) famously took this approach. The distinction between "relations of ideas" and "matters of fact" does not hold up, which expands the spectrum of possible meaningful statements. A second approach,

suggested by Serres, is also promising. Hume's skepticism operates as a *reductio ad absurdum* employing assumptions of the classical rationalists and empiricists, most notably the geometrical-deductive model of inferences of the former and the causal theory of ideas of the latter. Nevertheless, despite Hume's shrewdness, the success of his argument relies upon the normativity of rules of inference. Logical rules not only *describe* a series of inferential operations but also *prescribe* how one ought to reason. Furthermore, these rules, too, originate in the performativity and normativity of judicial *law*. Serres wryly points this out by highlighting the trial of Zeno of Elia, the grand master of the *reductio* method:

> All the refinements of rigor—contradiction, proof, *reductio ad absurdum*—come from being experienced and tested less with respect to external or natural facts than with respect to human law, which is infinitely more present and dangerous than natural facts. From the tragic comes the judicial; from the judicial, logic; and from these three *logoi*, the scientific *logos* (Serres 1990, p. 65).

Given Hume's reliance on these very rules of inference, it turns out that he may be guilty of precisely the same dark arts as the moral philosophers he interrogates. In other words, if Hume's argument works, it is a *reductio ad absurdum* against itself.

A measure of forbearance is in order, however, for if Serres is right Hume cannot help but contradict himself. What Hume misses, and what the rules of inference themselves reveal, is that the fact/value distinction can be bridged, or put more strongly, does not exist at all. A claim is *both* evaluative and descriptive, or, expressed differently, all apparent merely factual statements *already include evaluative content.* The premise in the simple argument above appears to assert a factual claim about yellow-headed

parrots—and it does. But the accuracy (or truth) of that statement hinges in part on a proper noun that is itself an amalgam of natural conditions--the geography defined by certain existential contracts--and social contracts, i.e., the State and Federal constitutions which delineate Florida's limits as a political entity. However, since social contracts are performative, and therefore intrinsically normative, the claim that yellow-headed parrots live in Florida already contains evaluative content.

One might respond that this example works because it deliberately includes a social or institutional fact as a referent. Obviously, 'Florida' contains normative judgments as part of its existence. That's less obviously the case in natural scientific claims like those found in physics or chemistry—in the discourses of "hard" sciences. The statement that 'Water is H_2O' doesn't obviously involve evaluation. It refers only to elements bonded in certain ways. Thus, the distinction is maintained between statements that assert natural facts—or "brute" facts, as Searle (1995) would say, and value judgments.

The Serresian response is clear. The bonds between the hydrogen and oxygen molecules themselves *is* an existential contract—a performative concord between communicative entities. Even at the level of "brute" facts, rudimentary normativity exists, i.e., the establishment of limits. There are no "facts," *simpliciter,* that do not always already include normativity; in other words, the distinction in kind Hume draws is non-existent. Therefore, every statement, regardless of the domain or discourse, in the "hard" sciences or "soft" realm of social sciences, or morality, refers to *value-facts.* The dichotomy *appears* to be sharp because of a difference in relational context and because it overlooks water's relation to other existential and natural contracts. In a

chemistry class, say, the statement that 'Water is H_20' seems to lack normative significance because the atomic bond is considered in *isolation.* However, the *significance* of the statement that 'Water is H_20' would be very different to a dangerously dehydrated chemist trying to determine which of several clear liquids will keep her alive.

Collapsing the distinction does not mean that some statements in natural language may not differ by evaluative degree. Some statements, like the one in the conclusion of the argument above, offer robust prescriptive judgments. If yellow-headed parrots ought to live in Florida, then that claim implies certain other judgments and recommends action (e.g., preserving a habitat for yellow-headed parrots). Others may not be so laden with normativity, like the statement about the chemical composition of water.[24] Serresian forms of order are more or less value-laden, and subsequent judgments about those forms of order should vary in similar degree or proportion. This is because the world(s) that bound the context of judgment act as constraints on the fitness of those judgments. Whether or not some claim is descriptive or evaluative will also depend upon the set of value networks within which it is used, and by which members of the set. In other words, perspective will affect the value assigned to whether something should be understood descriptively or prescriptively.

As I suggested above, Serres would probably reject the idea that Hume's Fork is an exhaustive dichotomy in the first place. Serres has a knack for resolving false

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Serresian metaphysics evokes something like the distinction between "thick" and "thin" concepts maintained by Bernard Williams (1985). Williams argues that some moral concepts include richer descriptive content that narrows their range of application or reference. Concepts with poorer descriptive content are more general, potentially ranging over a wider number of situations. For example, to say that Amelie's setting Bethany in a drinking fountain makes Amelie a *bully* requires more situational specificity than judging that Amelie's action is *wrong.* Again, both are evaluations, but one involves reference to more circumscribed contexts. The circumscription comes by way of the "facts" of the matter, so the notion that norms or judgments are somehow independent of facts is misguided.

dichotomies, showing them to be incomplete in the spectrum of possibilities, and, in the case of whether statements are true or false, isn't uniquely epistemically important.[25] He is not convinced by propositional accounts of knowledge and doesn't excessively revere logical relationships.[26] Given his stance on knowledge, Serres himself probably isn't troubled about whether moral propositions are knowable, truth-functional, or inferable.

Be that as it may, it does not follow that Serres' metaethical thinking isn't useful or fruitful. Dale Carnegie, following in Sun-Tsu's footsteps, once quipped that "there is only one way under high heaven to get the best of an argument—and that is to avoid it. Avoid it as you would avoid rattlesnakes and earthquakes" (Carnegie 1981, p. 63). There is philosophical wisdom in this. The best way to avoid a philosophical controversy is to find a way to navigate around it. One need not solve a problem that never arises. Herein lies the beauty of Serres' account of normativity. If one accepts Serres' metaphysics, one can conceivably simply *side-step* the pitfalls around questions of moral truth. Rethinking contracts as communicative, rather than linguistic, as Serres does, allows precisely this move. The performative precedes both the linguistically descriptive and prescriptive—it is the common ancestor of both—and singularities created by the prescription of limit norm both scientific knowledge and evaluative judgment. If the fact/value distinction disappears, then there is no reason to move to special accounts of moral truth (e.g., Gibbard 2003) to explain (or explain away) moral knowledge claims or the soundness or cogency of ethical arguments. A virtue of the

[25] Serres frequently shows that opposites are not contradictory but complementary, in the sense that both apparent opposites help flesh out something's explanation. We will see an example of this in Chapter Four, when I address the dichotomy between moral absolutism and moral relativism.
[26] Serres does reject the value-free doctrine of science, though. More on this in Chapter Five.

Serresian account of normativity, then, is that it liberates one from a need to engage with a significant load of recent philosophical baggage.

Normative Realism vs. Moral Realism

It would be fair to say that Serres' metaethics achieves this victory by virtue of adopting a form of *realism* about normativity. However, one should not interpret that to mean that norms, values, and so on, fall into a basic or irreducible category of being. "Oughtness" isn't in the basic "stuff" of existence. That place is occupied by atoms and void, or noisy clouds of non-standard multiplicity, and every*thing* is composed of whatever it is to which those metaphors refer. However, normativity is "real" in that the world we experience via our senses and can speak about already has value baked in. Thus, there is an ingredient of natural law theory in Serres' thought. Even so, it should be remembered that these laws, both descriptive and normative, are subject to change as the phenomena in which they exist or govern change.

Despite the caprice characteristic of Serres' metaphysics, there are a trio of normative constants or structures that emerge from his work. I retain the term "normative" here because these are "invariant" structures that appear across all manner of organization. They are not specifically ethical principles, in other words. While there are no "pre-established" harmonies for Serres, there are patterns that seem common across different, and diverse, singularities. Three of these patterns are guidelines, or "principles," in the evaluative sense. These principles are both moral and non-moral, insofar as they govern a host of different contexts. They take on a moral hue, as it were, when they are refracted through the prism of questions about conduct. I call these normative principles the Principle of Loving Synthesis, the Principle of Least Disturbance, and the Principle of Creative Risk. I will articulate these principles in more

detail in Chapter Four. I will argue that this trio of constraints clarify how one ought to understand and approach not only metaphysics but also gnoseology (epistemology), perception, and other beings.

The apparent universality of these norms does not entail that Serres is a *moral* realist in the terms of contemporary metaethical debates. I will argue that what we call "morality," and its body of facts and norms, requires the synthetic combination of existential, social, and natural contracts. I will call these combination of contracts "local value networks," and a set of local value networks a "global value network." In other words, normativity is a wider, and undifferentiated natural phenomenon for Serres. Morality as generally articulated requires social collectives for its content; as a result, I argue that Serres is closer to a moral constructivist than to a moral realist. I will develop this line of argumentation in the next chapter.

Chapter Three: Value Networks and the Refractions of Moralities

In the preceding chapter, I addressed the co-emergence and coextension of value with being. It is clear a general account of normativity need not entail moral realism, since there are other normative judgments and contexts of evaluation (e.g., judgments of taste, evaluations of truth, legal proscriptions, medical prescriptions, and so on). An explanation remains wanting, therefore, regarding how normativity more generally takes on definite moral value. The task of this chapter is to explain the process whereby this occurs in Serres' work. No atomistic being has value, or, by extension, *moral* worth outside of relations with other beings (contracts). It is only by immersion in networks of relations that specific values are coded or assigned to beings. These relational tissues are what I shall call "value networks," and, in Serresian spirit, I will distinguish between "local" and "global" value networks. Value networks function as differentiators—they are prisms through which normativity is refracted into specific evaluative hues. Therefore, despite maintaining a kind of realism about normativity, Serres' metaethics is *refractionist* in its details.

I have adopted the term 'value network' to refer to these sets of relations because I hope to avoid the historical and conceptual associations or prejudices that come with other constructivist metaethics. Value networks are not exclusively cultural, nor are they contingent on the mental states of human (or idealized anthropomorphic) agents.

Local value networks consist of pockets of being linked together with bonds of various sorts. The elementary sort of bond or relation is *parasitism,* so understanding the concept of value networks requires unpacking the figure of the parasite and understanding its role in Serres' corpus. Any subsequent relation, even moral ones, will ultimately be constructed of a one-directional interference relation. A global value network is the set of all local value networks and their inter-relations; it is an open and fluid patchwork of smaller networks.

Value networks may not be exclusive to human relations, but there's more to be said about human morality situated within interpersonal relations. So, an explanation of social interaction and the assignment of value within those networks is still needed. Here, I shall rely upon Serres' use of *quasi-objects* as the circulating assigner of value within local value networks involving human beings. I will also point out that a similar role is played by *world objects*, objects the dimensions of which weigh on global value networks and all nested local value networks (including the human). So, what we call "morality" in human terms emerges within the networks of dynamic and shifting interactions within the latticework of local and global value networks.

I will close the chapter by posing the challenge of relativism. If values are assigned locally, and the global is only a patchwork of the local, does Serres' ethics not ultimately become a form of relativism? The global does not function in the same manner of a traditional philosophical universal standard—it is not a principle that is used to adjudicate different local moral frameworks. Does it follow that each locality is incommensurable? Does this not this leave us unable to navigate conflicts?

Section One: Refraction & Moral Valuation--Serresian Metaethics

Serres sits at an interesting crossroads, metaethically, and likely without intending to contributes to a relatively specialized debate in contemporary metaethics. In the space of debates between moral realists and anti-realists, there are competing accounts about moral judgments. Briefly, “cognitivism” in metaethics refers to a position carved out by a set of claims concerning the status of moral judgments. Cognitivists hold that moral judgments a.) express *beliefs,* rather than affective mental states, and b.) express truth-functional propositions (capable of being true or false), and are therefore c.) evaluable against a set of moral “facts.” Cognitivist metaethical views argue for their general preferability over non-cognitivist competitors on the basis of their preserving the possibility of propositional moral “knowledge,” which I have argued that Serres’ metaphysics permits. If a statement like “Lying to gain romantic advantage is wrong” is truth-functional (capable of being true or false), then in principle it is the sort of statement that could satisfy criteria for knowing (e.g., Knowledge = true beliefs that are justified). Another alleged virtue of cognitivism is the preservation of logical integrity; deductive and inductive inferences can follow soundly or be inferred cogently from moral statements, just as if they were (merely) descriptive statements. While both robust realists and constructivists agree on the virtues of cognitivism, their dispute centers principally on the ontological status of the moral “facts” referred to in the third claim (c).

Substantive (robust) moral realists, like G.E. Moore (1903), Shafer-Landau (2003), and Enoch (2011), argue that moral facts, properties, or principles are primary qualities, or that morality and its dictates exist as a basic ontological category of being.

Not only normativity in general, but *moral facts or qualities as such* exist objectively. Moral statements, judgments, and principles are made true by their relationship to this domain of moral "facts," and these facts exist independently of the mental attitudes or relationships with other beings, human agents in particular. Morality is a metaphysically objective aspect of reality, whether it is reducible to natural qualities (e.g., pain = evil) or exists as a separate, irreducible, category of being altogether. Realists argue that their position is best able to explain the apparent objective reference of moral statements and claim that robust moral realism more naturally accounts for what one might call "pre-reflective" natural attitudes about morality (i.e., the intuitive stances on the evaluation of substantive moral issues like lying, murder, and so on).

Serres is a robust realist about normativity—value exists in the world irrespective of human agents, mental states, or collectivities. Serres' *metaethical* position, which I call "refractionism," is situated more closely to moral constructivism. Moral constructivists hold that there is no ontologically distinct category of "moral facts" existing independently, and that moral properties, facts, and principles emerge as the product of some transformative function that encodes initially non-moral beings with moral significance. As I shall argue, this is true of all value assignment for Serres, including the moral. Constructivism has the attractive feature of being able to explain the apparent objectivity and truth-functionality of moral judgments while simultaneously limiting the items in one's ontological catalogue. This explanatory power, along with the cheap metaphysical price tag, seems to establish a theoretical presumption in favor of constructivist theories over realist competitors. Contractarian (or contractualist) metaethical theories, like those of Hobbes or Rawls, would fall in this category.

It would be facile to categorize Serresian metaethics as “contractarian,” given his ubiquitous use of the figure of contracts. However, as I will explain, Serres is not committed to a sharp distinction between the contractual negotiators and the “goods” over which they negotiate. Most traditional contractarian constructivist theories posit hypothetical or actual agents who gather to forge a binding agreement about shared principles and commitments. Rawls, for example, asks one to imagine idealized contractors negotiating in an “original position,” and Hobbes postulates rational egoistic individuals seeking extraction from a state of nature in which life for man is (infamously) “solitary, poor, nasty, brutish, and short” (Hobbes 1651, Ch. 13). The aim of negotiators in both cases is to move from a position of limited benefit to one of wider benefit. These models are atomistic and assume a sharp distinction between the contractors and the objects of their evaluation. The basic unit of moral value is the egoistic individual, which makes sense since contractarianism emerges against the backdrop of classical political liberalism and Modern democratic sentiments. Subjects come *to* deliberations with interests and values; their identity is assumed to be sufficiently well-formed to make rational decisions about what rules there should be, and so on.

Although Serres himself ironically—and erroneously—confesses to maintaining this distinction in *The Natural Contract*, nothing in his wider work commits him to it (Serres 2008, p. 125). Moral value is designated relationally and does not pre-exist those relations, but the relations themselves which designate moral value are not merely intersubjective. This is an interesting development all on its own. Serresian refractionism relies instead on an account of communication (information exchange) between existing things and this occurs across varieties of beings (inert, biological,

human). Human beings are decentered from the process of creating morality and have neither exclusive claim nor control over what morality emerges. Thus, Serresian refractionism occupies a position *closer* to the robust realist without making the additional ontological commitment while simultaneously dodging a reduction to human mental states or attitudes.

Other differences between Serres' view and traditional constructivism have to do with the materials from which morality emerges and in the processes of emergence. It seems to me that the processes associated with traditional constructivist views assume a non-normative set of "facts" that are imbued with moral significance via the constructivist process. Metaphorically, they are factual lead overlaid with moral gold by the alchemy of constructivism. This form of constructivism is first suggested by Euthyphro in the eponymous dialogue, when he proffers the suggestion that the gods' attitudes define the pious or holy (Plato, *Euthyphro* 7a). Metaethical Refractionism, on the other hand, is not a process of *addition,* but is instead a process of refinement. The normativity is already present and is refined or separated out into moral value by relational emergent processes. Serres' metaethics is thus an interesting hybrid of robust realism about normativity itself and constructivism about moral norms, fact, and principles. Logically and metaphysically prior normative constraints *become moral constraints alongside and during the establishment of moral values.* There is therefore less metaphysical mystery about the provenance of moral normativity; that is, why it should be the case that apparently non-moral facts gain ethical significance.

Serres frequently refers to undifferentiated or unrefined values as "white elements," or "white objects." A common figure Serres uses to show the possibility of

omnivalence is the Joker in a deck of cards. Jokers are “wild,” and, depending on the rules of the game in question, can stand in for any other card in the deck—the Joker includes all possible values within that context:

> This white object, like a white domino, has no value so as to have every value. It has no identity, but its identity, its unique character, its difference, as they say, is to be, indifferently, this or that unit of a given set. The joker is king or jack, ace or seven, or deuce…*A* is *b, c, d,* etc. Fuzzy (Serres 2007, p. 160).

This example is bound to invite criticism from robust realists. After all, the assignment of an individual value is contingent on the rules of the game and the state of play in a current hand. Joker cards only take on value within the context of a card game—the example inescapably invokes rules, mores, and the activities of human persons, and those must exist prior to the assignment of value to the joker. Carrying the example into metaethics, this suggests that moral constraints must exist prior to the assignment of moral value, which seems to entail a collapse into robust realism (Shafer-Landau 2003, 43).

Perhaps the Joker invites this confusion. However, there are other illuminating examples. The use of the term “white elements” invites a comparison to white light. White light is the hybridized mixture of all wavelengths of the visible spectrum. It contains all possible visible variations, and those variable wavelengths are rendered visible once white light is refracted through a prism. There is a noteworthy difference between the two examples Serres employs. The refraction of light does not depend upon human intervention; it is an example of natural omnivalence present in existential

contracts. The model or media of translation may differ, but the structural constraint of differentiation or refraction still undergirds the assignment of specific values.

Somewhat ironically, Serres' metaethics is therefore *simpler than* both moral realism and other versions of contractarian constructivism—it is more parsimonious in terms of the entities included in the explanation. Thus, if Serres' refractionism can explain the emergence of specific moral values (facts) and so forth, and if Occam's Razor is treated as a decisive criterion in this controversy, then Serres' constructivism should enjoy theoretical presumption in the cognitivist dispute. The irony stems from Serres' *lack* of deference to Occam's Razor, or the Principle of Parsimony, and in the fact that he glories demonstrating the world's complexity. The Serresian world is a complex set of contractual networks and relations, which introduces complications and confusion. Network boundaries are not sharply defined and it's difficult to simplify matters in terms of describing the relations at play. Despite that, complexity in terms of complication and epistemological difficulty is different from complexity in terms of metaphysical *entities*, or constitution, the latter of which is what Occam's Razor concerns in the context of this debate.

Serres is fond of illustrating difficult metaphysical ideas using everyday examples. Taking a page from his playbook, the distinction between complexity by constitution and by complication can be illustrated by allusion to cooking. A recipe might be complex because it involves a number of different technical steps to create, or it may be more complex because it involves more ingredients. Hollandaise has essentially the same number of ingredients as mayonnaise, but the process of making it is much more complicated. Hollandaise requires using a bain marie and the slow emulsion of butter

into gently whipped and slowly heated egg yolks. Mayonnaise must be whipped without heating; oil is slowly drizzled into beaten egg yolks. They are constituted of essentially the same “stuff,” but their process of construction differs by complication, not constitution. Bearnaise, on the other hand, has the same complications as Hollandaise, but additional ingredients. It is more complex by constitution, rather than complication, than its cousin sauce. Serres’ metaphysics is complex by complication. Recall that everything is made of noise/atoms: those figures are stand-ins for whatever being constitutes the world, and, as we will see, identity does not take shape until immersion in relations. There is no moral “stuff,” no set of metaphysically basic moral “facts” that constrain moral truth or judgment. Neither are there intrinsically valuable moral subjects. All of this will be unpacked in due course.

Contrary to my interpretation, Connor (2022) has suggested that Serres’ thinking is essentially utilitarian which I think is a misreading missing some of the subtle, and important, points about Serres’ theory of value. There is some similarity to consequentialism insofar as judgments about something’s value cannot be determined without reference to relations. For classical consequentialists, this comes in the form of an intrinsically valuable “end,” the promotion or impediment of which encodes actions or things with their moral status. The value of anything other than this end is therefore merely instrumental—X matters ethically if and only if X promotes or impedes some intrinsically valuable good. British utilitarianism is also a metaethically realist position. However, Serresian value theory is non-teleological; there is no final goal, purpose, or good toward which something must tend or an outcome which it must produce in order

to be assigned a specific moral value.[27] Furthermore, nothing is intrinsically "good," *simpliciter*, as Mill and Bentham hold "pleasure" to be, for instance, and, as a result, instrumental value cannot be assigned as a function of some "good" (Mill 1879, Ch. II). In fact, as I will explore later, the engine of differentiation and evaluation is something Serres frequently refers to as *evil*. This is at once a reference to Leibniz's *Theodicy* and a repudiation of traditional thinking about ethics (i.e., that the "good" defines or designates the "right").

Serresian metaethics also undermines the distinction between intrinsic and instrumental values of the sort operating in classical consequentialist thinking. Anything already includes both intrinsic and instrumental value as part of its metaphysical omnivalence and might assume either role depending on its differentiation. Refraction never provides a finally sharp definition between kinds of values. There is always a degree of normative vagueness; in one circumstance, X may play the role of conferring significance on other things, while in others X may have its value assigned by something else. Serres illustrates the ambiguity of this dependence using the figures of the "host" and the "guest." A guest depends upon a host for hospitality, but not infrequently the giver of hospitality is also the recipient of similar hospitality. Whether one is guest or host—dependent or the benefactor—is at least somewhat context-dependent (Serres 2007, p. 16). Furthermore, what has moral significance within one set of relations may take on a different normative significance in another, as happens

[27] This point also distinguishes Serres' theory of moral value from Whitehead's. Though Serres and Whitehead share an emphasis on process rather than product and inclusive metaphysical systems permitting universal moral significance, they differ with respect to the question of teleology. Whitehead retains a God in his worldview, and the aim of action is to "maximize importance." 'Importance' is a generic term Whitehead uses for "value," of which moral importance is one species (Henning, 2008). Whitehead is closer to classical utilitarianism than to Serres, then, for whom value maximization as such is not an exhaustive moral aim.

when moral norms are codified in legislation, or mathematical ratios resolve into standards of beauty or justice (Serres 1990, p. 53). Situated evaluation is invariably more complex, therefore, than a simple means/ends analysis allows.

However, the matter of whether Serres' refractionism is better able to explain the provenance moral facts than robust realism demands more detailed support. Shafer-Landau rightly points out that claiming theoretical victories depends on the cogency of a particular flavor of moral constructivism—each must stand or fall by its own merits. (Shafer-Landau 2003, 43). Therefore, an account is due of how Serres describes the process of how, exactly, white elements or Jokers are differentiated.

Section Two: Serresian Relations--Parasitism as the 'atom of relations' and the first condition of differentiation

According to Serres, norms receive their specific coding by being situated within relational "networks," rather than by association with a goal. Before getting into a more fine-grained discussion of these networks, it is important to start by explaining how Serres thinks of relations. Understanding value networks and the assignment of value to 'white' elements or 'jokers' in a network requires a grasp on the figure of thought Serres calls "The Parasite (2007)." As with his offering noise as a new object of contemplation for metaphysics, Serres similarly turns to information theory for a new way of understanding relations. It must be said that parasitism is one of the more widely discussed figures of thought in Serres' work, alongside his rethinking of contracts. There is, therefore, an excellent body of scholarship to which my thinking is indebted, especially Brown (2002, 2004, 2016) and Watkin (2016). Both offer deeper analyses of

parasitism than I will here, so curious readers might explore their work for a more robust understanding of the figure. I will briefly discuss the notion of parasitism, though, and draw out some of its implications for ethical theorizing, which, as Brown notes, may be problematized by general parasitism (Brown 2016, p. 10).

Parasitism is Serres' descriptive depiction of the most elementary form of relations, which conceptually and materially precedes other forms of relation. "The theory of being, ontology, leads to the atom," he says, and "the theory of relations leads to the parasite."

By framing relations this way, Serres supplants other relations of philosophical fascination from pride of place. Much of the attention relations have received philosophically emphasized either causal or inferential relations. The former concern the conditions of beings, either in the Aristotelian sense or in the sense of efficient causation of "bringing into being," or "accounting for being." The latter refer relations between ideas, concepts, or propositions: logical conclusions drawn by deductive or inductive patterns of reason. But neither the conditions of matters of fact nor relations of ideas will serve as a complete explanation of relations more generally; for instance, Serres will argue that the conditions of logical inferences are themselves dependent upon a more elementary understanding of information, which itself inescapably involves his theory of the parasite.

But what *is* parasitism? The term in French has three meanings: the biological sense in which an organism lives within (or upon) and feeds from, its host; the sense of being an abusive guest; and, finally, a break or rupture in a message. What these three meanings share is a sense in which parasitism is a form of *mis*-use, or "abuse."

Thinking about each of the three senses offers interesting insights into how Serres uses this term, for they are variations of the invariant ubiquity of parasitic relations. However, recalling that Serres invites us to think of *noise* as the new object of philosophical contemplation, I will start by describing parasitism in informational terms.

Serres draws upon the work of Shannon and Weaver's theory of information. Briefly, Shannon and Weaver model the basic conditions of communication. They identify five such conditions: an information *source*, a *transmitter* to broadcast the information, a *channel* through which the information passes, a *receiver* on the other end of the channel which translates the information, and a final *destination* for the message. Shannon and Weaver label noise as disruptive interference—a distortion in the message between transmitter and receiver, which changes the reception and subsequent decoding (Weaver 1948, p. 379).

Inspired by this model, Serres sees the parasite—*noise*--occupying the middle position between broadcaster and receiver, situated on the channel. The parasite occupies the position of the "third man." In all three variations—abusive guest, invasive organism, or noise—the parasite constitutes an interruption, rupture, break, or, as Serres frequently puts it, a bifurcation in the channel. This rupture or bifurcation creates a new pathway, a one-directional leak or downstream flow, so some of what was intended for the receiver does not arrive. Vampirically lurking on the informational vein between the sender and receiver, the parasite exists by siphoning off their life blood flowing down the channel. That is to say, the parasite benefits directly from rupture, but the host does not:

> An angel passes. Who stole the relation? Maybe someone, somewhere in the middle, made a detour. Does a third man exist? It is not only a

> question of the logical. What travels along the path might be money, gold, or commodities, or even food—in short, material goods. You don't need much experience to know that goods do not always arrive so easily at their destination. There are always interceptors who work very hard to divert what is carried along these paths. Parasitism is the name most often given to these numerous and diverse activities, and I fear they are the most common thing in the world (Serres 2007, p. 14).

No matter how tight the security, some of the goods "fall off the truck" on the way to the shop. No matter how careful the chef, some soup is lost in the transfer between pot and bowl. No matter how well one enunciates one's words, something in the message will be unclear. The preceding passage again shows the presence of parasitism across forms of organization (or systems) that are both "hard," or material-based and subject to thermodynamic entropy, or "soft," or, or information-based and subject to informational entropy. The hard/soft distinction is a frequent visitor in Serres' corpus, and he also uses parasitism to illustrate the asymmetry of transfer between these two types of systems [e.g., paying for a meal (hard) with a song (soft)] (Serres 2007, p. 34).

Nevertheless, could it be that parasitism is accidental to systems, an "extra addition" to them? Or is it the case that parasitism is essential to systems of relation? Serres, in contradistinction to Weaver, argues for the latter—parasitism is "simply the system itself:"

> Nonfunctioning remains essential for functioning. And that can be formalized. Given, two stations and a channel. They exchange messages. If the relation succeeds, if it is perfect, optimum, and immediate, it disappears as a relation. If it is there, if it exists, that means that it failed. It is only mediation. Relation is nonrelation. And that is what the parasite

> is. The channel carries the flow, but it cannot disappear as a channel, and it brakes (breaks) the flow, more or less. But perfect, successful, optimum communication no longer includes any mediation. And the canal disappears into immediacy. There would be no spaces of transformation anywhere. There are channels, and thus there must be noise. No canal without noise. The real is not rational. The best relation would be no relation. By definition it does not exist; if it exists, it is not observable" (Serres 2007, pp. 78-79).

Serres argues the condition of parasitism is inevitable because being a parasite is essential to being itself. Without the action of the parasite, it would be impossible to distinguish the source of information from its destination; it is one principle of individuation. Furthermore, the figure of the parasite *qua* abusive guest illustrates a dependence relation—for both conceptually and ontologically, no guest can exist without a host. All existing forms of order or organization are contingent—or ontologically dependent upon—other forms of being. Nothing exists independently or outside of the guest/host coupling. Children are ontologically dependent on their parents, for example, and organisms are contingent upon the environments within which they live, and, ultimately, all things depend for their existence upon the *noise/*atoms which constitute them. This dependency seems to imply that to exist is to take advantage of some other being—to be is to be at the expense of others. As Serres puts it, "Abuse appears before use. Gifted in some fashion, the one eating next to, soon eating at the expense of, always eats the same thing, the host…" (Serres 2007, p. 7). The first relation is one of misuse, this siphoning of resources away from their intended destination for the parasite's own purposes—even at the level of bare existence; "this is true of all beings. Of lice and men" (Serres 2007, p. 7).

Whether one is host or parasite is to some extent observer or stance-relative. The host/parasite can change position. Parasitism bifurcates in branching chains from a "producer," who is parasited by the original "host." Subsequent parasites leech from the original host, until their parasitism is "interrupted" by the original host, who then parasites (scares off with noise) the initial parasites. When this occurs, Serres argues, the parasitic chain temporarily collapses into disorder—only to emerge again. Here, disorder—the collapse of the system—is both destructive and generative. Thus, cascades of parasitism are non-linear and dynamic (Serres 2007, 14).

Using the figure 'parasite' as the term for the model of relations is bound to invite rather pessimistic inferences about how to understand relations. And I think Serres invites misunderstanding when he associates the parasite in each of its dimensions, with "evil," echoing Leibniz's *Theodicy*. I think this is an unfortunate turn of phrase, or perhaps a needlessly provocative illustration, because it likely leads his readers to be confused about the moral value of parasitism. To say that the elemental form of relation is "evil" seems to suggest a substantive moral evaluation about the world—that it is rotten to the core, perhaps, or irredeemably morally foul. It seems to position Serres as a realist not about a moral good, but rather about moral evil—relations are a kind of original sin. This reading is all the more tempting since Serres frames the first relation as one of *abuse:* coopting, stealing, or using something in a way other than intended.

But Serres does not intend the term "evil" in this sense. The broader, and more salient, point is that some manner of loss or imperfection is necessary for any system of relations to work. *There is no perfect world,* and idealized, perfect models are impossible to realize. If noise is "evil," then some evil is necessary for anything whatever

to exist, recalling that the parasite/*clinamen* is the distinction that allows for individuation. Some imperfection, some malfunction, some noise is required for the system to work, and nothing can exist without taking from, and often destroying, other things. As he says, the system "works because it works badly (Serres 2007, p. 70). By emphasizing "evil," Serres challenges the traditional role of the "good," as both a metaphysical and moral final cause. Unlike Leibniz, then, and the generally prevailing paradigm of ethics since Plato, there is no final "good" toward which Serresian parasitism tends or contributes. Parasitism is non-teleological and chaotic.

It is also worth bearing in mind that *abuse* does not entail *harm,* at least not in the sense Serres employs the term 'abuse.' There are myriad dependence relations (host/parasite) that aren't subtractive in any meaningful way; in other words, there are circumstances where a parasite might disrupt a sending without it damaging the sender or receiver. On a "hard" astrophysical and thermodynamic scale, it is implausible to say that building solar panels to harness (steal) the energy radiated by the sun "harms" the sun, for instance. Even if the radiant energy has been diverted, the sun is not morally injured.

Furthermore, parasites play a vital role in *constituting* relations. Departing from Leibniz's law of the indiscernibility of identicals, Serres argues that knowing which station in a relation is the sender and which is receiver—in short, identifying them—requires differentiation. This is impossible, he argues, without the introduction of noise or disruption in the channel; the receiver becomes the one who must overcome or decipher the message despite the noise. Without the channel and its concomitant parasite separating the two stations one would have no criterion for marking the

difference necessary to fix either end's identity. Here the parasite plays the creative role occupied by the *clinamen* in Serres' Lucretian atomism. The *clinamen* and the parasite represent deviations that result in differentiation; the former is the minimal deviation in the laminar fall of atoms in the void and the latter represents deviation in the flow of information that creates branching channels. *Clinamen* and parasite are thus the engines of creation and the motor of meaning for Serres, who argues that the 'is' of predication emerges from the 'is' of identity by the same disruption of equilibrium (Serres 2007, p. 160). If so, some degree of parasitism is necessary for communication to be possible, or, more generally, for any network of logical relations to obtain. Difference precedes identity, contrary to the laws of classical logic. In a parallel channel, this also explains why parasitism is more elementary than the causal relation. Without some difference betwixt them, it would be impossible to distinguish "cause" from "effect." Without a flow of information pirated by a third party, without an observer, perhaps, who acknowledges a causal relation, the direction (cause→effect) of efficient causation is meaningless. Therefore, the simplest form of relation is already a complex *dynamic triad* of sender and receiver connected by a parasited channel.

Parasitism is both good and bad—parasites are white elements containing all values—and can be both generative and destructive. Destructive forms of parasitism tend to proliferate; left unchecked, parasites tend to expand their reach in dominating and overwhelming ways. In the language of noise, unchecked parasitism "shouts" over other relations and universalizes itself by drowning out everything else. This is the characteristic of parasites pursuing *power* (Serres 2007, p. 142).

Viral pandemics illustrate the dangers of unchecked parasitism; COVID-19 swarmed globally and dominated and ravaged not only the bodies of its hosts, but also virtually everything else. Who can forget the ceaseless reporting of nothing but the pandemic? Or the economic and political shockwaves wrought by the virus's proliferation? The airwaves themselves were literally infected with nothing but COVID-19 news for months—an infection lingering into the present. The biological disease spread to become an informational one, which again illustrates Serres' point of parasitism as a structural invariant. In any event, this proliferation of parasitic noise can overwhelm any system of relations, local (small-scale) or global. Music from a band or jukebox at the local bar is lovely so long as it accompanies the fellowship and conversation of friends. Music becomes unwelcome and dominating when it is so loud that it destroys the possibility of other connections or communication.

Not all parasitism is so immodest, though. Parasitism can be checked or transformed. Serres uses the story of Miraut trying to chase a rabbit out of his garden as an example to illustrate this point. The farmer might call the local hunter and his dogs to kill the rabbit who's been nibbling at his crops. But in so doing, the farmer invites in more noise (parasites)—the hunter and dogs do more damage chasing the rabbit than the rabbit did in the first place. Better, then, to learn to live with parasitism in quiet ways—to cohabitate with the rabbit in modesty and with reserve. In other words, parasitism can become mutualistic symbiosis.[28]

The simple, one-directional arrow can become one of reciprocity, where both (or however many) parties benefit. The guest/host position or identity is constantly shifting,

[28] I will revisit this example in the next chapter, for it illustrates the Principle of Least Disturbance, a Serresian moral principle.

and all things (relations) may play both roles. Parasitism can become mutualism, then, via the introduction of existential, natural, or social contracts foregrounding interdependence. Of course, since parasites tend to proliferate, the peace of the reciprocal contract is never final and, unless always being tweaked or fine-tuned, the contracts will ultimately dissolve. In any case, since the guest/host position or identity is constantly shifting, and all things (relations) play both roles, categorically evaluating parasitism as morally bad is incoherent. The parasite is not substantively morally "evil."

However, since the position of host/parasite fluctuates, parasitism is a necessary but not sufficient condition for assigning identities or moral values. A further condition is required to answer the question of what stabilizes relational networks, solidifies identities, and assigns moral values. This condition is spelled out in Serres' theory of the "quasi-object."

Section Three: Quasi-Objects, Quasi-Subjects, and Emergent Morality

Plato's *Euthyphro* is the departure point in the history of Western ethics, so many of its assumptions and arguments influence the trajectory of later thinkers. Arguably, the *Euthyphro* means to establish philosophy as the proper activity for investigating morality, as distinct from the law, symbolized by the dramatic setting, or from religious teachings or divine revelation, cued up by Euthyphro's profession and his proposed definitions. Plato's early dialogue also introduces, though slightly obscurely, the distinction between "subject" and "object." The distinction arises in the famous dilemma that ensues from Euthyphro's second attempted definition (or third, depending on whether one counts Euthyphro's proffering an example as an attempt) of piety, i.e., that

the pious is what all the gods love and the impious is what all the gods hate (Plato, *Euthyphro* 10a). Euthyphro is confused when Socrates introduces the dilemma, and in the attempt to clarify it, he analyzes the distinction:

> Socrates (S): I shall try to explain more clearly: we speak of something being carried, and something carrying, of something being led and something leading, of something being seen and something seeing, and you understand that these are different from one another and how they differ?
>
> Euthyphro (E): I think I do.
>
> S: So there is something being loved, and something loving, and the loving is a different thing.[29]
>
> E: Of course.

Socrates draws a rudimentary distinction between subjects, objects, and the relations that obtain between them, and, as the argument proceeds, the distinction between essence and attribute. Or, in other words, between characteristics that define something and characteristics that just happen to be true of them (essential vs. accidental is another way of expressing the distinction). Socrates refers to the relations of carrying, leading, seeing, and loving: there is the carrier, the carried, and the relation of carrying binding them, the lover, beloved, and the loving relation, etc. The three analytic elements are distinct—whatever defines the subject is distinct from what is essential to the object, and the relation is *external* to the relata. One could substitute any other subject/object term and nothing about them changes definitionally for being in those relations. The relations are mere attributes of the relata at a given time. The distinctions

[29] Here Socrates distinguishes also the *relation* itself from the subject and object relata.

Socrates makes are so (ironically) obvious to our friend Euthyphro that he replies, “of course.”

Serres argues that most of our Western philosophical thinking and vital institutions—namely, science and law--have enshrined this distinction to the point where they, like Euthyphro, take it for granted. Subject/object is engrained in “obvious” common sense so deeply that it is almost as if it is known *a priori*:

> Scientists, jurists, philosophers all think this way, even when we disagree, and our contemporaries live under the same assumption even if they care nothing for science, law, or philosophy. We are all similarly submerged in this shared certainty of an essential gulf between us and the universe. Subjective, objective, face to face, back to back (Serres 2008, pp. 125-126).

But Serres challenges this assumption, rejects its obviousness, and encourages his readers to think beyond the clarity of the analytic subject/object distinction in favor of the mixed, hybrid, and confused world. “Lucid now,” he writes, “I see the ‘for itself’ mixing, pooling with the ‘in itself’; I see the ‘in itself’ inundating the ‘for itself” (Serres 2008, p. 126). How, though, should one understand a mingled way of thinking about subjects and objects? By rejecting the notion that subjects and objects are ontologically distinct and that they exist whole and well-defined outside of accidental relations that just happen to be true of them at a given moment.

Ontological Similarity

Human beings are not radically distinct from other kinds of being, and humans are in no wise “separate” from nature, possessing a metaphysical element that transcends the phenomenal world (i.e., no “soul” in the substantive sense). Any

characteristic historically thought to define us is not unique or essential to humanity alone, but are variations on structures that underpin other forms of being. We are not uniquely *res cogitons,* and things are not simply *res extensa.* Returning to information-processing as a model and nicking a term from philosophy of mind, one could characterize Serres' world as being universally *functionalist*. To be is to make noise—that is one of the lessons common to *Genesis* and *The Parasite*. In other words, to be is to broadcast noise that may be translated into information. However, all beings also receive, store, and process information. So, being is best understood a functional *process*, not in terms of Aristotelian or Cartesian substances.[30] This is true, he argues, at every level of scale and across all categories of existence:

> I do not know of a single living thing—cell, tissue, organ, organism, species—of which it could not be said that it emits information, receives it, stores it, and processes it—to the point that one would like to define life precisely in these terms. But counter-examples abound: for neither do I know of any object of the world—atom, molecule, crystal or liquid, mountain or ocean, planet, star, galaxy—of which it could not equally be said that it stores, emits, receives, and processes information (Serres 2008, p. 127).

Human mental activities like thinking, willing, affirming, doubting--consciousness, and rationality--are not unique but are variations of the universal functions of broadcasting, receiving, storing, and processing information. Even the "objects" of the universe share a common capacity for communicative information exchange. The world speaks, Serres tells us, if we learn how to listen (Serres 2012, p. 5).

[30] Recall that *noise* and *atoms* are not to be understood as substantively material. They are metaphorical referents for whatever being is; c.f. Chapter Two.

One might complain that Serres is describing the world in panpsychist terms, as his account seems to attribute mental characteristics to non-living things. This would be too hasty a conclusion, despite Serres' cheekily copping to being an "animist" (Serres 2008, p. 129). If "mind" is a variation of information processing, etc., then calling Serres a panpsychist (or animist) would be to run the analogy in the *wrong direction.* For it is not to attribute a characteristic of human mentality or the possession of "soul" *to the world,* but rather to read the information processing of nature *into the human.* We are like nature, rather than nature being like us, in other words, and to call Serres' view panpsychist misses this point.[31] Furthermore, it is clear that Serres is not a panpsychist in the sense that being is constituted of a mental metaphysical fundament—he is not a substantialist about mind. *Noise* and atoms are not understood as being substantively material, but equally, they are not substantively mental. They are metaphorical referents for whatever constitutes beings. Instead, what distinguishes humanity from other forms of being is the breadth of our capacities and possibilities relative to other forms of being. We are capable of more variation and novelty (Serres 2011b, pp. 36-38). Nevertheless, this distinction is only one of degree—human beings as "subjects" are not ontologically separated or essentially different from the other "objects" of the world.

Quasi-Objects, Quasi-Subjects, and Collectives

In a somewhat ironic twist, Serres sketches the principal details of the theory of the quasi-object and the emergence of subjectivity in a description of the ontology of societies. True to form, social collectives cannot be built, he argues, without linkages or relations to more-than-merely-social objects; that is, without connections to the natural

[31] Serres acknowledges the direction of the inference when he counts ancient Stoics as earlier adherents of seeing nature's structures in human consciousness; i.e., *logos.* (Serres 2008, p. 126).

world. But what does describing a society have to do with the subject/object distinction? Serres maintains that the emergence of subjectivity—what makes one "subject"—is linked with the process of something's becoming an object, which requires also a larger collective. Subject, object, and society all emerge co-extensively via a process of circulation and transmission.

In *The Parasite,* Serres initiates his discussion of quasi-objects by wondering about the nature of social collectives and frames the possibilities in terms of a dichotomy: are societies a "being," or a "cluster of relations?" (Serres 2007, p. 225). Is a society or collective a new kind of "thing" introduced into an ontology—*res publica*--or it is a set of relations that obtains between the members of the collective?

First, Serres explicitly and colorfully rejects the usual liberal, atomistic, democratic contractarianism, wherein one is asked to imagine fully formed, individually valuable (rights-bearing) persons engaging in *quid pro quo* negotiations, surrendering rights to enter the collective:

> That immediately appears easy to think about. Everyone carries his stone, and the wall is built. Everyone carries his "I," and the "we" is built. This addition is idiotic and resembles a political speech (Serres 2007, p. 227).

One cannot help but wryly recall Lincoln's *Gettysburg Address.* Even so, if societies should not be considered accumulations of individual people, how should one understand the process by which collectives are formed? The collective, he argues, is the "set of the sets of its transmissions." Something is passed between individuals that weaves them into a collective--Serres tells us that presence of quasi-objects is a necessary condition for the formation of social collectives.

A quasi-object is something that passes within a “distributed multiple,” an undefined grouping, acting as a focus around which a group crystalizes into a social collective. In *The Parasite,* Serres employs the examples of a *furet* (an object passed in a game) and a ball in sports (Serres 2007, p. 225). Serres also speaks of wine being passed between friends, or between the Disciples at the Last Supper, as fulfilling the same function (Serres 2016, p. 177). The quasi-object need not be a material thing, as Chris Watkin is keen to point out, for it may be a linguistic object like a joke or phrase, as circulates in a game of telephone, or even war (Watkin 2020, 314).

In any case, the quasi-object acts as a shared point of reference and an object of joint use; each member of the emerging group may be in possession of the quasi-object at any given moment. The quasi-object is “passed” between them, and as the quasi-object circulates it simultaneously reconfigures the collective around it—the members of the group react in relation to the thing in circulation. Furthermore, the quasi-object informs the identity of individuals within the nascent collective: possession of the quasi-object reorients every other member of the collective in response to its location.

Serres frequently writes of violence and sacrifice at the origins of things; there is violence in the *noise* of non-existence and violence in the disintegration of order. But putting an end to the violent chaos requires an act of sacrifice, and the act of sacrifice is the catalyst around which order can form. So, this subjectivity also hinges on being immersed in the collective and being in contact—actually or potentially--with the quasi-object. The possessor is “it,” marked as a victim, a scapegoat around whom the entire collective hinges. Being ‘it’ is what sets one apart (excludes) from others and *gives one subjectivity*.

To put it another way, what becomes *subject* is encoded with identity and significance in and through its relations to the quasi-object (possession) and the others, the "they" who also constitute the "we." They who are members of the society are also potential subjects, as they might also possess the quasi-object, and will, as it passes between the members of society. And those who constitute the "body politic" bear the traces (memories) of the circulation of the quasi-object. The have been "it," and know that they may—or will—be the sacrificial lamb again (Serres 2007, p. 227).

Serres uses sport as an illustration, particularly ball sports like football or rugby. I shall use ice hockey to exemplify the same points. Hockey teams and games require the presence of something around which to form—in this case, the puck. Without the puck, what might resemble a hockey game disintegrates into mere ice skating in pads; there are no teams, no constitutive rules (the rules that define the parameters of the game), rules of fair play (rules that regulate conduct of participants), or anything else binding this group into a collective. Add the puck, though, and the game may begin. The movement of the puck focuses the players on the ice—almost all of their movements and mental attitudes (judgments) are in response to its position—and possession of the puck changes the status of the "puck carrier." Everything changes with respect to the puck carrier. Only the player with the puck may be the first to enter the attacking zone on the ice, so defensive players rearrange their position to bar that entry. Defenders may also body check (physically hit) the puck carrier to impede their progress, which is not permitted to do to other players—a painful example of the violence associated with being "it."

However, in a hockey game, players constantly pass the puck. And, as Serres observes, better sports teams are more effective at passing. As the puck moves from player to player, so does the status of "puck carrier." It is advantageous if the sacrifice is substituted frequently—each member of the collective shares the cost of joining in. If the opposing team intercepts a pass (parasites a transmission from one station to another), the team responsibilities and expectations suddenly shift from defense to attack. Subjectivity, therefore, is *dynamic* and constantly shifting, and the status that one enjoys fluctuates correspondingly. The collective itself is similarly dynamic, as the transition from defense to offense shows:

> This quasi-object that is a marker of the subject is an astonishing constructor of intersubjectivity. We know, through it, how and when we are subjects and how and when we are no longer subjects. "We": what does that mean? We are precisely the fluctuating moving back and forth of "I." The "I" in the game is a token exchanged. And this passing, this network of passes, these vicariances of subjects weave the collective (Serres 2007, p. 227).

Given their power to designate subjectivity, quasi-objects ought not to be thought of as *mere* objects—they do not exist as a "thing in itself." Quasi-objects are *also* quasi-subjects, for they exert active influence on the identity and values of the members of the collective. Serres argues that playing a sport (at least the sort under discussion) is "nothing else but making oneself the attribute of the ball as substance" (Serres 2007, p. 226). Our epistemological enterprises—science and philosophy, particularly—have been unable to recognize the activity of objects because of our theoretical commitment to their separation from subjects and objects' assumed passivity.

Serres extends significance and dignity to the “objects” of the world by reminding us that neither we, nor the societies we inhabit, can exist *without* objects. This is a deeper point than simply reminding us that humans are parasitic (ontologically dependent) upon mineralogical and biological beings, i.e., existential contracts, for their subsistence. Who people are and the values they espouse, individually and collectively, are defined by things existing and circulating amongst them. This is a straightforward rejection of the Kantian thesis that dignity is a function of rationality and autonomy; i.e., that rational beings can reason out morality’s dictates *a priori* and guide themselves towards their own ends. Serres subverts this claim by pointing out that quasi-objects are the loci of legislation. Moral and legal norms are introduced because the quasi-object *demands* them: “Laws are written for it,” Serres argues, and “defined relative to it, we bend to these laws” (Serres 2007, p. 226).

Viewed from a traditional philosophical vantage point, this claim is bound to seem outrageous. The source of law is objects rather than subjects? Are we misled by examples that are already (apparently) bounded by constitutive rules and rules of fair play that because of human values create the appearance of object-agency? In a word, no. Serres’ point can be illustrated with examples from outside of the sporting context. Serres makes much of the way our technological innovations create feedback loops—once our technologies “set sail” from us, they acquire evolutionary histories of their own. This “Exo-Darwinian” evolution, as he calls it, has the effect of reconfiguring our social relations and senses of self. Advances in biotechnology and agriculture have dramatically changed the human embodied experience; as a simple example,

analgesics have transformed the experience and significance of *pain* (Serres 2019, pp. 18-19).

More visibly, the invention of the automobile disrupted transportation norms and expectations and introduced the need for new infrastructure and new laws regulating their use. Cars circulate between stations, e.g., home, work, the market, and they define roles relative to their possession and use. Cars have drivers and passengers; both are differentiated in relation to the vehicle. Yet there are also potential victims—those who might be struck by a car on the move—so the advent of cars required the invention of *correct* or *appropriate* pathways (roads), mores like the "right of way," and laws governing traffic and limiting risk, i.e. speed limits. Reflect, too, on the litany of legislation societies introduce to regulate commerce. Money, in any medium, is a Serresian paradigm of both a quasi-object and a white element—it can stand in for anything and may "represent" the value of anything else in exchange. Commerce is a cultural universal; Serres refers to economics and business exchange under the figure of the Roman god Quirinus, following Dumézil's anthropological studies (e.g., Serres 2015a, p. 196). Wherever there is trade, there are expectations, practices, norms, or rules that emerge to control its exercise—no invisible hand has ever existed. The genesis of new objects disrupts old norms and requires the reformation of existing standards to accommodate the new possible relations. However, the novel standards generated in response to quasi-objects play a role in stabilizing the networks formed by these new possible relations. No human collective, or its rules and laws, can be "intersubjective," *simpliciter.* Objects participate indispensably in the process of

differentiating identities, assigning values, and generating ethical rules related to their treatment (Serres 2015a, p. 89).

However, being part of the set of relations and transmissions also imbues the quasi-object with *its* significance. “A ball is not an ordinary object, for it is what it is only if a subject holds it. Over there, on the ground, it is nothing; it is stupid; it has no meaning, no function, and no value. Ball isn’t played alone” (Serres 2007, p. 225). Objects, therefore, require the collective and subjects to be quasi-objects and quasi-subjects. Both human beings and the “things” of the world are white objects, Jokers, and are assigned their values in and through the circulation of quasi-objects from station-to-station in a collective.

> I am never alone in relation to an object. My attention, my perception are plunged in a social and cultural set. A theory of knowledge in which the subject, a monad, related to an object, passive or active, is an empty utopia. The object is constituted in and through the relations of the group…Conversely the collective never manages to form without that element I’ve called the quasi-object circulating in it…this circulation is necessary for the distributed multiple to become a collective. (Serres 2015a, pp. 85-86).

It should also be noted that there is no intrinsic worth in the collective, either, from which the quasi-subject or quasi-object derive their value—Serres’ account is not a version of communitarianism or ecological fascism. This is a point of some significance. Human societies are not important in and of themselves, such that belonging to such a collective is what confers significance on its members. Ecosystems, or “nature,” even, do not exist *over and above* human beings and their societies, or animals and their

habitats, in a manner that *subordinates* local constitutive entities. Arguably, communitarian and ecofascist systems of thought simply shift the center of moral value yet retain a reductive tendency to claim dominion. For Serres, this move is morally problematic, which I shall outline in the next chapter, and his refusal to play the game of domination differentiates his ecophilosophy from others who move away from anthropocentric value theories (e.g., Aldo Leopold).

Serres does not think that one relatum in a network confers values on other relata. The network of relations forming a collective body, a human body, and an object, is a mixed multiplicity, a synthesis of metaphysically inseparable elements. Subject, object, and collective may be discussed separately (analyzed), but to do so is to overlook the *dynamic* complexity inherent in the relational network. The collective, the individual, and the quasi-object are *co-emergent* and *co-extensive*: objects have status conferred on them by collective use and subjective possession, the subject is defined in relation to its place in a set of collective relations and is individuated by possessing a circulating object, and the collective is formed by the passing of the quasi-object from station to station—subject to subject—within the group. In other words, *the process of evaluation is a shared act of participatory creation.*

Moral values, like any other form of significance, are differentiated through the relational networks formed by the quasi-object. Anything—whether it plays the role of subject, object, or community—can be assigned any moral value, depending upon the status it receives within a given relational network.

<u>Decentering the Human Subject</u>

Despite the fact that Serres' theory of the quasi-object is framed as an explanation of the ontology of social collectives, it has the effect of *decentering or*

displacing humanity more generally and individual human persons as the exclusive constructors of morality, as the exhaustive seat of moral agency, and as the uniquely important inhabitants of societies. If *anything* is quasi-object *and* quasi-subject, there is no good reason to exclude non-human beings of any sort from the sphere of moral concern. If humans have been "decentered" in terms of a kind of foundational, fixed subjectivity what counts as a member of our "collective" must also expand beyond the human. The sharp distinction between "natural" and "social" sciences blurs if we recognize not just the importance of certain objects in forming our societies but also the diverse organisms that live in and amongst us.

Another way to put it is that there is no principled reason to restrict this account to the formation of simply human collectives and human identity. Most mornings, I play with my sidekick Hans, a miniature schnauzer whose favorite game is "keep away." Instead of fetching toys I throw, he will seize one and race around the house with it, provoking me to chase him—he becomes the subject by virtue of his possession of the quasi-object (toy). When I get ahold of the toy, the positions reverse—I am the subject. Hans chases me until he recovers the toy, when again the position switches. Serres' description of the role of the quasi-object is equally applicable here. Hans understands and helps form the meaning of the object passed and the way it transforms identity within the game of "keep away." The formation of subjectivity, identity and collectives does not require human mental states, then, and this reading reinforces Serres' insistence that information and meaning is wider than representational language. Serres quips that he learns more about the subject by playing ball than from Descartes (Serres 2007, p. 227). I'd add that I learn even more from playing with Hans. In any event, by

now it is clear that for Serres both human subjectivity and intersubjectivity are entwined with, and parasitic on, relations to both non-human animals and non-biological aspects of "nature." The quasi-object thus has the effect of expanding the sphere of moral concern without needing to posit in advance some "morally relevant characteristic," e.g., sentience or rationality. Put more directly, it prevents the assignment of moral value from being *prejudicial*.

Equally, though, and more importantly for the purpose of this chapter, human beings are necessary participants in the process of constructing moral facts (values) but *are not sufficient* for that process. Human morality does not float free of the natural world populated by other beings and those beings *actively participate* in the process of assigning moral values. Forgetting non-human participation in creating morality results in the kinds of parasitic natural contracts I discussed in Chapter Two—an amnesia with deleterious global consequences.[32]

Local and Global Value Networks

It further seems senseless to maintain the distinction between "nature" and "culture," or the "natural" and "artificial," considering that any relation a human can enter must involve both sides of that distinction. There are no "cultures" bereft of a geological and biological milieu, and we do not experience "nature" without the influence of acculturation ("I am never alone in relation to the object…"). It is more convenient to refer to relational networks as "ecological," which Serres does, since they involve

[32] Given the possibility the exclusion of non-human beings, and Serres' admonition that we form mutualistic natural contracts instead of parasitic ones, it becomes immediately clear that there must be constraints on the process of forming value networks. Otherwise there would be no way to distinguish between the two. The answer to how this avoids Shafer-Landau's concern of a collapse into robust moral realism will be taken up in Chapter 4 in the discussion of how to resolve the challenge of relativism.

relations between organisms (human or otherwise) and their environments (cultural or natural). It is an accurate description. However, for clarity's sake, I will avoid using the term since it has a technical scientific definition and pragmatic uses in natural science.[33]

I propose *value network* as the technical term to capture the sets of dependence relations woven by quasi-object and quasi-subject. I am motivated to use the term value network because it avoids analytically separating the "natural" and the "cultural," and evades some of the baggage carried by both terms (e.g., the vagueness of "culture," "cultural relativism," or the fallacious identification of the "natural" with the "good"). It also offers a more neutral way of thinking about relations between various open systems (contracts) of different forms and levels of scale. Value networks are dynamic syntheses of the three varieties of Serresian contracts: existential, social, and natural, contracts--which necessarily involve both human and non-human participation. Provisionally, let us distinguish between "local" value networks and "global" value networks. This distinction is not hard and fast, for the difference between the local and global may be one of perspective or relative scale; the human body may seem like the entire world to skin mites but is simply the most intimate province to a human being. However, local and global networks might be distinguished roughly by the analogy to parts and wholes.

Local value networks refer to the tissue of relations formed between pockets of being. The examples used to illustrate quasi-objects were relatively simple—athletes in games, a man and his dog playing, and so on. Do not let the examples mislead. The

[33] Serres distances himself from the term, too, in "Revisiting *The Natural Contract"* (2006). The disavowal expressed there might be a little quick, as he uses the term explicitly in later work (e.g., *Times of Crisis)*. Nevertheless, at least for now I will refrain from using "ecology."

lived world is a complex, omni-directional tapestry of linked, nested, or interwoven, value networks. Furthermore, one may be quasi-object or quasi-subject in any number of these relationships. Since value networks are not static and the constituent contracts shift constantly, they are always being negotiated in response to change. One of the conditions of change is the introduction of new relata—guests or new residents in the collective. Newcomers change the network by virtue of their presence. A given local value network can also be affected or transformed by interaction with other local (or global) value networks. They are dynamic open systems. Nevertheless, local value networks are formed regionally and can be approximately—if somewhat artificially--distinguished from other local value networks and global value networks. The important implication here is that the assignment of moral value is never *fixed* or *final*; the process of moral construction does not yield a bounded product or transform the essential constitution of anything.

A house and garden illustrate the notion nicely. The house and garden are distinct, at one level of scale, and one can distinguish between being “outdoors” and being “indoors,” relative to the apparently fixed boundaries of the house. The walls, roof, and foundation form both the structure and limits of the house. They also act as limits on the yard or “outdoor” space. The people, animals, and plants living “inside” the house enjoy the shelter and comforts it provides. Are the residents merely parasites, leeching off of the benefits the house provides? No, for the house benefits *by being inhabited* and maintained by its inhabitants.

Houses seem to have personalities of their own, Serres notes, and bear the traces of their residents, as many who’ve moved houses may notice:

> Try moving out of your house. As it empties it becomes progressively unrecognizable. Were you really haunting such a garret? With you gone, the faded wallpaper, the walls, doors, and floors, deprived of the lines whose rhythm was supplied by your furniture, entered widowhood. Let someone else move in and the place takes on a completely different look—I was going to say new personality—as if, alive and perceiving, it were adapting itself to the perceptions and life of its new tenants (Serres 2008, p. 117).

It often seems that a house lives by the will and activity of everyone inside, and when the network is upset, the house dies: consider how rapidly houses fall into disrepair when abandoned. Appliances inexplicably stop working, the superstructure crumbles, windows shatter, the foundations crack, and the yard's vegetation grows over the brick and mortar. A house is not a house without residents—metaphorically or literally. Its continued existence depends on the local value network of which it is part. Material objects and living things cooperate in a small-scale relational network.

Of course, there are other residents of the house who *don't* reciprocate, such as the city rat and the country rat feasting on scraps at the opening of *The Parasite.* There will always be uninvited guests—ants or termites living in cabinetry, rats living in crawlspaces or in the walls, and so on. These unwelcome parasites highlight the need to maintain the integrity of the house (local value network) against incursions from within, but also illustrate the porousness of the houses' supposedly fixed boundaries. The house has points of ingress or egress, some used by the residents themselves and some frequently outside of their attention or perceptual capacities. The inhabitants of the yard can sneak into the house through the doors or windows, or, if they're small

enough, through cracks and gaps in the walls, roof, or foundation. The house remains an open system and its exclusion of the "outdoors" is doomed to imperfection. A hybrid space, it is at once the seat of domesticity and a habitat for wild animals.

The same is true of the "outdoor" space of the garden. It is a wilderness, for it is the habitat of ants, mosquitos, bees, spiders, snakes, lizards, turtles, rats, squirrels, opossums, cardinals, blue jays, and parrots. The animals live among the rocks and the trees, shrubs, flowers, grass and weeds that grow around and sometimes upon the house. What's more, the garden is a recreational space for those living in the house. It is a hunting reserve for the resident dogs and is an open-air kitchen for the barbecue grillardin. The garden, too, is a hybrid of nature and culture; like the house, it requires maintenance for its upkeep.[34]

Both the house and the garden are nested within larger value networks. Climate zones condition the types of flora that will grow in the garden, which impacts the species of fauna that will move in. If the house is in a city, it and its residents are neighbors with others nearby and all of them—human, animal, plant, and object—are subject to the rules, codes, and laws of local municipalities, cities, provinces, counties, or nations. The fact that local value networks are both interconnected and nested suggests a wider term for larger networks. Hence, global value networks.

Global value networks are gestalts composed of local value networks. There is no in-principle "final" global value network, because like local value networks they are always in flux. However, one may plausibly say that the highest current scale of global value network is composed of the set of all extant local value networks; it mirrors the

[34] These examples also illustrate the Serresian conception of space and time outlined in the preceding chapter. C.f., pp. 33-35.

dimensions of the universe. Again, the distinction between local and global value network is fuzzy, for it may also be that one can meaningfully refer to lower levels of scale in global terms; all being is nested and folded in with higher and lower magnitudes of existential contracts. Serres uses the Roman Empire as an example of a global value network. The nations, geographies, peoples, and creatures that populated far-flung Rome. In Serres' words:

> Rome is not a fixed subject; it is not a defined subject; it is deprived of any well-formed definition; Rome is a mixture: tiger-striped, streaked, many-colored, motley, blended, constellated. Rome is a multiplicity (Serres 2015a, p. 126).

The value networks constituting Rome are a non-standardized multiplicity, but each contributing value network is gathered together in a complex, mixed, whole. The borders of a global value network are porous and ill-defined, though, fluctuating like the borders of the Roman Empire over time. Despite the fluctuation and frequent difficulty of pinning down its boundaries or constitutive elements, it is useful to refer to global value networks as a whole. There are some objects in Serres' ontology, "world objects," the dimensions of which encompass the totality of local value networks or impinges or weighs upon them all in some way. Serres talks of growing up in the shadow of Hiroshima and cites atomic weapons as a grim example of a world object. A nuclear war would disrupt or destroy virtually every value network and their inhabitants, a kind of "global death" (Serres 2019, pp. 2-3). The Internet, too, transcends localities and in a very different way creates channels of global communication and information, though admittedly not always for the better. The breadth of their influence on local value networks means that world objects are also able to function as quasi-objects—they are

able to act as loci around which diverse localities may join together or negotiate new moral understanding or evaluations. Indeed, Serres recommends in at least some cases that we do just that, and change our ways of thinking, for to ignore the influence of baneful world objects like climate change, pollution, or nuclear weapons spells global doom (Serres 2019, p. 3).

Section Four: The Challenge of Relativism

One might raise a battery of objections at this point. Local value networks are the prism through which normativity is differentiated into its various hues, and as interests this project, refines into moral value. Since each value network is relatively localized, and since the values of each member of the network are assigned by various quasi-objects, it seems to follow that different local value networks may yield different sets of moral values, standards, prescriptions, and so forth. What is morally good for the dogs in the garden may not be morally good for the rats, or vice versa. The values of the house and garden may be at odds. Whether one calls this “cultural” relativism is a moot point if values are relativized at all, for it invites a series of philosophical and practical problems.

First, hearkening back to the *Euthyphro*, it invites the problem of contradiction. Socrates and Euthyphro first interrogate the question of whether the pious (or holy) is the same as what the gods love, assuming a plurality of gods and a variety of perspectives (Plato, *Euthyphro* 7a). If that’s the case, though, and there’s any disagreement at all between those perspectives, it follows that the same thing may be both good and bad simultaneously, which violates the law of non-contradiction (Plato,

Euthyphro 8b). Socrates suggests univocity by consensus as a way out of this problem; however, this path is not open to Serres if it is true that local value networks refract morality differently.

Second, if local value networks create unique moralities of their own, and if there is no pre-existing higher morality, then local value networks would be in a state of moral parity. Or, to put it in Thomistic terms, they would be incommensurable. This is theoretically strange, for it entails the infallibility of each network. Metaethically, as Shafer-Landau notes, a version of this problem besets all versions of moral constructivism—unless there are moral (realist) constraints that precede the process of moral construction, then there is no guarantee that whatever is the output will align with anything we recognize as "moral." For instance, are we really prepared to admit that value networks *literally* bonded by sacrifice—human, perhaps—are morally equivalent to those formed in harmless ways? This would be a ridiculous conclusion to draw, according to this objection (Shafer-Landau 2003, p. 42).

Third, from a practical standpoint, the relativization of moral value to each value network makes moral action impractical, if not impossible. Given the interpenetration, overlap, and nesting of local value networks, no one is a member of *just one* set of relations. Everyone (and everything) is a member of multiple value networks. Suppose, then, that the moral standards constructed by two or more networks conflict and offer contradictory guidance? Without recourse to a higher order principle, it is difficult to see why anyone should choose one network's values over another as the correct guidance. If one of the aims of moral theorizing is to provide guidance for actual behavior, then, when translated into a normative ethics, this model must fail.

One might attempt to address these challenges by pointing out that the nesting of local value networks does not prohibit the existence of umbrella principles covering multiple local value networks. The model would look something like the distinction between laws at a provincial versus national level, and, on the federated model of the EU, both the province and nation would be subject to yet higher standards. However, this response is incomplete, for it simply creates an infinite regress. There will be contradictions and conflicts at every level of scale, unless there is a "final" principle, or objective, non-constructed moral facts, to resolve the challenge of moral difference, to adjudicate between competing claims, and to give coherent practical guidance.

Serres is not ignorant of this set of problems and the apparent need to appeal to a final justification transcending local differences. In discussing the existential threat to humanity posed by nuclear weapons, Serres notes that:

> To this global object, leading to this global question, a global answer inevitably corresponds, one such that it causes us to understand the internal insufficiency of every immanence; *for by what right and why would this we, an immanent totality, abide?* Without any answer to this question, we are therefore forces to evoke a transcendence exterior to it. This shows the difficulty we have in using global concepts (Serres 2019, p. 37; emphasis mine).

Serres is also asking about the role of God in thinking about human questions, but God here might simply stand for a position outside of local value networks from which one might pronounce judgment. Who determines whether one value network ought to be privileged over another? What makes one better or worse? Doesn't this seem to demand an external judge? Does this require an absolutist position—a God's eye view? I will attempt to detail how Serres navigates this challenge in the next chapter.

Chapter Four: Invariants: Three Serresian Principles

The goals of this chapter are threefold. First, I will address the nature of Serresian 'invariants,' and differentiate them from traditional universals or forms. The purpose of this discussion is both to address the problem of relativism raised in the previous chapter and to begin to unpack what Serresian ethical principles look like. I will argue that Serres' metaphysical structuralism and his use of isomorphism as a way of building bridges are sufficient to sail between the rocks of relativism without being drawn into the maelstrom of absolutism. Yet again, Serres shows his acumen as a moral philosopher by showing a way to navigate through a false dichotomy that has plagued moral philosophy for millennia. Moral disagreement is not an epistemological hurdle—it is a call to communicative community building.

Second, I will transition into a discussion generally associated with normative ethical theories. Serres is keenly concerned with matters of human conduct, so I tease out three principles that emerge in his work that are meant to guide people in making ethical decisions. I call them the Principle of Least Disturbance, the Principle of Creative Risk, and the Principle of Loving Synthesis. These principles help one orient oneself in the world generally, and function as a way of attempting to navigate, rather than solve, moral problems. The navigational principles are not traditional moral principles, though they approximate universality because they are ubiquitous and may be useful in a potentially infinite number of cases. They are multi-aspectual, and both describe conditions for the continued existence of phenomena and prescribe action. Yet they are

incapable of giving a “final” resolution to moral disputes or acting as a foundational justification, for no such answer is possible in Serres’ non-teleological and non-umbilical world. That is beside their point, however, for these controls are meant to help one chart and navigate the dynamic, constantly undulating, swirling seas of open and fluid value networks.

Third, alongside the discussion of each principle, I will clarify the kinds of moral harms that Serres generally enjoins one to avoid. It is tempting to use the term “evils” to describe baneful behaviors, structures, and so on, but I will refrain from doing so because it obscures the fact that even the harms under scrutiny have generative power and a positive aspect. Sometimes moral harm and injury is necessary. Very briefly, however, these harms are violence, death, exclusion/belonging, and domination.

Section One: Invariants

From his earliest work, Serres rethinks the universal from the standpoint of mathematical structuralism. Watkin (2020) clearly details the influence of both Leibniz, on whom Serres wrote his major doctoral thesis (*Le Système de Leibniz et ses modèles mathématiques*), and the structuralist mathematics of the Bourbaki collective, on Serres’ thinking. Serres regards the former as a progenitor of structuralism, revealed chiefly by the attempt to create a geometry of the relative position of objects (Watkin 2020, p. 41). The Bourbaki mathematicians, in synthetic spirit, aimed to integrate diverse branches of mathematics. The Bourbaki way of thinking, which informs structuralism in the philosophy of mathematics, champions the deflationary thesis that mathematical “objects” are purely formal and systemic in nature, and specific “facts” about math are

analyzed in terms of networks of relations or operations. So, for instance, instead of maintaining an ontology of real numbers (1, 2, 3, 4…) where each member of that set of numerals is a complete and discrete entity, the structuralist argues that those "numbers" are merely placeholders in a system of mathematical relations. It is meaningless to refer to the number '4' as if it is a thing in itself. Rather, '4' is the set of connections and places within a system of arithmetic (e.g., 4=2+2, 4 = 2 x2, 4 = 4,000,004 – 4, and so on).

Like other structuralist philosophers of math (e.g., Shapiro, 2000), Serres draws a distinction between a mathematical *structure*, and the *models* of that particular structure:

> …the notion of structure is a *formal* notion. And here is its definition, in which we've emphasized the themes that are generally misconstrued. *A structure is an operational ensemble with an undefined meaning* (whereas an archetype is a concrete ensemble with an overdefined meaning), *grouping together any number of elements of unspecified content and a finite number of relations of an unspecified nature* but whose function is defined, as are certain results concerning the elements. Let these elements' content and these relations' nature be specified in a determinate manner, and we obtain a model (a paradigm) of this structure: *the latter is then a formal analogon of all the concrete models it organizes.* Instead of symbolizing a content, a model "realizes" a structure. This is the clear and distinct definition of "structure," and there is no other (Serres 2023, p. 25).

So, in mathematics, a set theoretic analysis of arithmetic or one utilizing whole numbers amount to models realizing the structure of relations that group the elements underpinning arithmetic. The structure is discernable across models because the models share an *isomorphic correspondence* to the structure. Briefly, a model is

isomorphic to a structure if and only if there is a point-by-point correspondence between the structural features in question and in the realizing model.

The notion of isomorphism is easier to illustrate with non-mathematical examples. One can speak of the 4-2-3-1 formation in football distinctly from its realization by any given side and deployment on a pitch. The 4-2-3-1 formation is an example of a set of structural relations. When Stoke City lines up in the 4-2-3-1, the structure realizes in a model using human persons and their bodies on a field of turf; however, when the manager diagrams the formation to illustrate tactics, the model is realized by chalk marks (or white board marker ink)—X's and O's—on a surface. Young fans and their cantankerous grandfathers might argue over tactics and use bottle caps or marbles to realize a model of the formation, or an E-Sports athlete might deploy it in a FIFA gaming tournament. Each constitutes models of the same structure. Importantly, in each of these examples the *structure* remains the same—it is *invariant*—while each *model* exhibits wide *variation*, both in terms of context and constitution. There is sameness at the level of structure, and difference in every model.

The formal analysis of structuralism therefore permits one to remain neutral with respect to the ontological status of the elements in the model; one might refer to solid sortals like footballers or bottlecaps, representational marks like numerals, sets, or X's and O's, images generated by binary code, illusions, fictional entities, abstract ideas, or indeterminate proto-phenomena constituted of *noise.* It does not matter what occupies the structure—it is the system of relations that defines the role of its occupants. Of course, this raises questions about the ontological status of mathematical structures themselves, which I will address in short order.

Serres incorporates the mathematical notion of structure as a feature of his wider metaphysics. As Mercier and Watkin (Mercier 2019; Watkin 2020) write, this distinguishes Serres from other "structuralists" in the Francophone philosophical terrain of the late 1960's. He is not merely a linguistic structuralist, like Saussure (Watkin 2020, p. 43). Structuralists of this sort are guilty of a special version of the fallacy of accident—they infer that a specific *realization*, or model, of structure characterizes structures more generally, for, if one employs the distinction above, structure in language and culture are models of a more universal, invariant, formal analogue. Furthermore, Watkin points out that elevating one model to the status of general structure commits the mistake of umbilical thinking (Watkin 2020, p. 43).

It is tempting to suggest that Serres makes the same blunder by translating a mathematical notion of structure into a metaphysical principle. Does that not elevate a *mathematical* reading of structure—a model itself—into a privileged standpoint or "umbilical" position? But one can avoid succumbing to this temptation. Structure is a metaphysical fact; it is exhibited everywhere, all the time. Therefore, every area of inquiry could be analyzed structurally; that is, in terms of a formal analysis of its system of relations. The crucial difference between mathematical analyses of structure and those of other, empirically grounded disciplines, is that mathematical structuralism carries less risk of pollution or confusion by its contents. That is, permits more rigorous abstract analyses and is thus the *clearest language* for describing the metaphysics of structure (Serres 2023, p. 35). Furthermore, mathematics enjoys a wide *consensus* that other disciplines lack, which makes possible a shared language that can be used to communicate across differences:

> There is, however, a corpus which is agreed upon, as if by miracle—the mathematical corpus. It is debated only at its limits, by researchers discussing advanced points. For the rest, there is no disagreement. One can be anti-Darwinian, against general relativity, but no one can put the four rules into doubt unless he wants to leave the community. The scales at a market can be fixed, but neither addition nor subtraction can be falsified; your partner can cheat you in an exchange, but he can't cheat you in giving you your change. Mathematics is an agreement among us (Serres 2007, p. 125).

Even if it is true that mathematics is acknowledged universally, it is fair to say that this discussion of structures invites comparisons to the problem of universals more generally and raises questions about the ontological status of structures themselves. Shapiro distinguishes two possibilities for the ontological relationship between mathematical structures and the models realizing a structure (Shapiro 2000, p. 262). First, a structure could exist *ante rem;* that is, a structure may exist independently of, and exist prior to, any individual model. Roughly speaking, the *ante rem* position is platonistic—structures exist as abstract, non-material entities. Second, structures might exist *in re,* or only exist within particular models in an Aristotelian sense. As usual, Serres finds a way to navigate between this dichotomy.

Serresian invariant structures are not *forms,* and do not exist *ante rem.* They are not transcendent, unchanging, eternal ideas shaping immanent things in their image and likeness. Furthermore, beings do not "participate" in invariants. Rather, all manner of beings *exhibit* Serresian structures, which are thoroughly immanent. However, despite their immanence, they do exist *prior to,* and independently of, the models they organize. Thus, they do not exist merely *in re*. Nevertheless, Serresian structures are

not causal in the Aristotelian sense of imposing shape or definitive boundaries on the material constitution of substances. Neither do invariants act as efficient causes, and they do not play an ultimately determinative role in models exhibiting the invariant. Despite the fact that Serres often uses metaphors with layers to illustrate the distinction between invariant and exhibiting variation (e.g., climate and weather, or magma and tectonic plates), the relation between structure and model is not one of supervenience.

Furthermore, Serresian invariants are not *definitions;* neither are they *concepts.*[35] Serres refers to conceptualized, geometric rationality as a "logic of boxes." Within conceptual boxes, it is possible to situate smaller boxes (subcategories and particulars), but one cannot invert the deposit, for the dimensions of the smaller boxes cannot contain the larger.[36] For Serres, this carries with it a suggestion of hierarchical mastery—larger boxes are over and above the others encapsulated or subordinated within them. He expresses the traditional relation between unitary forms and multiple individuals as a kind of "capture," in the sense of taking or imprisoning something by force (Serres 2015a, p. 198) Forms are violent, and concepts are prisons.

[35] Like the subject/object distinction, the "logic of boxes" is employed in the earliest works of moral philosophy, namely Plato's *Euthyphro.* Of course, the analysis of concepts and the development of geometrical thinking and logical methods like Zeno's *reductio ad absurdum* precede Socratic dialogical philosophy. Nevertheless, the question at issue for Socrates is how to *define* the holy or pious and contrast it with the unholy or impious (5d, 6d), and to set up sharp boundaries or walls between the two. Socrates seeks to deposit all the pious things in one box, and the impious things in another, and to isolate them from one another completely. The job, presumably, of philosophical rationality is therefore *analysis* for sake of *clarity*.

[36] One is reminded of the argument from conceptual entailment Socrates and Euthyphro engage from 11e-12e regarding the relationship between the concepts of 'justice' and 'piety.' Piety, Euthyphro concludes, is a subcategory ("part of") justice—namely, the part concerned with "care of the gods." However, not every dimension of justice is related to piety; there is a certain direction of entailment. What is pious is necessarily just, but what is just is not necessarily pious—those aspects of justice having nothing to do with the gods, but human affairs

As we will see, conceptual capture violates one of Serres' deeply held normative commitments—universality is best achieved by communicative inclusion, not subordination. Serres suggests a topological "logic of sacks" as an alternative:

> A canvas or jute sack doesn't only contain wheat, flour, or some kind of cement. It can contain sacks as well. It is fuzzy enough to be able to be folded in a sack at the same time as all the folded sacks, including the one that formerly contained it. I believe there are box thoughts, said to be rigorous, hard, and rigid boxes; I believe there are sack thoughts, fabric systems. In philosophy we lack a good organon of fabrics; I often dream of this (Serres 2015a, p. 197).

Elaborating further, Serres argues that the elasticity of fluid thinking or topological mathematics is not a "sin against straight reason," and that just as multiplicities vary, and are "fuzzy," so too are the structures that capture them (Serres 2015a, p. 197).

The boundaries of Serresian invariant structures are ill-defined and fluctuating, like all borders in Serresian metaphysics, so one cannot employ them to "carve nature at its joints," and neither do they form impermeable boundaries. Referring again to the 4-2-3-1 formation, and acknowledging the open, fluid, and dynamic nature of Serres's metaphysics, models realizing structures may *change*: Stoke City starts play in a 4-2-3-1, say, but in response to both the movement of the ball, the players, and the formation of the other team, the initial structure might become twisted, folded, or contorted—perhaps in ways that make it difficult to discern whether the formation is still there. Stoke City's formation (realized structure) *itself* may tweak, modify, or change to another structure entirely depending upon the state of play. If Stoke has a lead in a tightly contested match, say, they may "park the bus" and swap the 4-2-3-1 formation for a

more defensively-minded 4-4-2 setup. The realization of structures is always open to transformation in real time.

As Watkin points out, Serres sets aside the use of the explicitly mathematical distinction between structure and model as his philosophical corpus develops and unfolds (Watkin 2020, p. 47). Perhaps this is due to his sensitivity to the risk of the mathematical conception of being read umbilically, or because the style of his writing changes dramatically, moving away from precise terms and technical language, incorporating myth and metaphor more explicitly. Whatever the reason, it is clear that Serres does not want the binary use of “invariant” and “variation” to be associated with a certain kind of geometric rationality or a single disciplinary discourse—even one as abstract and clear as mathematics.

What are these structural invariants, then? They are isomorphisms, formal analogues, or ubiquitous patterns that are discernable and appear across all phenomena, at every scale of existence. They are omni-present, and therefore universal in that sense, without having to transcend space and time. They are substrata; invariants are a level of organization that appears between the opposing poles of chaos and fully-formed phenomena, and, vitally, emerge at the earliest phases of the formation of order. Invariants antecede their local realizations. In appropriately Pythagorean spirit, given the reliance on a mathematical notion, Serres uses *music* as a way of illustrating the intermediate and prior nature of invariant structures:

> Music raises every art, codes every science, inspires every thought, better yet, cadences every number; beneath it, behind it, between it and this broad call of the things lies the mute mystery, the chest of every secret. He

> who discovers it speaks virtually every language: Pangloss (Serres 2018b, p. 124).

Clearly, Serres does not mean “music” in the stricter senses of vocal or instrumental performances, or scores composed in notation. Rather, his metaphor aims at the sense in which music relates to introducing order or form—a rudimentary rhythm. The introduction of rhythm is a metaphysically necessary condition for transforming *noise* into sense, a way of mitigating parasitism, and a condition for existential, social, and natural contracts. Music therefore makes organization possible, but song also permits limitless variation, like the rhythm of waves crashing on a seashore, the chirping of crickets and birds, whale vocalizations, or the crunchy guitar riffs of death metal bands. In other words, music *enables* the possibility of things without *causing specific effects* or the appearances of determined substances. Invariants are lawlike in their regularity, but not in their singular appearance. Invariants like “music” take on specific values once a “model” is realized in a value network. So, like quasi-subjects and quasi-objects, Serresian “universals,” such as they are, are Jokers or white elements until populated by specific relata. Thus, Serresian invariants are inherently temporal and open to change, for they only have meaning within dynamic relations of space/time/value.

Since the fact/value distinction is fuzzy and normativity is an aspect of being, then music— isomorphic invariants—are not *merely* descriptions of patterns or regularities, or analogical similarities between phenomena. They also display varying degrees of prescriptiveness and so bear an intermediate relation to scientific laws and laws of jurisprudence. Some therefore take on more evaluative roles in specific contexts; one is reminded once more of the lesson of *Maat* from *The Natural Contract*.

The mythological figure of *Maat* simultaneously stands in for truth, justice, balance and order, and explains the dual aspectual emergence of the meanings of "property," both as a characteristic of geometrical shapes and physical objects, and the normative conception of bounded ownership (Serres 1990, p. 53).

Serresian invariants appear across disciplines, as well. For instance, the integration and processing of multiple channels of informational data provided by organs of perception and the human nervous system—the etiology of perceptual experience—is a variation on an invariant I refer to as the Principle of Loving Synthesis. The Principle of Loving Synthesis *also* recommends a synthetic model of knowledge creation, a gnoseology that calls for partnerships across disciplines. If no discipline has access to unvarnished truth, and if no method is sufficient to explain reality in its unfolding, dynamic, and open totality, then different methods and disciplines must work together to form more approximately accurate characterizations of reality. Knowledge creation requires synthesis, not analysis. Another, metaphysical, variation describes time; as we have seen, Serresian temporalities are mixtures or hybrids of irreversible, entropic duration, the reversible time of modern physics, and the myriad local pockets of negentropic resistance. Another variation norms the process of globalization as a geopolitical goal, or, if one likes, any process involving the movement from local value networks toward a global value network.[37] Integration must not be reduction to the same—it must involve respectful inclusion, where "respectful" means the elements of the synthesis are included and yet allowed to retain what makes them distinctive and varied.

[37] I will discuss the moral version of the Principle of Loving Synthesis in greater detail below.

Section Two: Traversing Relativism

The arguments at the close of Chapter Three hinge on a false dichotomy, one that opposes "relativism" and "absolutism" about moral value. The claim is that the only way to avoid the philosophical or practical complications of moral relativism is moral absolutism (or robust moral realism). The arguments further assume that there are clear or singularly "right" answers to moral problems and that some ultimate moral principle (or facts) can deliver such answers.[38] Furthermore, they assume that this standard could constrain the appropriateness of the norms that emerge in different contexts (laws, customs, practices, and so on). The demand for transcendent principles or a "good" capable of adjudicating between competing moral claims is a vestige of Platonism and evokes images of God the judge presiding over a cosmic moral courtroom. However, diversity of moral values and beliefs is as much a fact about the world as moral agreement, and relativists have a wealth of empirically observable evidence to point to as a challenge to the absolutist claim.

From a Serresian standpoint, the notion that one must decide in favor of *either* the relativist or the absolutist is a mistake. Both positions have latched onto an aspect of moral life and infer that the aspect of difference or similarity exhaustively characterize the whole. By doing so, they cherry pick interpretations favorable to their point of view:

[38] The debate assumes that the problems of morality are "tame" problems, as opposed to "wicked" problems, to use terminology borrowed from Rittel & Webber (1973). Tame problems may be difficult to solve, but are linear and procedural in nature—the answer is always obtainable if the right steps are followed. Problems in arithmetic are "tame." But it is far from clear that ethical problems have the same degree of relative simplicity.

> Monism and pluralism are limit philosophies abstractly constructed against a real background of mixture. The first geometrizes it, where as the second proposes a mosaic, a cutout in the form of a puzzle, an image on a television screen (Serres 1997, p.154).

Though Serres does not employ the nomenclature of “absolutism” and “relativism,” the terms track closely enough to make the point. Odd though it seems, moral relativism and moral absolutism converge in making the same error. Both are instances of “umbilical” thinking—the insistence that there is but one privileged perspective, interpretation, foundation or clearinghouse for knowledge.

The distinction between structure and model, and between invariant and variation, show a path for resolving the problem of moral relativism in a way that also makes sense of moral absolutism. In other words, it becomes possible to resolve the tension between moral sameness and difference, and to account for their synthesis. Apparent differences in ethics appear at the level of model or variation—and there may be a wide spectrum of variation—while there remains sameness at the level of structure or invariant. Disagreement is neither final nor insurmountable, and the problem of relativism assumes a certain intractability and unwillingness to communicate or explore novel moral ideals. I suggest this assumption has been entrenched in philosophical practice because moral disagreement has been traditionally treated as an *epistemological* (in the broad sense) question, and the focus of the debate centers on trying to determine which (if any) claims are “true,” or “correct” when competing moral claims conflict. Reverence for the Law of Non-Contradiction leads one to the logical conclusion that one or the other claim must be false, and if a clear enough way of

measuring correctness could be devised, i.e., if there is a definitive moral fact of the matter, then the conflict can be settled decisively. Serres has no truck with the bivalent complementarity of this way of thinking, for it reinforces zero-sum rationality in other contexts (e.g., politics, contracts) and, in procrustean fashion, excludes other possibilities. Moral problem-solving cannot be a deductive proof in a world that does not bend its knee to formal logic.

Alternately, disagreement is not a problem of contradiction when approached *metaphysically*. Instead of insisting on a measurement of correctness and resorting to truth, one might engage moral disagreement as an opportunity to *create* novel contracts. Recall that Serresian contracts are always open, fluid, and in negotiation, and the invariants can function as the shared points of commonality or contact, or as constraints, in those negotiations. Contradictions are therefore a call to open communication about how to resolve and incorporate differences.

Of course, the possibility of communication requires a shared form of information exchange, or common ground. There is no need for moral "sameness," in the sense that there is a sufficiently well-defined set of shared moral values, or a model of universal moral truths, to act as shared starting point. The isomorphic points of contact shared by models of wider structures suffice because there will be *similitude* or resemblance of values. The play phenomenon is a non-moral example that illustrates the point, and one that Serres himself employs (see below). People around the world engage in play, though the varieties of what *counts as* play admits of almost limitless variation—from clever wordplay to bone-crunching tackles in contact sports--depending upon the value networks in which the play emerges. Despite the variances, the common *fact* of play is

enough to open channels of communication across and between value networks. On a Serresian analysis, the same is true of moral norms and standards. When value networks that differ enter negotiations, what emerges may be an entirely new understanding of the ethical: a federation of models rooted in the same structure(s).

Serres illustrates this claim with a wartime parable involving lost sailors and South Pacific Natives reminiscent of the tale of *The Bounty.* After being torpedoed during World War II, a group of sailors manages to survive as their ship slowly sinks. Some weeks later, they gently crash into an uncharted atoll beyond which sits an island paradise. The hungry and disoriented sailors abandon ship and paddle toward the island, where they are met by excited natives in festooned canoes. The European sailors are initially confused, uncertain whether the natives intend attack or welcome. The confusion fades quickly as they are lead ashore by the native chief as guests.

In the subsequent months, the survivors "experienced paradise," and enjoyed "exchanges that satisfied all parties, games and laughs, and delicious feasts" (Serres 1997, p. 127). Some of the survivors integrated into the native society by taking wives or by planting gardens to grow food. The natives prove intensely curious about their guests and the ways of life they lost, and, with time, the capacity for sophisticated discussion about those topics emerged:

> Once these matters of living were settled, interminable discussion began—about each other's gods, whose performances they compared, about the rules followed in given matters by each of the two communities, their advantages and disadvantages—first through obliging gestures, then in a progressively clear and mastered language (Serres 1997, p. 127).

As the common language evolves, the natives display a passion for rigor and precise translation:

> It was necessary to speak of love, religion, rites, police, and work, in the greatest detail. They *wore themselves out on parallels:* the constraints differed, but each as subjected in his country to equally complicated rules, incomprehensible to the point of laughter to his interlocutors, but on neither side were these rules neglected. *In brief, beneath very spectacular differences, all ended up recognizing many resemblances, and that brought them closer together* (Serres 1997, p. 127 emphasis mine).

Years later, after being "rescued," several of the survivors return to the island, and great celebration. During their first stay, the Europeans taught the natives how to play football. On their return, the islanders changed one rule. All matches must end in a tie so all participants share in the joy of the match. Confrontation between alternate models of values, principles, and rules, is not a zero-sum game that requires a winner and loser—synthesis and a share in the spoils is a better outcome (Serres 1997, p. 130).

Serres's example is highly idealized—framing the setting as "a paradise" evokes a Utopian reading. But what if the natives had attacked the survivors instead of welcoming them? One might justly point out that clashes of values often fail to yield new perspectives or contracts, and frequently result in a kind of repulsive, violent, conservative backlash. When confronted with difference or novelty, many people, groups, or cultures double down on the familiar and shut off communication from other value networks. This is empirically true, of course, and one needn't look far for historical or contemporary political examples. However, concrete examples of failure to develop new, shared moral values does not undermine Serres' point. The claim isn't that the kind

of universality offered by Serresian invariants will *guarantee* new consensus, or even that it is *likely*—far from it. Serres himself despairs of the *lack* of consensus-building and partnerships in the contemporary world, which is a product of the tendency to exclude others. In practical terms, the gap reveals the need to develop a willingness to depart the familiar and to be open to new ways of thinking. In principle, though, even if often ignored in practice, sameness at the level of structure or invariant enables the *possibility* of communicative, novel resolutions to moral difference. How that works out, though, is not given *a priori* or pronounced in a foundationalist declaration or adjudication. Creating novel moral understanding is a difficult trail that must be traversed, or, perhaps better, that must be blazed while traversing.

This is an important point. The more normative variations of Serresian structures do not function as criteria of final justification—Serres is not a foundationalist in epistemology or moral theory—and there is no way to prioritize invariants themselves *a priori*. None are logically prior or more fundamental, though in each circumstance one invariant may be more useful or relevant. Furthermore, since these invariant structures appear "universally" across value networks, and given that value networks are entwined, embedded, nested, folded, and meshed in relations with other value networks, it may not be clear which norm is the "right" one to employ from a practical standpoint.

This is also true with respect to evaluating actions. Therefore, a Serresian "applied ethics" must not be understood as the straightforward application of principles to ethical issues—the world is simply too complicated for crude analysis, and wielding principles like swords cleaving Gordian Knots yields inadequate solutions. Serresian

invariants cannot offer final adjudication over whether a specific course of action is morally “right” or “wrong.” This is not a novel observation on Serres’ part, and neither is he the first to foreground the circumstantial complexity of moral choice. Virtue ethicists since at least Aristotle have emphasized the situated and applied nature of ethical decision-making and acknowledged the messy challenges that life poses. I will develop this line of thought more in Chapter Five, and, in any event, a Serresian ethics does not pretend to definitive solutions.

Indeed, what might be the “best” solution in one situation may be catastrophic in another, and knowledge of the best course of action is not given in advance. Neither is there any guarantee that one will arrive at the “best” choice, or even happy solutions, by using Serres’ norms. Uncertainty and risk are ineliminable conditions of moral deliberation and action. The lack of a clearly correct decision ought not doom one to inaction, though, for there seem to be *worse* courses of action, and there are various types of moral harms Serres recommends people avoid. Neither are all value networks on a par; some are better or worse, often relative to who controls the value network, its impact on other networks, or its constituents.

One might push back at this point and wonder what sense can be made of the terms “better” or “worse” without recourse to some axiom or shared conception of the “good.” Is there a final justification necessary to lend authority to such judgments? This worry is a shade of Kant’s insistence that the structure of moral imperatives must be categorical in nature in order to be binding or universally motivational. Serres has abandoned that sense of universalization, which is intimately associated with the form of geometrical reasoning challenged above. What’s left, then? I have deliberately

employed the term “recommendation,” for Serres refuses to think of morality in terms of *commandments,* for the traditional form of moral justification is hierarchical and paternalistic (more on this in Chapter Five). Instead, Serres recommends a set of hypothetical imperatives (If one wants end X, then take actions Y), which take the form of the three principles developed in this chapter: The Principle of Least Disturbance, the Principle of Creative Risk, and the Principle of Loving Synthesis.

“Better” or “worse” are therefore partially relativized to whatever end one postulates as X, which opens the comparison to navigation. One begins with a destination in mind, but the *course* to that destination, (Y), is not automatically derivable from the destination alone. Better or worse can be calculated according to the destination, and Serres’ norms offer guidance about how to proceed towards those ports of call.

Of course, one might flout Serres’ recommended principles, deliberately choosing to ignore them. In fact, many (maybe most) people often *do* fail to live up to them. So how might one convince a person whose actions are inconsistent with his ideas that he or she should adopt them? One could point to the ubiquity of these principles as invariants across disciplines and phenomena as an explanation of their applicability or usefulness*,* irrespective of the destination. Again, they recur as isomorphisms (similarities) structurally represented in a spectrum of contexts. Serres does not justify—he seeks to draw attention to his norms via ostension. The principles are therefore not groundless.

However, if one demands *justification* for why one ought to live according to this set of principles, Serres will not provide it. He refuses to attempt to terminate the

skeptical regress of reasons one ought to choose X, for to do so also presupposes that a final judgment about the rightness or wrongness of something can be rendered. It is tempting to charge the demand for final justification with begging the question, since it involves reasserting conclusions based on this premise that Serres rejects. What ends up approximating the "right," as we will see in Chapter Five, must be *negotiated*.

What Serres' invariants *do* offer is a set of guidelines for piloting the complications of contemporary moral life. Serresian principles work together in a communicative and open way to help embodied decision-makers find better, workable, or livable answers to thorny problems, rather than insisting there be a distinctly, ultimately "right" solution for every quandary.

Section Three: Three Principles of Ethical Navigation

In this section I will discuss three specific invariants in their moral variations or models. Three key principles in Serresian ethics are the Principle of Least Disturbance, the Principle of Creative Risk, and the Principle of Loving Synthesis. These invariants are supple principles of conduct that recur throughout Serres' work, and tracing their features helps understand the structure of Serresian moral thought. The principles overlap and the borders between them are fuzzy, so the distinction is not always clear. Differentiating them is helpful nevertheless, for doing so directs the torch beam on various kinds of moral harm. Moreover, if one understands these harms, it is easier to progress on the question of how to handle contemporary ethical issues.

Serres himself does not refer to this set of invariants as "principles" in the context of morals, but I will retain the use of this term in my discussion. Calling them 'principles'

serves as a reminder that Serres is keenly interested in normative ethical questions of human conduct and frequently prescribes distinctive courses of action. Despite being divested of the work of justification or foundation, the principles above retain the traditional role of guiding ethical conduct. Importantly, the guidance is neither merely procedural nor straightforwardly deliberative. It might be useful to think of these principles as being recommendations for better navigation of the durational river of life. Or, perhaps as balance points for floating on a leaky raft. Depending on the conditions and turbulence in the water, one might lean more on one principle rather than another, or, if things are very turbulent, one may need to employ all three.

The Principle of Least Disturbance

Recall that all beings in Serres' world are negentropic pockets of space/time/value yet remain open systems. Existential, social, and natural contracts are in a state of constant flux, with constituents departing and joining the value networks they constitute. The borders of the value networks constantly shift, along with the set and roles of its members, as these changes transpire, and the networks interact with others. The action of the *clinamen* is never absent; randomness appears at every level of scale. Perfect order is never possible, and no final balance is possible. Everything exists in metastable equilibria, navigating the balance between opposite chaotic poles. Recall, too, that the tendency of parasitic relations is proliferate and to drown other beings in *noise*; in short, to cause a decline into increasing disorder, and ultimately a return to original chaos. Chains of parasitic relations eventually collapse. Entropy surrounds the invariant *clinamen*/parasite; eventually, all beings will "die" by dissolution into a degree of disorder such that the being no longer recognizably exists.

The temporally shadowy yet certain fact of death haunts the background of Serres' moral philosophy. The death of individual humans is one variation of the universal metaphysical structure, but equally, Serres tells us, civilizations suffer death, species die by going extinct, cells die by apoptosis, and so on (Serres 2019, p. 2). Death is inevitable and marks out irreversible time. To be is to be in decline towards increasingly entropic states.

However, death is no unalloyed evil. The fact of individual mortality and humanity's awareness of it is a driver of meaning-making and the condition of cultural emergence.

> …by ending up destroying our lives, death constructs them: without the stiff cadaver it leaves behind, without the sex it was long believed to imply or the irreversible time it brings about, would we have ever painted the walls of caves, lit fires, sung within the lacework of language, danced for the gods, observed the stars, demonstrated geometrical theorems, loved our companions, educated children, lastly lived in society? (Serres 2019, p. 1).

Death is a generative force both prospectively and retrospectively. Its inevitability gives a sense of urgency to human endeavors. A life without death would be stripped of the meaning that acknowledging our finitude provides. Retrospectively, civilization is built on death—Serres' work is replete with examples of sacrifices around which collectives form, and these sacrifices begin with murder. One notable example is the death of Remus at the hands of Romulus in the foundational myths of Rome. But Serres also illustrates this with examples of temples, churches, and other monuments built on tombs. A life without death would be meaningless, and civilization would not emerge,

Serres thinks, if it did not carry the risks necessary to drive inventiveness (Serres 2019, p. 1).

Death remains a force for transformation, too, and at various levels of scale. As we become increasingly aware of human interventions raising the possibility of global death, either via nuclear weapons or industrial pollution, Serres argues that we need to rethink our methods of ethics. The prospect of global thermodynamic annihilation signals a new direction for rationality and morality. Death has a generative function, and we err, therefore, if we work too diligently to banish death *tout court*.

Nevertheless, *causing* death and destruction, especially needlessly or for wrong reasons, is a frequent target of Serres' disapprobation. If value is introduced at the inauguration of existence, then life (as a form of negentropy) has intrinsic, if non-specific value, and death, as non-existence, is the absence of value. Death is the final horizon of all possibility, every degree of freedom, and extinction of all interests. One might argue, therefore, that to be at all is better than not to be, since existence is implied as the transcendental condition of evaluation. All forms of organization are unified in their common struggle against the inexorable pull of non-existence.

What causes death? An increase of entropy in an open system, which, when caused, is *violence.* This is the first sense of moral harm in Serres' moral philosophy. Evil in its moral sense is indicated by violence, which "harms and puts to death;" It "howls, strikes, wounds, rapes, kills" (Serres 2012, p. 20). "Howls" is the important philosophical clue. Adding noise or disorder to a system—increasing its entropy, rather than putting in work—hastens the downstream descent into death. Violence is an

increase of disorder or noise, and, if death is to be avoided, then one ought to refrain from proliferating noise or disorder:

> Wisdom: avoid adding more movement to the vortex, to that which carries off the dense elements of the body, which screws down or enfolds the subtle elements of the soul. Halt the cyclone, try to escape it. Quell the disorder: ataraxy. This term of morality is built on the principle word of physics, precisely, as the soul is of the body. Disorder is the evil side of the vortex, this state in which the operator of formation and transformation becomes the operator of destruction. Ethics enjoins struggle against the forces of death, inscribed in nature itself (Serres 2018a, pp. 115-116).

This passage expresses the Principle of Least Disturbance. If "life" is associated with being, and "death" with non-being, then "health" is an analog of the integrity and orderly function of any given value network. In living things, one might follow the thread of French philosophy of health from Leriche to Canguilhem that characterizes health in terms of smooth operation. Health, Leriche claims, is the "lived in the silence of the organs," which is to point out that when an organism is functioning healthily, its operations recede below the level of awareness. It is only when one is *unhealthy,* or there is disease, stress, or injury, that one notices the *dysfunction* of the body. When everything's working well, the system is quiet (Canguilhem 2012, pp. 43-44).

Serres rejoinders that since everything is noisy, there is no such thing as a silent system. After all, silence would indicate a static equilibrium—a blankness of non-identity. The body (which stands in for any open system) is never quiet. Its constituents communicate constantly; it is a complex, functional system of information exchanges across varying levels of scale (e.g., cells, tissues, organs, systems, organism), and

though such exchanges may happen below the level of conscious awareness, processing, receiving, storing and transmitting information still occurs. The lesson of the parasite is that dysfunction is a necessary condition of function itself—without the noise, the body would not operate.

Leriche and Canguilhem are not entirely off base, however, for an excess of noise, or too much dysfunction, accelerates the unhealthy decline towards one's demise. Even if the ideal of silence is forever out of reach, *approximating* quiet is not. The best of all possible systems, then, is the one that minimizes the noise it produces, and health is located in modest and reserved "work," rather than expansive or noisy proliferation. "Work," for Serres, means creating, increasing, or maintaining negentropic forms of order, which is the recipe for avoiding death:

> The very production of order, secretion, the organism itself undertaking production, are all struggling to exist, struggling against a never-ending noise, against being dragged down toward the mortal fate of mixtures. Thus they work madly to move the point of application of forces to a point upstream from this dragging down (Serres 2007, p. 87).

Serres illustrates the wisdom of the Principle of Least Disturbance through a retelling of LaFontaine's fable *Le Jardinier et son Seigneur*. In the story, Miraut, a farmer, seeks help keeping a hare from his vegetable garden. The hare invades the garden through a small gap in the hedgerow border of Miraut's garden, and he's tried in vain to keep the hare out. Miraut turns to the local lord, who commits to eliminating the culprit. The lord arrives with his retinue of retainers—dogs, horses, and grooms--and makes good on his word, but not before sexually assaulting Miraut's daughter, plundering his larder, drinking his wine, trampling the garden and destroying its crops. The hare, meanwhile,

escapes through a now-massive breach in the hedgerow. The disorder and cacophony created by the lord and his troops indeed frees the farmer, but at the cost of the farm. The lesson of the fable is that chasing out parasites/noise often creates more, and worse noise. Violence begets violence.

We should “seek the parasite that reestablishes a healthy situation,” Serres suggests, and he distinguishes between parasites that sit nearest “production” and those that are more mediated, i.e., parasites that parasite parasites (Serres 2007, p. 78). Serres uses the example of farmers and tax farmers to show the distinction. The farmer depends upon the land; therefore, fruits of his labor are the direct product of his natural contract (in my sense of the term) with the earth, water, plants, and animals on his farm. The tax farmer, on the other hand, interrupts the relationship between the farmer and his produce by taking that for which he has not worked. The more successful parasite is the one that does less work for more benefit, but the *better* parasite, the one that reestablishes a healthy situation, is the one nearest production. For it is the parasite in the least noisy position. One would be better off learning to live as close to harmony as possible with a minimum of noise: “As long as you have one hare, and only one hare, it is better to make your peace with it” (Serres 2007, p. 88).

This is a metaphysical principle insofar as it describes the stability and health of value networks—those that are most stable and slow down the decline towards entropic death are those that inhabit the closest proximity to noiselessness. There is no final stability, though, so the metaphysical aspect of the Principle of Least Disturbance describes the work of systems to maintain their integrity as entropy increases; white blood cells combatting illness, or the skin knitting itself together after being cut, for

example. More work is required as value networks increase in entropy, and so distance from the ideal of silence increases—what causes the least disturbance can never be definitively decided once and for all. But it must be born in mind that productive work is negentropic and resists dissolution—the Principle of Least Disturbance is not the "Principle of Least Effort," or the "Path of Least Resistance," for over time the Principle of Least Disturbance demands an *increase* of effort.

In its ethical model, the Principle of Least Disturbance is expressed as a kind of modesty or reserve:

> Morality demands this abstention first of all. First obligation: reserve. First maxim: before doing good, avoid the bad. To abstain from all evil, simply hold back. Because in expanding, good itself, just like the sun, very quickly becomes evil. The first obligation conditions life, creates a readiness for a sense of emergence from which novelty will come (Serres 1997, p. 119).

The frequent motive behind the desire to extend one's power, for better or worse, is domination and Miraut's dustup with the local hare illustrates the danger of the desire to dominate and have mastery over others (including the Earth and other non-human value networks): it leads to the proliferation of noise/disorder, which hastens the death of the system. Thus, one must "hold back," and not employ all of one's power, for the sake of creating less ruckus.

Framing the Principle of Least Disturbance in terms of "modesty," or "reserve," and Serres' use of the notion of *ataraxy,* invites a reading in terms of agential attitudes or dispositions, or to connect it to a conception of virtue. Modesty and reserve as virtues link with *ataraxy;* Serres' use is closest to the Epicurean conception of the term, which

frames *ataraxy* as a kind of pleasure that one finds in freedom from trouble, anxiety, or perturbation—tranquility. Modesty and reserve as dispositions are conditions of attaining tranquility, and therefore "*the wise man inhabits this minimal deviation*, this space between little and nothing, the angle between equilibrium and declination…" (Serres 2019, p. 216; emphasis Serres'). Sagacity is linked with morality through the withholding of power.

There is a similarity to natural law theory here, insofar as the order of nature is mirrored in the human and the Principle of Least Disturbance is also a metaphysical norm referring to the healthy condition of all phenomena. Modesty, reserve, and *ataraxy* cannot be reduced to human agential dispositions, since a person's displaying modesty or tranquility is but one *variation* of the deeper, underlying invariant. The Principle of Least Disturbance recurs in existential contracts devoid of human interaction, as well as in social contracts. There is therefore a moral analog, an isomorphism, between these qualities in persons, clubs, nations, universities, forests, stars, or whatever—these "virtues" cannot be thought of as exclusively pertaining to human conduct.

However, Serres also invites a "principled" reading of these notions. The Principle of Least Disturbance is the "first maxim," and one moral model of it is a recommendation of non-maleficence, similar to Gandhi's *ahimsa* or Mill's Harm Principle. One ought to strive to do no harm. Of course, absolute harmlessness is impossible in the same way that silence is impossible; while parasitism does not necessarily conceptually *entail* harm, preserving human life requires dependence on things that must be destroyed to ensure humanity's continued survival. Agriculture, which Serres identifies as the origins of human culture, is predicated on growing crops

and raising animals for consumption. Growing crops and ranching requires clearing land, which often involves deforestation—the destruction of an ecosystem of flora and fauna. These forms of parasitism are harmful, for they involve the destruction of that which is abused. As Serres points out, “the work of life is labor and order but does not occur without borrowing from elsewhere. It makes order here but undoes order there. And it reinforces disorder and noise” (Serres 2007, p. 88). There are no pure moral choices devoid of some degree of harm.

Following the lesson of the garden, though, the Principle of Least Disturbance is better conceived as a principle of mini-maleficence, rather than non-maleficence. In one’s conduct, one should seek to act in ways that minimize one’s disruption of healthy value networks, or act in ways that restore a “healthy situation” with as little additional harm as possible.

Note, too, that Least Disturbance cannot be not a principle of conservativism and trying to return to a past state of equilibrium. Since all things are flowing and in a state of slow decline, anything that has been harmed has moved closer to its entropic conclusion and its constituents have changed. Justice requires redressing wrongdoing, but that is only one dimension of causing as little disturbance as possible (Serres 1990, 90). It is also the attempt to traverse novelty with as little destructive impact as matters allow. Again, because of the shifting nature of the world, and the tendency of everything towards dissolution, it is not possible to maintain a static equilibrium. Equilibria are constantly unbalanced, and therefore it is not the place of the Principle of Least Disturbance to recommend or to enforce an artificial “status quo.”

Causing the least disturbance requires constant fine-tuning and adjustment, for situations change suddenly and new conditions call for reorientation. In a nod to Nietzsche, one might think about the action of tightrope walkers. If being is suspended between two poles of non-existence (towers), and to be is to exist between those poles, then living is a bit like walking a tightrope. Walkers must adjust their balance in response to myriad environmental conditions as they traverse the rope—a sudden breeze might force them to adjust their center of balance, or onlookers might hurl tomatoes in fits of jealousy or cruelty. Worse yet, another tightrope walker who thinks he's the *Übermensch* might leap from a tower, spring over the first walker, and spit denigrating insults about their abilities. Each of these disruptions, each interruption or intrusion, will require re-establishment of equilibrium—our initial adventurer is thrown out of balance. Of course, this example is an oversimplification. The tightrope is not a closed system, and any number of tightrope walkers will intersect each other's pathways, creating complications and complexity, which only requires more attention to maintaining equilibria.

One might object that the Principle of Least Disturbance entails extreme ascetism or moral quietism. If to act is to inflict violence, if to be is to harm, then wouldn't it be better not to act at all? It must be granted that one causes very little disturbance indeed by resting underneath a banyan tree and meditating all day, or by refusing to get out of bed to interact with the world. There is nothing logically impossible about living a life strictly according to the Principle of Least Disturbance, either. Nevertheless, doesn't this seem like poor moral guidance? That the appropriate response to the challenges posed by life is to do nothing?

This goes too far for Serres. Life is work, and avoiding work or effort steepens the slope toward entropic destruction and an actual life lived too close to equilibrium risks death by return to static state. What's more, refusing action in the name of causing the "least disturbance" misses the important point that inaction can cause deep disruptions or harms to other relata in a value network, and may therefore constitute a kind of Serresian sin of omission. One's identity is inextricably bound up in one's relations to both objects and other people, and totally withdrawing from those relations with the aim of minimizing disturbance may have the downstream effect of *causing* disturbances—it is a variety of exclusion that can be pushed too far, for it may *weaken* the integrity of the value network, which increases risk for other members of the value network. Being is risky, no matter how quiet, and it is impossible to avoid the perils of existence regardless of how it is traversed. In other words, to live is to live in dangerous conditions and there is no enduring safety. Noise always threatens to drown out order, and eventually all order succumbs to chaos, even when one tiptoes through life or refuses to move.

The important point of this objection, though, is to illustrate that the Principle of Least Disturbance must be balanced with other guidance, and the first counterbalance is what I call the Principle of Creative Risk.

Principle of Creative Risk

The work of resisting negentropic dissolution demands more than conservativism. It also requires the creation of novel forms of organization, order, or growth and development. Over time, repetition of the same fails to restore equilibria—stagnation is an invitation to disorder, so some disruption of the familiar is needed. New equilibria must be sought and created, and new relations, that is, new existential, social, and natural contracts need to be forged.

The Principle of Creative Risk is another recurring normative invariant that has a strongly moral variation in Serres' writing. The Principle of Creative Risk is linked very closely with Serres' gnoseology, his theory of knowledge.[39] It is beyond the scope of this project to give a robust account of Serres' stance on knowledge, and other scholars like Assad (1993), Connor (2005), Simons (2019) and Watkin (2020) have published excellent work on the subject. Nevertheless, it will be useful to start with a brief thumbnail sketch in order to apprehend the value of creativity.

Serres generally resists hierarchical thinking—it is connected too closely to the desire for "mastery" or domination—and, as we have noted, the view there is one privileged discipline that is the "ticket booth" for knowledge. Justification of knowledge claims is not the aim. Furthermore, there is no final "Knowledge," and no process whereby one becomes finally "enlightened." Serres complains that Western philosophy and science have too long labored under the influence of Plato's Analogy of the Sun:

> Canonized by the crushing monarchy of the day, our knowledge unjustifiably established the local solar system as the general law. Now, midday signifies nothing more than the small principality of a nearby dwarf star. We receive from far away the light of other suns, sometimes, giant, but drowned in shadow (Serres 1997, p. 40).

This is the mistake of elevating a model to the status of structure. Serres reminds his reader that astronomers most often work by night, since the Sun *obscures* the objects of astronomy rather than revealing them—illumination does not align seamlessly with

[39] I purposely avoid using the term *epistemology* here for three reasons. First, Serres uses the term gnoseology to refer to his theory of knowledge, not epistemology. Using his term maintains fidelity with his intentions. Second, epistemology is often associated with philosophy of science, and Serres' gnoseology is a wider theory of knowledge. Third, epistemology in the analytic tradition has focused perhaps too myopically on propositional knowledge; using that term here is bound to obscure Serres' unwillingness to privilege description over other kinds of knowing.

knowledge and revelation. Some darkness—ignorance—is required in order to discover new and interesting things in astronomy. Serres points to Thales' use of ratios to calculate the height of the pyramids as an example. The sun only helps Thales' experiment insofar as it is a *condition* of the information he needs; the stick that Thales plants in the ground (an object) is also necessary. It interrupts the Sun's radiation, creating the shadow required for comparing heights. But, ultimately, the shadow itself, not the sun, conveys the most important information (Serres 1982, p. 90).

In fact, a better image of knowledge is given by looking at the night sky itself. The night sky is a field of darkness punctuated with points of light created by astronomical bodies (some natural, and some man-made). Our Sun, Plato's heroic astronomical object, is decentered, and becomes but one star standing temporarily in front of others.[40] The stars represent points of illumination--disciplinary knowledge, embodied practices, mythopoetic explanations of phenomena, stories transmitted culturally, old wives' tales, first-personal experiences, technical know-how, and so on--separated by gulfs of ignorance. Each represents a local domain with its internal standards of knowledge or practice.

Furthermore, if Serres' generalized functionalism is true, if all beings receive, store, process, and transmit information—in short, exist as communicative processes—then knowledge must be some variation of information processing. *All* local value networks may be said to "know" to a greater or lesser degree, and to think that human beings *alone* are capable of "Knowledge" as such is the kind of hubris about which

[40] Chris Watkin (2020, pp. 57-58, 70-72) calls this sort of maneuver in Serres' work "opposing by generalization." Rather than merely criticizing Plato's theory as "wrong" in a way that sets up a dichotomy, Serres shows that Plato's model of knowledge is "one among many."

Nietzsche complains (Nietzsche 2006, p. 114). Most global information processing is non-propositional; it does not require language in the form of descriptive statements, and neither does it require mental states like “beliefs.” Our sciences, natural and social, are but some of many ways of knowing, and, given the decentering of the human subject, humanity’s routes to knowing the world (e.g., our senses or rational capacities) are neither exhaustive nor characteristic of all possible knowledge. The canine sense of smell, for instance, or the echolocation of most bat species, or the information encoded in tree rings or in fossilized carbon are but a few obvious cases of a vast variety of processes of receiving, translating, and storing information about the world that run beyond human capabilities or limitations. The stars in the universe of knowledge are infinite and cannot be reduced to true justified human beliefs.

Any totalization of knowledge therefore consists in building bridges between local pockets of understanding and constructing a globalized whole, and there are various routes one might navigate toward knowledge (Serres 2018, p. 197). However, this is not like putting together puzzle pieces to assemble a “big picture.” Neither can totalization merely be a list of all the known facts, contrary to young Wittgenstein’s claim that “the world is everything that is the case,” and is a “totality of facts” (Wittgenstein 1922, p. 25). Given that the world is a network of open, fluid, and dynamic systems, the pieces of the puzzle have fuzzy borders—they change and shift, assuring that they will never “fit together” neatly. Even if they did, ignorance remains ineliminable. Some forms of knowledge are impenetrable “black boxes” that human beings’ epistemic powers can never open; as Nagel argues, one can never know what it is “like” to be a bat (Nagel, 1974).

Nevertheless, as we have discussed, any knower is not radically separated from the known—quasi-subject and quasi-object interact in networks and tissues of relations that transform *both.* The world, as a global value network of integrated local value networks, acts upon and is acted upon by the local value networks that compose it. In conducting science, the scientist therefore changes the "object" of study. And as the studied changes, so does the student—there is a dynamic exchange of information between the knower and known that transforms both. So, knowledge acquisition, such as it is, is not just an assembling of "facts." The aim of a completed "science" is doomed to fail if every piece of the puzzle is constantly changing, with new pieces introduced and others disappearing at each moment. It is more like tracking an open ecology. Serres writes that ecology "does not dissect anything: it associates, allies, and federates. It enters into details and outlines landscapes whose maps are so realistic that they mirror what they depict" (Serres 2014, p. 61). Accordingly, the goal of knowledge is not ultimately to establish an all-encompassing "Truth," but rather to trace and create connections.

Descriptive adequacy and accuracy take a backseat to theoretical aims of *creativity* and *fecundity.* Thinking is foremost an activity of creativity. He argues that the aim of instruction, for instance, is to liberate students from instruction by fostering inventiveness (Serres 1997, p. 92) and that the role of the philosopher is to enable creative invention (Serres 1997, p. 99). Thus, the scientist in her laboratory is not far removed from the painter, sculptor, or chef; the distance between "art" and "science" shrinks as one finds the common thread of creative thinking. Locally (in disciplinary patches) as the scientist practices her branch of science, she creates new knowledge

by opening up and transforming the world she studies. As the phenomena shift and change, the scientist must be open to new experimental techniques, results, information, and conclusions—one cannot rely on what one "already knows" or depend on the "usual" methods. One ought, therefore, seek to produce new methods and new areas of inquiry.

Globally, creativity consists in finding and creating relations between regions of local knowledge. Like finding moral similitude across differences, seemingly disparate kinds of knowledge may be linked by an isomorphic structure. Painstakingly making those connections makes possible new approximations of totality, but also integrates a novel whole. Accordingly, knowledge does not principally involve analysis, but rather consists in synthesis—mingling, mixtures, combinations, chemistry, and alloys. Knowledge is therefore "confused," conjoining diverse elements together rather than separating them out. It consists, to put it another way, in *creating new contracts.* So, knowledge production is simultaneously metaphysical.[41] Knowing creates new forms of order, or pockets of negentropy, which Serres notes "reinvents" life—a kind of resurrection. Knowledge production is work (Serres 1997, p. 100).

However, creating new knowledge is painstaking precisely because there is no formulaic recipe for synthesizing disparate local epistemologies. In some cases, comparative analogies may be clear and the bridging similarities are easy to point out, especially where the "family resemblance" is very close. Seeing what's common to ice

[41] Plato's Divided Line has both "vertical" and "horizontal" demarcations; the vertical line divides epistemologies from ontologies—the way of knowing with the thing known, and the horizontal lines partition the mental faculty involved and the independence reality of being. Serres denies all the divisions; the structure of knowledge is isomorphic with the construction of being, which erodes the distinction of the vertical line, and, as I've already noted, he rejects the hierarchy of the horizontal lines.

hockey and football, structurally and tactically, is not difficult once one understands one of the sports. But tracing the connection between football and firefighting, robotics, or chemical engineering would be considerably more difficult. One must find a new way to think about how these activities and bodies of understanding and skill connect. And, again, because the bodies of knowledge and their structures are open, the connections are always only temporary.

How, then, does this translate into the context of ethics? There is a relation between virtue and knowledge. One cannot acquire knowledge at all unless one is open to embracing the unknown and possesses a willingness to "cast off" into discomforting circumstances. The dark spaces of the unknown are also inherently *risky.* Novelty and the open future are uncharted. Ignorance comes with dangerous pitfalls, and because there is no certainty, seeking to forge new contracts requires an almost Kierkegaardian "leap of faith."

Discussing this risk in the creative context of writing, Serres describes the writer as "fragile, naked, precariously balanced" (Serres 1997, p. 79). The author finds himself

> …with no fixed position in the group, without imitator or master, he explores alone. He can thus miss, make mistakes, or lose himself. He bears this possible error and potential fall like wounds to the flank of his work. The pain and courage of wandering in order to pay for newness. Because, each morning, strange, unpredictable paths present themselves that are so attractive and beautiful that he gets up in haste, at dawn, enthusiastic about landscapes to be crossed, pressed to take up the voyage again in a rarely familiar, often extraordinary world. He never knows who will enter on the next page. Never mind the fall, he tests. If he loses, he will not have done anyone wrong, and if he wins he will rejoice. To hell with mistakes, he essays (Serres 1997, p. 80).

Regardless of the activity in life, there is always a risk that things don't go as expected, planned, or hoped. One ought to be cautious, as the Principle of Least Disturbance recommends, but one cannot totally avoid danger in life or in the creation of knowledge. Death is always lurking in the background. The key virtue one must possess, then, is *courage*, which precedes knowledge and wisdom. Courage is the willingness to depart the known, to swim in unknown spaces, to embrace disorientation with "no fixed position," and attempt to navigate within the uncertainty. It is a condition of creativity.

Setting virtues aside and adopting a more deliberative moral standpoint, it is clear that Serres does not think that the answers to moral problems are inferable *a priori.* What, then, about using casuistic methods? Briefly, casuistry is the method of moral problem solving by precedent. Moral or legal questions are handled individually, but as novel cases arise, the casuist argues by analogy from the way previous situations were resolved. General guidelines emerge through this process, and are applied by an analogical universalization, i.e., like cases ought to be treated alike, but unlike cases must be treated differently. So, rather than demanding *a priori* moral solutions to ethical questions, casuists develop a body of prescriptions *a posteriori.*

The casuist approach has value, in so far as it provides a starting point for reflection. However, from a Serresian perspective, there are two connected concerns. First, the casuistic method assumes that one can put sharp boundaries around a particular situation and define its properties—it relies on a logic of "boxes," or geometrical thinking, too heavily. The cogency of any analogical induction depends on the number of relevant similarities and dissimilarities; the more similar, the tighter the analogical reasoning. The less similar, the looser the inference. Sometimes it is easy to

make these inferences and distinguish between morally relevant characteristics, but other times it is not. More than a casual probe beneath the surface of any concrete moral circumstance will reveal a deep and rich background of *differences* that problematize a simple casuistic approach.

The challenge is exacerbated when novel cases have only a cursory relation to existing problems, and current debates in applied ethics highlight the difficulty. The contemporary world is one in which it becomes decreasingly plausible to distinguish between the "natural" and the "artificial," or the "technological" and "biological," for instance. Gene editing techniques, cloning technologies, in vitro fertilization, genetically modified foods, and so forth, problematize the idea of organisms as being wholly natural, and those speak only of *interior* interventions of human science in coding or generating biological beings. *Externally,* humanity's imprint weighs on the totality of Earth's global value network, which feeds back into the evolution of life. The rapid acceleration of artificial intelligence and machine learning shows another axis for challenging traditional distinctions. Questions emerge about whether machine decisions are relevantly similar to human decisions, and it's far from clear whether existing moral categories are the right ones to apply or remain meaningful. Would it make sense to charge a self-driving vehicle with "manslaughter" if it made the wrong decision about which collision to avoid? Or is an autonomous weapons system like Israel's vaunted "Iron Dome" guilty of murder if its missiles go awry and kill civilians? Are these machines "responsible" for their choices? These and other discussions have emerged in philosophy of technology.[42] Most established moral categories are anthropocentric,

[42] See, for instance, Lin, et. al (2011), Hellstrom (2013), and Cappuccio, et. al (2019) for samples of work on nascent issues in robotics and AI.

taking the human as the model of moral responsibility. But how should we think about the responsibilities of autonomous machines?

If the lesson of the quasi-object is the decentering of the human subject, then analogies hinging on similarity to narrow, retrospective categories are already insufficient to the task. This is because the casuist's method is primarily *retrospective.* A settled body of moral prescriptions ought not be established *a posteriori,* either, because their relevancy is contingent on a bygone world, one assuming the subject/object distinction. By contrast, Serres argues that philosophical reasoning ought to be prospective and not unduly linked to the past:

> the philosopher who seeks does not employ method, the exodus without a path remains his only sojourn and his blank book. He does not plod along or travel by following a map that would retrace an already explored space; he has chosen to wander (Serres 1997, p. 98).

He notes that when philosophical thinking is done well, it "establishes a ground that will found local inventions to come" (Serres 1997, p. 99). The upshot is that moral reasoning and decision-making, as a variety of philosophical thinking, ought to be inventive. The Principle of Creative Risk is not opposed to drawing upon past wisdom, but this should not devolve into slavish reliance on past practice. The process will be difficult and the require the courage to be disoriented in the spaces of risk; one ought to respect the uniqueness of every morally charged situation and look for creative ways to manage them.

One obvious objection to the Principle of Creative Risk is that creativity and novelty are not always for the better—newness or innovation are not unqualified goods. After all, risk has at least two dimensions. One dimension is risk of failure—that what

one attempts to create might not come off—but another dimension is the knock-on effect of unintended consequences. Downstream ramifications of a creation may, in the fullness of time, outweigh whatever initial positive contribution the creation made. Karl Benz succeeded in making a gasoline powered automobile, but, arguably, from a global perspective, the long-term harms of reliance on variations of his invention seem to have outrun the benefits. Worse yet, creativity has been, and is, deliberately and frequently used for fell purposes.

Serres is painfully aware of these possibilities. His thinking is influenced by having grown up in the "shadow of Hiroshima," which underscores his insistence on the necessity of ethical interventions in the scientific enterprise. It is a "decisive historic break," a moment beyond which natural sciences can no longer pretend to moral neutrality (Serres 2014, p. 64). Serres often bemoans the influence of culturally universal institutions upon the creation of new knowledge. The dominant institutions which tend to direct the sciences, either by encouraging certain production or by inhibiting certain directions of research, are militaries (Mars), business interests or merchants (Quirinus), and religious institutions (Jupiter) Knowledge has been aligned with *power*, in other words, and the social institutions that work to instill uniformity and control (Serres 2021, p.10). Under the influence of power, knowledge tends towards homogeneity and away from the heterogeneous syntheses Serres recommends. For example, creative branding and advertising produced by modern corporations coerce consumers into assuming identities carefully designed to ensure their compliance to the company profit motive. Serres decries this as a kind of pollution, which has a relation to claiming property rights:

> The first who having cut up some space, brought it to besmirch it with his brand so that it proclaimed: “This is mine and I am the best,” and who in fact found people naïve enough to let him steal their view and become his slaves, invented advertising” (Serres 2011a, p. 50).

Creativity in the service of power, at least oriented towards domination, is to be avoided. As an antidote to these practices, Serres encourages scientists to take an oath analogous to the Hippocratic Oath binding medical doctors, where they, “as secular people, swear they will not serve any military or economic interest,” and hold the interests of humanity and other non-human stakeholders paramount in their work (Serres 2014, p. 65).

Thus, expressed differently, the Principle of Creative Risk requires counterbalance. One limit might be expressed by the Principle of Least Disturbance (i.e., limiting harms), but there is another principle in Serres’ work that offers a prescription for how knowledge is integrated, or in how one ought to approach the universalizing pathway from “local” to “global.” I call that guideline the Principle of Loving Synthesis.

Principle of Loving Synthesis

With the last sentence of the first chapter of *The Natural Contact,* Serres declares that “There is nothing real but love, and no other law” (Serres 1990, p. 50). Despite the misleadingly reductionist tenor of the statement, it does emphasize the importance of “love” in Serres’ thinking about ethics. Love is not primarily understood as an emotional state, though the appearance of feelings of love in human beings and other animals is one possible variation of the invariant. Serres’ use does evoke a sense of compassion or harmony. However, one should not interpret this along the saccharine

lines of McCartney and Lennon's famous song—the world needs more than just "love." Rather, love refers to *conjunctions,* and a certain way in which bonds are formed between (and within) local and global value networks. In other words, Serres employs the Presocratic (e.g., Empedoclean) sense of love as a metaphysical force. "Without love," he writes, "there are no ties or alliances" (Serres 1990, p. 49). "Love" is a condition of existential, social, and natural contracts.

It must be remembered that like anything in Serres' work, love is not always pure, appropriate, or morally good. Serres acknowledges the role of love in forming problematic contracts, too, noting that "loving only one's neighbors or one's own kind leads to the team, the sect, to gangsterism and racism," and this sort of love "is typical of preachy moralists" (Serres 1990, p. 49). Loving only one's neighbors, sectarianism, and so on, are kinds of *belonging* that Serres finds ethically problematic.

On one hand, a person cannot form an identity or share a community of meaning without some kind of belonging. The necessity of boundaries is again drawn from information theory. Given that parasites (noise) inhabit every channel connecting a sender and receiver of message, noise threatens to distort or overwhelm the transmission of information. Some noise is necessary for the transmission, but too much noise will drown out what is meant to be received as meaningful. Therefore, in order to have a successful transmission, some noise—the "third man"—must be excluded. Serres tells us that an "island is defined by its edges, or, every definition is an island. It is determined by what it refuses, high ground in the water" (Serres 2007, p. 117). In other words, boundaries must be placed that create conditions of exclusion and inclusion and these "partitions" act as a barrier against incursion. Those on the inside

the boundaries “belong” to a community where meaningful communication can occur, while noise from the outside is excluded and received as nonsense at best or a threat at worst (consider the origin of the term ‘barbarian’ as an illustration of Serres’ point). Importantly, these borders are selectively permeable—like the skin—and permit select information to pass back and forth; boundaries of meaning (and thus conditions of identity) are always fluid.

What is noise and what is message is observer-relative and depends upon the channel to which one attends. Consider the experience of two couples conversing over a dinner table. Suppose two of the party are talking football and the others talking about music. One dyad is background noise for the other which threatens to drown out their conversation (and vice versa). It happens sometimes that the dynamics shift—a conversation point from the discussion of music grabs one of the football fan’s attention and re-directs it, at which point the discussion of football becomes the noise. Nevertheless, boundaries must be set in order to parse noise from meaning, and, without the differentiation borders make possible, there can be no identities at all.

Belonging has virtues in addition to identity formation, too, because boundaries are *protective*. Communities formed as safe spaces for those who might be marginalized, victimized, or confronted with stigmatizing struggles *need* to exclude outsiders precisely for the sake of protecting their members from harm. Support groups for survivors of sexual assault, domestic abuse, or addiction make ready examples. And other forms of exclusion or boundaries may be warranted by the Principle of Least Disturbance, say—admitting too much noise to a system causes problems, as Miraut showed us. It would have been better not to invite in the lord and his troops.

Problems arise, however, when one associates one's identity too strongly with belonging to the groups collected within certain borders. Serres laments the tendency of persons to *identify* themselves with the groups to which they belong, to reduce the complexity of one's relations to membership in one (or some small number) of one's group memberships. Religious affiliations, political parties, ethnicities, local demographics, labor unions, social classes, genders (in the socio-political context) are too often taken by individuals to be their *defining* characteristic, which, like the tendency to seek a master discipline of knowledge, is reductionistic and an oversimplification of the richness of an individual (Serres 2021, p. 104). Extreme forms of relativism are also variations of belonging and exclusion, if one insists that local cultures, organizations, etc., are immune to moral criticism. This is when "love your neighbor" transforms to gangsterism and is morally harmful. Belonging and exclusion become racism (sectarianism, etc.) when, from within the borders of one territory, people reduce *others* to one of their belongings (e.g., ethnicity, religious affiliation, political party):

> It [racism] consists in defining, considering, or treating someone as if his person were exhausted by one of its belongningnesses, which is selected and persecuted: you are black or male or Catholic or redheaded. Racism is defined, quite simply, as this confusion between the principle of belongingness and that of identity. Thus, calling identity national or male amounts to confusing a category and a person or to reducing the individual to the collective, a logical error, which certainly constructs a local clan or pressure group, but which is humanly and globally destructive (Serres 2021, 103).

It is another variety of conceptual capture, which is intellectually simplistic when applied to linguistic terms and meaning. But, as Serres points out, its consequences when

applied to human (and other) beings are morally problematic. Exclusion starts by marking territory. Serres sees the initial human creation of exclusion as an extension of the animalistic tendency to seize territory by defilement—a spreading of filth that wards off potential intruders. Just as the dog urinates to signal his territory, so does the human being lick a piece of pizza to claim it[43] (Serres 2011a, p. 2). This is a kind of appropriation of space by capture, a claim to dominance and ownership lacking the modesty or reserve recommended by the Principle of Least Disturbance.

Another variation of exclusion involves violent sacrifice. Something, someone, is killed or cast out--excluded. The formation of collective identity, he argues, often involves a unified (singular) focus of animosity that binds the group in blood:

> For unanimity to appear within a group, sometimes all that is necessary is to bring about general animosity toward the one who will be labeled the public enemy. All that is necessary is to find an object of general hatred and execration. Best-sellers and landslide elections occur in this way. General will is rare and perhaps only theoretical. General hatred is frequent and part of the practical world (Serres 2007, p. 118).

Here again we encounter death at the foundations—death as the consequence of the *wrong* kind of love. This sacrifice can be literal or metaphorical: the sacrifice can be substituted for a scapegoat,[44] but in any case, this act of violence is tantamount to a cleansing of space by erecting borders. More worrying still, exclusionary belongings can become "globally destructive," they are a failure to work (i.e., create local pockets of negentropy) and create violence tending toward death.

[43] This is also Serres' account of the origins of private property, which emerges coincidentally with the formation of identities. Being is also having.
[44] This act of substitution is the origin of "representation;" one thing "stands in" for another.

Transcending problematic belongingness therefore requires a movement from the local to the global. How this movement proceeds, though, must also be managed carefully. Recall that the tendency of parasites is to *proliferate*; in terms of this discussion, proliferation refers to the tendency to think of the movement towards the universal as one of *subordination.* One locality seeks to elevate itself over the others by spreading its presence covering space:

> A single, supposedly general law results from the frenzied expansion of a local element that loses its hold, if it ever had one, that forgets moderation, if it ever learned it, in view of making the remainder disappear (Serres 1997, p. 118).

The move toward univocity, where one location "shouts over" others, is an attempt to dominate and erase difference. It is universality by homogenization, and "wisdom," according to Serres, involves learning the restraint required to avoid the "law of expansion." This is the case, he argues, even when we refer to notions like "goodness," or "truth:"

> Morality demands this abstention first of all. First obligation: reserve. First maxim: before doing good, avoid the bad. To abstain from all evil, simply hold back. Because in expanding, good itself, just like the sun, quickly becomes evil (Serres 1997, pp. 119-120).

But how, or why, does globalization by homogenization become "evil," or morally harmful? The law of expansion is a claim to mastery or domination made possible by erasing difference; as a locality spreads to cover the global, it occludes, obscures, or washes out the other local spaces it covers. It is a kind of violence. The claim of mastery is morally problematic by itself since it implies hierarchy and aligns itself with

reductionism about knowledge and values. But domination by proliferation is also a hasty path to death. Difference, according to Serres, is a necessary condition for identity. Some noise is required to differentiate “sender” from “receiver” in his metaphysics of information. Shouting over or dominating and attempting to exclude all difference therefore obscures the very conditions that make possible the elevation of one locality. In order to be established, the dominating local voice must be differentiated from the other voices it drowns out. But if those voices are successfully drowned, then the conditions of differentiation disappear in the tumult. The entire global system is plunged back into disorganized noise. Proliferation of one’s own local noise is tantamount to a metaphysical murder/suicide, then, and death’s gaping maw awaits both the dominated and the dominator.

Again, wisdom is called for, characterized at least in part in recognizing the necessity of *limit.* Love, in its positive dimension, must demonstrate restraint. To avoid being exclusionary, love must also be *active*; and move one to cast off outside of its initial belongings. It is conditioned by the Principle of Creative Risk. As with knowledge construction, it is a synthetic movement from local to global, and one’s residency in any particular locality must only be a sojourn. One ought not be too firm in one’s belongings and one should be willing to traverse uncertainty. Since identities are relational and fixed via memberships in groups and in relation to quasi-objects, they are never final or closed. Growth, then, and the general movement from local to global is one of sewing together differences into a variegated global value network:

> So who are you? The intersection, fluctuating across duration, of this numerous and truly singular variety of different types. You never cease sewing and weaving your own Harlequin coat, as rainbow-colored or multi-

> hued as the map of your genes. So don't defend one of your belongingnesses tooth and nail; on the contrary, *multiply them so as to enrich your suppleness*. Make the banner of your identity card or map flap in the wind or dance like a flame (Serres 2021, p. 104; emphasis mine).

In the context of *The Natural Contract,* Serres reminds his reader that love must not only be love of other humans, but also that we must love the "world," which is a flowering of human love for local geography (i.e., national and regional identities, etc.). The dual aspectual principle "Love one another/love the world" are variations of the same principle, he says, and "Together these laws ask each of us to pass from the local to the global, a difficult and badly marked trail, but one we must blaze" (Serres 1990, p. 50).[45] Again, the emphasis is on *creativity*; love is a kind of bond construction.

The trail from local to global is difficult *because* of the compassion suggested by love. The synthesis of different local value networks into a global whole must be as inclusive as possible, while at the same time maintaining the integrity, stability, and singular identities of each locality. It must preserve heterogeneity, in other words, and membership in the global value network ought to *add to,* rather than *subtract from* the value of its constituent stakeholders. The movement toward universalization should not be a reduction to sameness, capture under a universal standard, or subordination of one locality by another. Expressed culturally, federative wholes should not result in

[45] I follow Stephanie Posthumus (2022) in noting a weird omission. Serres seems to overlook other living beings with his principles. Serres acknowledges anthropocentrism and ecocentrism as alternatives but ignores biocentrism. This is explicable if he reduces living beings down to objects in the world, on which he heaps no end of praise, or if he includes them with humanity; i.e., "love one another." But the spectrum of living beings is too vast to fit neatly in either of those categories. One would expect that Serres would have more explicitly to say on animal questions.

monocultures. Expressed culinarily, too much of one ingredient overpowers and spoils a soup.

From an ethical standpoint, the Principle of Loving Synthesis means that standpoints of as many stakeholders as possible should be considered and included when working on ethical problems.[46] It is too often the case, that the distinctive interests of stakeholders are omitted in ethical deliberations, especially when one is too strongly allied to a particular moral theoretical stance. Considering the plight of a stakeholder group only from one's own locality and believing one's standpoint is inherently privileged or superior is paternalistic and universalizes by erasing. Avoiding this problem means taking stakeholders seriously on their *own terms,* and letting their "voices" be heard, and being willing to suspend substituting one's own judgment. Inclusion is vital, for it is the inoculation against paternalism. Equally important, though, is the fact that integrating and including more stakeholder perspectives *enriches* moral reasoning by expanding access to information and by opening a broader range of better answers to problems. I will explore this in greater depth in the next chapter.

The frequency of exclusion is no mere theoretical observation and has concrete consequences for the local groups that tend to be dominated or excluded. As Nico Segrera and other disability advocates have pointed out, when assistive technologies are developed, the engineers who design and build them rarely take into consideration the perspective of the people they claim to assist (Lupton & Seymore 2000; Segrera,

[46] Though he does not call it The Principle of Loving Synthesis, this norm is taken up in the work of Bruno Latour, not least in *The Politics of Nature.* It seems to me that Latour's interest is more global and focused on actual political arrangements, which is not a direction I intend to pursue in detail. The Parliament of Things is an institutional idea very much inspired by the loving synthesis of even non-human interests, resembling closely Serres' notion of the WAFEL. Note, though, that both of those models regard global value networks. in the next chapter I attempt to showcase this as a structure for moral reasoning, even at the level of the individual person, or local value networks.

2023). Engineers presume what the disabled experience is like and design products from *their own* standpoint, typically thinking of physical disabilities as merely mechanical problems. It's not infrequent that the devices so designed create new problems for the disabled user, e.g., social stigmatization and patronization that often emerges in the presence of obtrusive assistive technologies. This is but one example of the common tendency to overlook groups at the periphery. If the aim of these engineers is in fact to improve the quality of life for disabled people, wouldn't it be preferable to include the perspectives of the people one means to help, and thereby avoid needless difficulties? When framed thusly, inclusion is not just an aspect of justice. It is also a question of creative possibilities, discoveries, and increased accuracy.

Since the sphere of moral concern expands to include non-human beings, one ought also to include their perspective. Serres illustrates this kind of perspectivally sensitive integration with a hypothetical global parliament he calls the WAFEL. WAFEL is an acronym of "Water, Air, Fire, Earth, and Life," the thermodynamic forces, geological and biological habitats that constitute Biogea (the Earth's distinctive global value network). Since it is difficult to imagine the voice of geological beings, many animals, and so on, Serres calls on scientists to give voice to nature in the WAFEL—but only those who have sworn the oath not to use their powers in subordination to the three traditionally dominant social institutions of economics, militaries, and clergy (Serres 2014, p. 65).

As hypothetical legislative body, the WAFEL bears some similarity to a state of nature or original position. There are four important differences, though. First, the WAFEL is not a thought experiment meant to provide an original justification for a

specific form of governmental structure or system. It is something that must be created and is prospective. Second, the WAFEL does not assume a separation between the legislators and the natural world they inhabit—a "natural" state is not one to be avoided or from which one ought to seek extrication. Third, the WAFEL is not merely descriptive; it is normative insofar as it characterizes an idealized legislative body. It is a depiction of the Principle of Loving Synthesis and how it might be actualized.[47] Fourth, it is an institutionalized variation of the kind of moral reasoning Serres would like from individuals, too. It is a model of a structure of approaching ethical difficulties both great and small; I will take up this issue in Chapter Five.

There are gaps in the Principle of Loving Synthesis, or at least questions that critics might raise against it. Are the perspectives of each local value network incommensurable? Surely, not all stakeholders deserve consideration, and even if they do, it's not at all obvious that they should have equal weight in deliberations. Consider the example of sexual assailants or domestic abusers raised above. Shouldn't some perspectives or stakeholders matter more than others? To what extent should *merit* enter the picture when allowing voices to be heard? Some fringe or violent, hateful voices do not deserve to be heard, one might argue. Does this principle not run back into the problem of relativism that it in part works to ameliorate, or some version of the tolerance paradox?

[47] This feature may not distinguish Serres' WAFEL from other contractarian legislative thought experiments, like Rawls' original position. Rawls legislative origin is also meant to be normative since it describes an idealized process for establishing moral principles and the most just society. The important difference between Rawls' original position and Serres' WAFEL (apart from the inclusion of nature) is that the WAFEL *could* be realized. It is in fact a possible way of arranging a legislature, where Rawls's original position is not due to its reliance on highly abstracted legislators.

Serres is clear that not all stakeholders ought to have equal standing in the WAFEL. The Principle of Loving Synthesis does not entail moral parity—it merely recommends inclusion without attempting to shout over, erase, or dominate, the members of a value network, to the extent that it's possible. It is better to learn to live with a minimum of violence rather than to seek to exclude it entirely. Furthermore, Serres' insistence that science establish itself as independent from military, financial, or religious interests stands as evidence for his tendency to rate some stakeholders over others. Why these groups? Historically, these institutions are affiliated with and perpetrate the sorts of harms—violence, death, exclusion and domination--that Serres thinks best minimized.

The same is true of human action. Returning to the lesson of Miraut, Serres advises that one ought "cultivate your garden, but first of all do not destroy your garden" (Serres 2007, p. 88). However, cultivation sometimes requires weeding, since otherwise the weeds will overgrow and choke out the other various flowers, fruits, or vegetables. Laying waste to the garden with pesticides is not the answer, but selective, careful, and minimally invasive pulling of weeds and pruning help maintain the health of the garden's ecosystem. The metaphor rings true in other variations, as well. Invasive surgery is best avoided because it is often painful and is fraught with risks, but it may be the only way to restore one's health. Serres' beloved Sequoia trees require forest fires in order to clear away smaller, competing flora that threaten to prevent Sequoia reproduction by allowing no room for the giant trees' seed. Sometimes prescribed burns are required to create space for the trees to reproduce. In these cases, one "seeks the parasite who restores a healthy situation," and are not (at least not obviously) attempts at domination.

This may apply, *mutatis mutandis,* to those who work to create violence, exclusion, or domination—they may be managed by the counterbalance of the Principle of Least Disturbance and the Principle of Creative Risk.

This chapter completed the arc of Serres' metaethics by showing a path between the moral absolutism demanded by robust moral realists and the challenge of relativism about moral values. Structural similarities across different models of morality provide common ground for negotiating novel moral contracts. Furthermore, it is clear that Serres' philosophy includes strongly normative ethical structures, which function to guide conduct. The sojourn from metaethics through normative ethics reaches its terminus in applied ethics in the following chapter. Thus far, I have been outlining Serres' interesting contributions to existing debates and novel solutions to traditional thorny issues. Those are good reasons on their own that moral philosophers should read Serres' work. However, I will argue more strongly that Serres' work in applied ethics recommends a *better* way of thinking about ethical problems. It is better because it is more apt to today's challenges than traditional theory-driven or practice-based models of applied ethics. In other words, I begin to lay out the case that there should be more Serres-inspired applied ethicists.

Chapter Five: Managing Contemporary Problems

The aim of this chapter is to work out a Serres-motivated approach to applied ethics and to suggest it as a fitter alternative to contemporary moral problems than more traditional methods. I will begin by outlining two historically significant methods of applied ethics rooted alternately in "theory" or "practice." It is well beyond the scope of this project to provide detailed commentary on each variety of a theory or practice-based ethical decision procedure, so I will limit myself to briefly characterizing the features of those approaches. I will then elaborate a set of shortcomings for each. Both theory-driven and practice-based approaches tend toward problematic idealization, paternalistic dictatorialism, and oversimplicity.

Furthermore, I will argue that neither approach on its own is sufficiently resource-rich to manage the morally fraught issues of the contemporary world. These failings motivate objections on grounds of efficacy. I will draw upon Rittel and Weber's conception of "wicked problems" to outline the vastly complex and insoluble nature of the crises of our times and argue that Serres' insights supplement their good work. I believe that a Serresian applied ethics, suggested via the figure of the WAFEL and the "third-instructed," offers a dynamic way of *conducting oneself* in managing such problems. I will argue that the goal of applied ethics is problem management, not problem solving, and it must operate in ways that are democratic--communicative, integrative and synthetic--rather than commanding or didactic.

Section One: Traditional Approaches to Applied Ethics

I contend that Serres' thinking opens a route to new ways of managing moral problems; further, I believe that he offers a better way of working through those problems. Showing this requires contrasting Serresian applied ethics with other approaches, so I will start by broadly contrasting two traditional themes in applied ethics: theory-driven approaches and practice-based approaches. Clearly, I am not the first to highlight the distinction; it is enshrined and venerated due to its origins in the works of Plato and Aristotle and persists in the work of contemporary moral thinkers. Due to the history of the distinction and the various individual theories aligning with either side, an exhaustive account of either category is not possible in this project. However, I will attempt to lay out broadly distinguishing features of theory-driven and practice-based applied ethics. I will then underline some problems with both methods of applied ethics.

It is important to keep in mind that the distinction as I'm using it here refers only to decision-making processes. Practice-based approaches to decision-making cannot avoid being "theoretical" in the sense that they attempt to provide systematic and coherent explanations of moral phenomena and ethical conduct. In our contemporary understanding of theory, Aristotle is theorizing about ethics when he draws the distinction between *episteme* and *phronesis,* say. Neither are theory-driven models entirely unaware of practical considerations that are external to the activities of moral theorizing. As I use it here, the distinction between theory and practice most closely parallels different processes of reasoning or inference. Theory-driven ethics aligns more

closely with deductive forms of logic, and practice-based applied ethics employs inductive argument patterns.

Theory-Driven Applied Ethics

There is disagreement regarding the extent to which Plato develops a robust ethical theory, including procedures for moral problem-solving. Irwin acknowledges the difficulty in distinguishing which moral concepts are genuinely Socratic or Platonic, for instance, or determining the extent to which Plato's writings on ethics are aporetic. I am certainly not enough of a student of Plato's work to render a judgment (Irwin 1995, p. 4). However, the germ of the theory-driven approach to applied ethics is found in Plato's written work. This is not to say that Plato dismissed the importance of practice and experience in decision-making—especially in the political arena. The educational requirements for philosopher-kings require fifteen years of work on practical affairs before a guardian can be elevated, after all (Plato *Republic*, 540a-b). The Visitor in *Statesman* convinces Young Socrates that an experienced ruler with knowledge of the public good is more important to governing than laws, too (Plato *Statesman*, 593a).

Nevertheless, the gnoseology and metaphysics Plato outlines in *The Republic* Book VI creates the conditions for theory-driven approaches. Plato maintains a sharp ontological distinction between the sensible and intelligible realms—the immanent and the transcendent—the latter being nearer to perfection, unchanging, eternal, universal, and more "real." They are *being* and not caught in the flux of *becoming* and contingent ontological dependency characteristic of things the sensible world. Forms in particular (pun intended) are ideal versions the objects which participate in them; no actual triangle perfectly exemplifies a triangle's definition. Forms thus also have the function of

serving as a standard for quality—particular instantiations of a form can be judged by their relative proximity to perfection.

Theory-driven approaches to applied ethics have situated ethical principles within the realms of the intelligible. They share, as we have seen, an affinity for geometrical rationality, treating ethical theory as a deductive science. Such approaches thus take a top-down, "vertical" approach to problem-solving, whereby the correct procedure involves applying a general, "self-evident" principle in a distinctive moment of moral choice. As Jonsen and Toulmin point out, the principles are treated as "idealized, atemporal, and necessary," like forms, and are radically separated from the contingent and fluctuating circumstances to which they are applied (Jonsen & Toulmin 1988, p. 26). Examples of such theories include Locke's conception of natural rights, Kant's deontology, or Bentham and Mill's utilitarianism. Infamous examples of this kind of moral reasoning include Kant's case of the murderer (1898) or, by way of criticism, Foot's trolley problem (1967).[48] One principle is meant to offer decisive guidance over any number of individual circumstances and so takes the form of one-over-many. This does not entail that a principle will always yield the same prescription, since some are more sensitive to context than others (e.g., the Utility Principle) but, despite theoretical variations, theory-driven approaches' shared motive is clarity; by abstracting away from the differences of particular circumstances, a principle promises to provide general guidance in all circumstances.

[48] Briefly, Kant insists that it is wrong to lie, even one is lying about the whereabouts of a potential murder victim to a neighbor bent on killing that person. The commitment to veracity is presumably so binding as to override the duty to help others, which one might read as an indictment of Kant's categorical imperatives. The trolley problem involves making the decision about whether to switch tracks for a runaway train, which will kill either one or five people, depending on the track. Foot pushes it as an example to show the challenges with cost/benefit analyses as an appropriate moral standard.

Moral problem-solving is deliberative and unidirectional. One starts by circumscribing a moral issue or circumstance. Possible resolutions to this issue are constrained by the principle, which acts as a function to determine a morally appropriate output. Kant's Categorical Imperative, *I ought never to act except in such a way that I could also will that my maxim should become a universal law*," is a paradigmatic example (Kant *Groundwork,* 4: 402). Put simplistically, a moral decision-maker is directed to contemplate whether one could generalize the maxim or rule of her actions without contradiction. If so, the maxim expresses a moral commandment that one is duty-bound to follow. If the maxim cannot be universalized, then the action is impermissible, regardless of situational complications. Theory-driven approaches may not converge regarding how they define the "good," or what form the foundational principle ought to take (i.e., consequentialist or non-consequentialist), but they agree that the process of resolving moral issues is one of deliberate application of an idealized principle to potentially infinite moral cases.

A theory-driven applied ethics is not without merit. By abstracting away from the vagaries of individual cases or the idiosyncrasies of solitary agents, the theoretical perspective moves in the direction of *impartiality*. The figure of justice is traditionally held to be blind so as to ensure fairness in her dictates. Historically, too, the development of such ethical theories has broadened peoples' moral sensitivity by shedding light on a range of morally significant considerations. The philosophers developing these theories may believe their principles are atemporal, but the thinkers themselves do not exist outside of their times. Their work is typically a response to the moral challenges of their day. Enlightenment figures like Locke and Kant elevate the

dignity of the individual. By focusing on minimizing suffering and maximizing happiness, Bentham's Utility Principle is a means of undermining classist and economic injustices in Victorian England; Rawls' theory of justice, which shows the value of equity and enfranchising those trapped in the margins, was written during the era of the American civil rights movements.

Furthermore, these theories are not causally inert products of their era. By revealing or developing morally important ideas, they are change agents that contribute to shaping the values of people and the policies that govern them, often to the degree that they are taken by later generations as "common sense." In a way, theoretical moral principles may become examples Michel Foucault's notion of *episteme* (1994*).* The material and historical conditions influenced by these principles act as constraints on what is conceived as "possible." In this case, though, the boundaries highlight what is "self-evidently" *ethical* or *morally permissible.* Perhaps the readiest example—at least to my American mind—is the influence over the United States' ethos and legal system exerted by Thomas Jefferson's *Declaration of Independence* (1776)*.* The natural rights ideology on which he relies, including the value of equality, and entitlement to life, liberty, and opportunity, undergird the United States Constitution. Over time, these principles have gone mostly unquestioned by the general public and treated as axiomatic. This phenomenon, of course, comes with a very serious downside I will address shortly, but it would be unfair to ignore the extent to which theoretical moral reasoning influences the development and maintenance of communal bonds.

There is virtue in deliberation, too, in as much as it emphasizes the importance of pausing to think when faced with serious problems. It is generally true that engraining

moral habits is desirable; defaulting to honesty and fidelity in communication seems preferable to encouraging people to deceive, for example, and in most cases, we would like people not to deliberate about whether to tell the truth. However, too often people react to problems rather than considering how they ought to proceed, and this is especially pressing when novel situations arise for which there are no settled moral habits. The principles from theory-driven applied ethics can give direction regarding perils to avoid and other morally salient dimensions of the new problem.

Nevertheless, there are a number of familiar problems with theory-driven approaches to applied ethics which have been elucidated by other thinkers or alluded to earlier in this thesis. As I argued in the previous chapter, Serres does not go in for this particular kind of moral deliberation. It relies on a conception of the universal that Serres finds problematic; the one-over-many method of reasoning is a form of conceptual capture that elides too many important differences, and his philosophy is motivated by a desire to "think the multiple without concepts," and move beyond categorical prisons. The theory-driven method *oversimplifies* in a world which is too rich in dynamic complexity. As Albert Jonsen complains:

> …theory can be discussed and argued in serene and unspecific terms: read Sidgwick or Rawls, where five hundred pages can go by without a detail of the casuists' "who, what, when, where, why, and how?" The point here is obvious: practical judgment is surrounded, beset by circumstances; theory is free of them (Jonsen 1991, pp. 14-15).

Situational variables have always problematized the application of theoretical principles, and the scale, scope, and multi-aspectual nature problems in the contemporary world threaten to render theory-driven approaches to applied ethics irrelevant.

Defenders of theory-driven approaches might rejoinder that this objection misses the mark. Following the relation to geometry, the ethical theorist describes an ideal. Just as no ideal triangle exists in nature, no morally ideal state of affairs can exist in the actual world. Because ethical principles are straightforwardly normative, they do not describe an ideal form but rather prescribe an evaluative standard. In other words, ethical theories work in the unrealized realms of "ought," and are therefore by nature idealized. Actual states of affairs that more closely approximate the ideal are morally better, those further away are morally worse, and if they don't conform to the ideal, the moral theory's not at fault—it's the imperfection of the contingent circumstances or agents who don't align their choices. The fact that people *actually* lie all the time doesn't undermine principles demanding honesty, for instance, and the fault rests with *liars,* not with the moral standard. Furthermore, one might argue, the impartiality and fairness promised by abstract principles is, on balance, preferable to insisting that every variable, idiosyncrasy, or peccadillo is accounted for in making a decision.

There is some justice to this rejoinder. Regardless, the limited relevance of theoretical principles should not be taken lightly, for the problem isn't just that the theory-driven approach is incomplete, inaccurate, or contextually insensitive. If theory-driven approaches are taken to be decisive, they may be genuinely *harmful* in several ways. By highlighting these potential or actual harms, we see that theory choice, perhaps especially *moral* theory choice, is not a morally neutral, merely intellectual, activity and therefore must not be treated like geometry.

First, as Jonsen and Toulmin point out, starting moral deliberation or argumentation from a theoretical standpoint has the unwanted effect of *creating moral*

paralysis at the level of decision-making. Of course, this won't seem to be the case for a true believer of such-and-such a theory, but when there is disagreement at the theoretical level of reasoning, between a Kantian deontologist or a Utilitarian, say, chances are it will prevent progress on real issues. In discussing controversies around the legality of abortion in America, they note:

> …the public rhetoric of the abortion controversy has increasingly come, in recent years, to turn on "matters of principle." The more this has happened, the less temperate, less discriminating, and above all less resoluble the debate has been. Too often the resulting argument has boiled down to pure head-butting: an embryo's unqualified and unconditional "right to life" being pitted against a woman's equally unqualified and unconditional "right to choose." *Those who insist on arguing out the abortion issue on the level of high theory and general principle thus guarantee that on the practical level the only outcome is deadlock* (Jonsen &Toulmin 1988, p. 4 Emphasis mine).

Debating ethics at the level of principle reinforces dogmatism and polarization. What Jonsen and Toulmin do not note is the fact that this observation exposes the pretense that ethical theories are able to provide a foundational first principle at all—it is an absolutist fantasy belied not at the level of situated decision-making, but at the level of principle. The "problem" of moral disagreement discussed in the previous chapter simply moves back one step. Worryingly, they identify theories as the *cause* of disagreement at the level of action.

Second, theory-driven approaches tend (not without exception) to be selective about who or what counts ethically and to marginalize certain stakeholders impacted by their dictates. Each include a description of how to define stakeholder groups—criteria

for moral enfranchisement—and limit conduct with respect to those criteria (e.g., rational autonomy for Kant or Rawls, rights for Locke, and sentience for Bentham and Mill). Because they establish criteria in advance for who or what *counts*, morally speaking, these theories also designate those who (or that which) *doesn't* count. It is a theoretical act of analytic separation, which creates the conditions of marginalization. Value networks are divided into the morally enfranchised and disenfranchised.[49] This problem undermines the claim to impartiality precisely because such theories are partial from the outset, given that what counts as "partial" and "impartial" will be delivered by a vicious circle in each theory's own terms.

Third, the consequences of enshrining certain principles may be ultimately damaging or destructive, even if (almost) everyone agrees on those standards. Serres uses the concept of property rights to exemplify this point (Serres 2011). The classic liberal notion of private property arises, at least in part, as a means of limiting abuses of political power and bestowing dignity on the work of lower classes, e.g., the farmer who "mixes" his labor with the land—the expenditure of life and freedom—owns said property, not some distant potentate. Property rights are negative rights imposing duties of non-interference on the part of others; if one owns X, then others have a responsibility not to seize or steal X. Furthermore, negative property rights are essential to human nature and are not simply granted to nobility by "divine" rights (e.g., Locke *Second Treatise,* Ch. 2). But perhaps universally distributing sovereignty misses a more crucial problem—the domination implied by property. Instead of reckoning with one

[49] This is a rough distinction, since morally enfranchised beings are often further divided into moral "agents" and moral "patients." I'm intentionally ignoring that distinction here, for it whether one is agent or patient is still a matter of theoretical analysis; it also cannot be maintained decisively on a Serresian metaphysics, as agency and patiency are distinctions of degree rather than kind.

tyrant, now there are many, each of whom believes they are entitled to (at least) their fair share of ownership. The idea that ownership of things is proper to humanity, initially intended as a means of liberation, when proliferated over time and space, has contributed to the enslavement of others, extinction of myriad species, massive industrial pollution and habitat destruction, and seemingly endless and needless violence and war. It is at least worth asking the question whether property rights have contributed to more harm than good, or whether the liberation it is presumed to promote has been undone by the damage it has rationalized. Serres makes the wider claim that this danger is present *no matter the core ideology:*

> If philosophy, forgetful of work, seizes power somewhere, it just as quickly reigns over cemeteries. History shows no counterexample. Too dangerous, philosophers. More terrifying than politicians, priests, and scientists, they multiply the risks of others. Let us not grant power to ideas because they multiply the reach of power. Theories—too dangerous. As they expand in space, millions of men will soon march with cadenced footsteps thousands of miles from the place the theories were broadcast before gigantic portraits of those who promoted them. Single propagation and final solution. One always believes that an idea is not dangerous except when it is false. Let the idea express truth, in good time; let us spare it publicity (Serres 1997, p.123).

The risk of dominating ideology is not limited to its content, though, for the form of reason employed in the theory-driven model itself tends to domination. Arne Naess, whose Deep Ecology insists on the intrinsic value of all beings, still relies on a top-down, hypothetical-deductive model of drawing out moral inferences (Naess 2005). While Serres would sympathize with the inclusive spirit of Naess's view, the hypothetical-deductive model remains linked with geometrical reasoning. Furthermore,

the fact that Deep Ecology draws its assumptions from religious traditions (Buddhism, Christianity), tempts one to conclude that a holistic conception of nature slides in to take the role of a judgmental, commanding, one-over-many God figure. The fear of domination is not avoided merely by a more inclusive philosophy.

Fourth, even the enfranchised stakeholders recognized by a theory are excluded from the *process of moral deliberation itself.* An individual human person reasons through the application of principle to problem in isolation, with no essential need to include the voices or input of others. Because the principles of these theories claim self-evidence, or timelessness, or freedom from circumstantial ambiguity, they offer a "gods' eye" view of human affairs. Theory presumes to offer definitive guidance, irrespective of the perspectives, needs, desires, or values of those whose moral fate it decides. They are, as a rule, paternalistic and dictatorial about which choices are "right."

One ought to be cautious about which ethical theory one adopts, then. The gravity of moral choice of the theory weighs heavily in decision-making, too. If a theory is infected with the problems above, then that infection will be transmitted to the decisions the theory prescribes. If a theory is racist or speciesist, for instance, those biases will shade the moral quality of a decision-maker's choice.

Practice-Based Applied Ethics

The shortcomings of theory-driven applied ethics motivate a shifted focus on "practice." The spirit of the practice-based approach captures an important evaluative criterion for methods of *applied* ethics. The criterion mirrors the structure of an inference to the best explanation: the best ethical theory is not the one that adequately explains the theoretical "facts" about ethics, but rather is the one that is the most useful for *handling or managing actual problems.* This pragmatic stance may not be relevant for a

standalone theoretical metaethics, say, but the aim of applied ethics is necessarily embroiled in lived problem-solving. So, the theory that best manages decision-making, at the very least, ought to enjoy a theoretical presumption over competitors, for it is the tool that does the job. The progenitor of this method of applied ethics is Aristotle. As is familiar, in *Nicomachean Ethics,* Aristotle distinguishes between scientific knowledge (*episteme*), technical skill or rational engineering (*techne*), and the practical wisdom necessary for action (*phronesis*):

> No one deliberates about what cannot be otherwise, or about things he cannot do. So, if scientific knowledge involves demonstration, but there is no demonstration of anything whose first principles can be otherwise (since every such thing might be otherwise), and if one cannot deliberate about what is necessary, then practical wisdom cannot be scientific knowledge. Nor can it be skill. It is not scientific knowledge because what is done can be otherwise; and it is not skill because action and production are generically different (Aristotle *Nicomachean Ethics*, 1140b).

Practical wisdom does not involve the same kind of reasoning as geometry, which falls in the realm of scientific knowledge. By ancient lights, geometry deals with necessary truths (what cannot be otherwise) and universals like the definitions of triangularity. Deducing truths by the methods of proof cannot be the whole story when making decisions about human affairs, because decision-making is rooted in the contingent and changing (what could be otherwise). Action is concerned with particulars.

Phronesis is not itself a "skill," because it is not in the business of production, which is the province of *techne*. In other words, the process of practical wisdom does not yield a specific product or create a new object/substance. Instead, practical wisdom is "a true state involving reason, concerned with action in relation to human goods"

(Aristotle *Nicomachean Ethics*, 1140b). It does not have a specific product but rather aims at those things which connect to well-being. *Phronesis* is not just personal but also political and, as it is rooted in the particular, *phronesis* requires lived experience (Aristotle *Nicomachean Ethics*, 1141b). Meno's slave boy cannot intuit truths about how to live a good life using geometric rationality.

I will hold up Jonsen and Toulmin as exemplars of contemporary practice-based applied ethics, as they offer influential arguments on its behalf in *The Abuse of Casuistry* (1988). They follow Aristotle's lead in maintaining the distinction between *episteme* and *phronesis,* noting that "theoretical arguments are chains of proof, whereas practical arguments are methods for resolving problems" (Jonsen & Toulmin 1988, p. 34). Lumping all methods for resolving problems into the category of "practical arguments" may be overly generous, but they rely heavily on inductive arguments by analogy to differentiate practical reasoning from the theoretical:

> Instead of aiming at strict entailments, they draw on the outcomes of previous experience, carrying over the procedures used to resolve earlier problems and reapplying them in new problematic situations. Practical arguments depend for their power on how closely the *present* circumstances resemble those of the earlier *precedent* cases for which this particular type of argument was originally devised (Jonsen & Toulmin 1988, p. 35).

Jonsen and Toulmin push the analogical reasoning to another order, suggesting that moral decision-making be reckoned by comparison to other more specific human practices. We have models in place that can act as structural examples for how moral thinking should proceed, they claim. They see significant structural connections with clinical medicine. This is partly because medicine is patently normative in addition to

relying on descriptive sciences (assuming one maintains that distinction), and partly because of the diminished role of theoretical knowledge in therapeutic practice. Doctors' background knowledge includes theoretical medical knowledge from biochemists, physiologists, immunologists, and so forth, which they use in the course of treating their patients, but medicine is only "theoretical" in that sense. Medical theories do not entail specific courses of action in all diagnostic cases. Patient care is not "applied biomedical science" (Jonsen & Toulmin 1988, p. 39). In other words, theoretical medical knowledge is not geometrical, but substantive, and is used in evidentiary ways.

The doctor, they argue, is foremost a practitioner, whose decisions are not arbitrary even if not a direct consequence of a theory. Rather, they use *pattern recognition* to inform their judgments and draw upon the present body of practical medical knowledge in diagnosing ailments and in prescribing treatments. That body of knowledge includes documentation of effective past treatments. Nevertheless, they maintain, the doctor's prescriptions must be very often bespoke, tailored for the individual patient. One patient may be allergic to the "normal" treatment, say, so the doctor must explore alternative prescriptions.

Likewise, they argue, moral reasoning ought to be inductive diagnostics. As with all inductive inferences, moral resolution can never be conclusive and is open to doubt, reinterpretation, or revision with new information. Practical reasoning is always more or less cogent and may never be "sound" in the strict sense. It is precisely this openness and plasticity to revising conclusions that Jonsen and Toulmin praise about the practice-based approach. Skillful ethical problem resolution requires experience, too, and draws upon the shared wisdom of past practice. The practice-based approach is better able to

incorporate or adjust for the situational variation that poses difficulties for the theory-driven approach, and, they claim, also promises a route through the gridlock imposed at the level of contradicting principles (Jonsen & Toulmin 1988, p. 42).

I confess that I'm more sympathetic to spirit of the practice-based approaches to applied ethics for many of these reasons, and that Jonsen and Toulmin have been very influential on my thinking about problem-solving. Nevertheless, there are some serious shortcomings with this type of approach. First, as I noted in the preceding chapter, this method assumes one can meaningfully partition a "particular" situation and define its features. There remains a residue of the geometrical rationality characteristic of the theory-driven approach, and the assumption of sharp boundaries is suspect. This assumption of separation applies to the decision-maker, too. Following the professional medical analogy, the doctor arrives in the diagnostic "context" formed by medical science, training, and experiential practice. In short, the doctor is an expert who brings her history of expertise *to* a situation from which she is presumably separate or distinct. The expertise is what qualifies her judgment as authoritative, or, minimally, not nonsensically arbitrary. This separation is also problematic, for, following Serres, the doctor also has their significance only *within* the therapeutic relation, and is not radically separated from the treatment process. Doctors, too, are stakeholders in the decisions they make, and are therefore changed by those circumstances.

It must also be noted that Jonsen and Toulmin's characterization of medical practice is ironically somewhat naïve and outdated. For all the complaining about the theory-driven approach's lack of sophistication and detail, their image of how doctors *actually* work with patients leaves out a great deal. First, doctors don't just arrive at their

practice with a history of medical training and experience. There are different medical norms, depending on where one is a physician, and different approaches to treatment plans. Military doctors, for instance, have different priorities for treatment than a family practice physician, and Asian medicine takes an approach radically different to Western medicine.

Doctors also exist in a wider society with broader values, and they certainly aren't immune to moral dogmatism. They therefore come to their practices with wider, long-standing moral beliefs and personal values which may sometimes *conflict* with their therapeutic duties. A great deal has been made of "conscientious" objections to certain medical procedures or technologies based on personal belief, and it's hard to defend why such concerns *shouldn't* matter to doctors. While Jonsen and Toulmin emphasize the paralysis caused by conflict at the level of principle, it must also be acknowledged that professionals like doctors may adhere to principles that are difficult to reconcile with their professional obligations. Patients, too, come to the treatment context with their own personal moral beliefs, which may be at odds with both the doctors' values and medical best practice. Theoretical ethical questions will always intrude, so de-emphasizing theory's influence *too* much seems unwise.

Their characterization of medical diagnostics also ignores a range of factors that not only make the diagnostic process more difficult, but also de-center or diminish its role in contemporary medical practice. What treatments are available to patients in the 21st century are as often determined by what health insurers are willing to pay for (in the United States, at least), what care is sanctioned by a medical consortium, or influenced by pharmaceutical sales, or availability in times of health care scarcity. Economics, as

often or more than therapeutic reasoning, decides a patient's care. The advent of the Internet has democratized medical access to medical knowledge, too, and Teladoc and other virtual platforms have *increased* the distance between doctor and patient.[50]

Thus, to say that there is one rationality that defines "medical practice" is a monolithic *idealized theoretical construct*, and, like the theory-driven approach, takes the form of dominating "one over many." If practice-based approaches collapse into theory-driven approaches when pressed, it's hard to see how the former could avoid the same problematic features of the latter.

Medicine, too, in whatever variation, *requires* the background science and knowledge of historical treatments for its practice. It remains esoteric, and, as a result, the determinations of the practitioner will always verge on the paternalistic and presumes incompetence on the part of the patient. Serres, despite having some reverence for the entwining of ethics and science in medical practice, notes this in *Thumbelina*:

> She [Thumbelina] also remembers her stay at a large hospital. The doctor entered her room without knocking, followed, like a dominant male, by submissive females (the model of animals is hard to avoid). He gratified his herd with a high-flying discourse, while turning his back on Thumbelina, who lay in bed and received the presumption of incompetence. Just like at school, or at work. Put crudely, we could say she was treated like an imbecile (Serres 2015b, p. 52).

[50] This is an interesting counter-point to the idea that virtual spaces necessarily "decrease" space. It may be true that virtual mediation in some relations decreases distance, but it can, perhaps even at the same time, increase distance. There is an *intimacy* that's lost when a doctor, or teacher, or attorney only meets virtually with patients, students, or clients.

If one reads these problems along through the analogy, the same problems in medical practice will be true of Jonsen and Toulmin's version of moral reasoning. Moral decision-making would require a kind of expertise in moral theory and historical casuistic reasoning that simply isn't available to a non-specialist, or even to an under-educated (in ethics) general populous.[51] Despite moving away from timeless principles, and perhaps being more situationally aware, there is a vestige of the "gods' eye" view in the practice-based approach. Only the specialist would be competent to render moral prescriptions. Again, other stakeholders are inessential to, and typically uninvolved in, the process of decision-making.

Section Two: Problems These Days

As noted above, the practice-based approach's promise is rooted in the claim that it is fitter for the task of solving ethical problems than the theory-based approach. The geometrical methods simply don't work because they overlook the complexities of ethical choice. One might suggest that such theories fail in virtue of their *design*: the theorists who authored them aimed at solving a different kind of problem. Granting that as true, however, does not by itself establish presumption in favor of practice-based approaches like Jonsen and Toulmin's unless these are the only approaches remaining. Otherwise, such an argument by elimination is unsound via false dichotomy. The dichotomy is false, as I will argue, and the question about which approach best handles actual problems remains open.

[51] The digital native, Millenial version of which Serres refers to as "Thumbelina," or "Tom Thumb," substituting a character concept for the nebulous general noun.

Therefore, perhaps the most withering criticism of both traditional approaches to applied ethics would be to demonstrate their lack of fitness to task. If one can show that *neither* the theory-driven nor practice-based approaches suffice, then one ought to seek guidance elsewhere. Showing insufficiency begins with trying to understand the problems the methods are introduced to solve. A theory might not be applicable because it aims at the wrong problem set, but it may also be true that theories no longer fit *because the very problems they were introduced to solve have changed.* In short, they have not grasped the "wickedness" of problems today.

Wicked Problems

The crises of contemporary times are complicated, inter-related, and vast. Even seemingly "simple" problems, upon reflection, reveal tangled webs of unforeseen difficulty and potentially (or actually) fraught relations. Nowhere has this been more clearly explicated than in Rittel and Webber's famous paper, "Dilemmas in a General Theory of Planning."[52] This article has been cited thousands of times across disciplines as diverse as water resource management, computer sciences, and fine art (Termeer, et. al 2019, pp. 168-169). Curiously, though, it is underappreciated in applied ethics. Although they would not make this claim, I think Rittel and Webber's essay makes a vital contribution to applied ethics in two ways. First, they indirectly illustrate the need for a new way of *doing* applied ethics. Second, they introduce a distinction between "tame"

[52] Yes, this is the same Melvin Webber whose work influenced the planning and development of Milton Keynes, UK.

and “wicked” planning problems, and in characterizing the latter, help isolate important structural features of contemporary moral problems.

The distinction between “tame” and “wicked” problems in some ways parallels the traditional theory/practice dichotomy. Tame problems are relatively straightforward, meaning that they are simpler to define, the goals of the solutions are directly connected to the defined problem, and success conditions are clear. These problems are “tame” in the sense of being relatively direct to manage or control. Tame problems are well-defined and soluble with the right resources, like a logic proof or mathematical equation, or by using the traditional natural scientific method.[53] Wicked problems, the kind encountered in urban planning, cannot be “solved” in those ways, which renders theory-driven rationality of limited use.

However, practice-based methods don’t fare any better precisely because of their disciplinary specialization. They note the tendency of applied social scientists, like urban planners, to try to extend their methods to issues beyond their expertise, or to solve problems of other disciplines in ham-fisted ways by using methods inappropriate to the problem. In a Serresian register, they make the mistake of elevating a model into a structure, or put another way, the “professional” is guilty of umbilical thinking. Rittel and Webber further maintain that the overreaching or clumsy attempts of specialized social science “professionals” to give simple solutions to social problems has eroded the credibility and trust in professionals (and professions) themselves. Poor solutions do not inspire confidence if they create more difficulties for the public they are meant to help (Rittel & Webber 1973, p. 156).

[53] Both classical utilitarianism and deontology treat moral problems as “tame.”

Problems in the world of applied decision-making are “wicked” (Rittel & Webber 1973, p.160). Once one admits to this, it becomes apparent that neither linear geometrical rationality nor the narrow methods of *any* profession will do on its own. They arrive at this conclusion via a series of observations about their milieu and the complexity of issues confronting urban planners. First, societies are not univocal about the values binding them together. Value pluralism is an inescapable fact about contemporary times; as they put it, there is no unifying “national interest” (Rittel & Webber 1973, p. 167). So, it may be true that theoretical principles can help form group identities, but there is no ultimate consensus around just one moral outlook. Different groups in society—special interests—will also have different aims and perspectives about how things ought to be. As a result, wicked problems *always* have a moral dimension to them.

Second, they argue that unlike the isolated conditions encountered in a closed chemistry laboratory, or the relatively well-defined practices of the theoretical mathematician, applied social sciences like urban planning operate in ill-defined, heterogeneous, dynamic, open systems with fuzzy boundaries, and, furthermore, decisions have real ramifications for multifarious stakeholder groups. How to manage a wicked problem like “climate change” or a “pandemic,” therefore, cannot fall under the purview of any one discipline or profession precisely because they spill into or over any such artificially constructed borders. As we have lately learned, a pandemic is not just a medical crisis. It is also an economic, scientific, sociological, educational, and legal crisis, at the very least. No single local epistemology—even one as successful and

venerated as medicine's diagnostics—is capable of resolving a problem of that complexity.

Rittel and Webber argue that wicked problems, unlike their tame counterparts, simply cannot be "solved" because of the openness of the systems in which they operate. How one defines the problem at the outset determines the spaces of possible "solutions," which will vary according to the problem definition. In other words, there is circularity between definition and "appropriate" decisions. Wicked problems also lack a "stopping rule," or success condition internal to their constitution—the limit to attempts at resolving a wicked problem are typically external (e.g., related to time or resources). Furthermore, the criterion for evaluating how well a wicked problem is handled cannot be framed in terms of "right or wrong," but rather "better or worse," because wicked problems are evaluated by various stakeholders, each with their own interests and right to assess how the problem is managed, and there will be considerable variation in how a solution is judged. There is no "true," or uniquely correct answer.

Relatedly, if the range of definitions is multifarious, so too are the potential solutions. This is because, as they argue, "every wicked problem is a symptom of another problem" (Rittel & Webber 1973, p.165). Wicked problems arise within the interconnectedness or overlap of the dynamic systems, so the "best" way through a wicked problem may be something apparently unrelated to how the problem is defined.[54] There is also no "natural level" at which one might *start* problem-solving, given the dynamic complexity, and each wicked problem is essentially *sui generis*, in the

[54] I am indebted to David Webb for this point, who shared the example of the relationship between home heating and academic performance in Cornwall. In short, students' assessment results were more positive because the local council spent resources helping people heat their homes, which had the knock-on effect of giving kids a more comfortable study environment, etc.

sense that previous cases cannot be used reliably as guidance. Neither can one abstract normative principles *from* wicked problems:

> There are no *classes* of wicked problems in the sense that principles of solution can be developed to fit *all* members of a class…Despite seeming similarities among wicked problems, one can never be quite *certain* that the particulars of a problem do not override its commonalities with other problems already dealt with (Rittel & Webber 1973, pp. 164-165).

This last point is a particular blow to Jonsen and Toulmin's attempt to hold up casuistry as a useful method of applied ethics, and, as argued in the previous chapter, acknowledges the residue of geometrical thinking in that way of reasoning.

Wicked problems are also "high stakes," in the sense that they take place in communities of people and have significant consequences. The ramifications of a given attempt to solve a wicked problem are also potentially unbounded; as with any assessment of consequences, it is not possible to forecast them all in the moment of choice. Any assessment of "better" or "worse" wicked problem management is always provisional. Since each attempt at management is weighty, Rittel and Webber argue that "the planner [decision-maker] has no right to be wrong;" in other words, decision-makers do not have *moral* immunity from responsibility for their decisions, and they are open to criticism and judgment along an "array of differing and contradictory scales" (Rittel & Webber 1973, p. 167).

To my knowledge, Serres never refers to wicked problems, or to Rittel and Webber anywhere in his corpus. As a scholarly point, it is worth remembering that Serres is not alone in seeing the complexities of the contemporary, and that others recognize the inadequacy of older forms of reason. He is not Nietzsche's Zarathustra

whose pleas would necessarily go unrecognized by his peers. For instance, the reader will notice similar process philosophical commitments Rittel and Webber share with Serres: social and physical systems are open and dynamic, taking pluralistic heterogeneity as a fact about peoples' values, and the complex and sometimes contradictory interactions occur between these open and dynamic systems. Rittel and Webber eschew the desire to conceptualize individual problems cleanly. They, too, acknowledge that problem-solving is not "value neutral," and refuse to give social scientists, at least, a free pass on moral responsibility for their professional action. This overlap makes sense historically, especially given my claim above that moral thinking is influenced by its context. Rittel and Webber published their essay around the time that Serres was writing the *Hermes* volumes; Serres' view of science was poisoned by Hiroshima, and Rittel and Webber lost faith in traditional rationalities during the American social upheavals in the 1960s.

However, if Rittel and Webber's notion of wickedness helps clarify the crises of contemporary times, it must also be acknowledged that their characterization of wicked problems is somewhat frail or incomplete. For instance, the authors overlook, or did not foresee, the transformative effect of emerging technologies would have on the spaces of moral decision-making, or, indeed, on the decision-makers themselves. If Rittel and Webber's claims support the conclusion that moral problems have changed, then a stronger version of that argument is even more cogent. I contend that Serres's work, even if he would not employ the term, makes wickedness more robust in useful ways, which helps draw out complications or isolates additional structural features of contemporary moral terrain.

Serresian Additions

Serres compels one to rethink wickedness by illustrating the transformed spaces of decision-making and the changed notion of both decision-makers and stakeholders. First, though it exploded more recently, the advent and proliferation of digital information technology transformed space in challenging ways. Communication technologies close distances on spaces traditionally conceived as Cartesian or Euclidean; our world space is topological, not geometrical, because information transfer is so quick and globalized that we are able to form "neighborhoods" virtually. Communication *folds* or *stretches* space—what is far becomes near, or vice versa.[55] The Internet's global scope is an example of a world-object, for its dimensions enclose the space of terrestrial Earth. Information technology also *layers* space with new forms of existential contracts (beings) in the world's localities, and these new "soft," mainly information-based realities exert influence on, and initiate change in, the physical "hard" realities from which they emerge. In other words, 'virtual' realities have emerged as a new domain of morally significant space, both because of what occurs *within* it, and because of its impacts on the existential and social contracts on which they rely. The world today is more ontologically complex.

Increased globalization made possible by advances in transportation and mobility have also made choices more fraught; localities once inconsequentially remote have since been connected in ethically charged ways. The increased access to air travel shrinks distance between places and peoples, but also opens access for the movement of goods, animal ("invasive") species, and viruses and bacteria (Serres 2014, p. 10).

[55] Think of the parent who complains about the distance between themselves and their children because of immersion in devices, for instance, or cliché of friends who text each other within talking distance.

Food and other products can be grown or manufactured more cheaply in the global south by super-exploited laborers, shipped, and sold in other markets. What was remote is near—the global impinges on the local—and the ubiquity of these exchanges means that even apparently fine-grained local choices like buying coffee or shoes may have global ramifications.

Serres observes that “Without us even realizing it, a new kind of human being was being born in the brief period of time that separates us from the 1970’s” (Serres 2015b, p. 7). This deceptively simple quote is rich with significance, for it at once highlights an epistemological blind spot and invites reflection on humanity itself as an impacted collective. It is sometimes easy to forget, or perhaps convenient to ignore, that decisions about advancements in technology and the transformation of spaces *feed back into* the human beings inhabiting the shifting environs. We are able to impact our own evolutionary future in ways that other beings cannot, Serres argues, and therefore enter into a new process and history that he calls “hominescence.” Serres illustrates this by pointing to advances in agriculture, health, and medicine which have transformed the body, increasing life expectancies and populations to such an extent that it necessitates rethinking social institutions, including familial relations, marriage, retirement, and so forth (Serres 2014, p. 10). In short, we have changed the human condition via our technologies, and in changing the human condition, we change the human decision-maker. Remarking on millennials, Serres claims that they “…no longer have the same body or the same behavior; adults no longer have any hope of inspiring in them even an adapted morality” (Serres 2015b, p. 3).

There is suggestive evidence of this from the field of moral psychology. One study, conducted by Martingaro, Konrath, et. Al. (2022) shows that increased social media use among American adults correlates with decreasingly empathetic responses to prompts. While there are conflicting studies from other countries which do not arrive at similar conclusions, (e.g., Vossen and Valkenburg, 2016; Powell and Roberts, 2017; Errasti, et. al., 2017)), the results at least raise the possibility that psychological structures—the "inner space"—associated with ethical decision-making are themselves changing in real time.

If it is true that the very *faculties* of decision-makers change in response to their environments, then treating the moment of choice as intellectually or professionally "detached" seems naively problematic. Of course, this should come as no surprise on a Serresian reading, since humans are not the exhaustive seat of agency and identities are assigned relationally via the circulation of quasi-objects, i.e., one is what one is in relation to objects, and objects are quasi-subjects.

From the preceding point, it is natural to transition to another way Serres might improve on Rittel and Webber's notion of wickedness. The pluralism of stakeholders and values that Rittel and Webber acknowledge should be expanded to include non-human beings, precisely because those beings actively participate in the construction of value. Decisions should factor in the interests of the local flora and fauna, for instance, but as technologies unfold, perhaps ought also to include artificial intelligences or other robotic beings like driverless cars. Furthermore, in reflecting environmental harms, Serres points out the world itself –Biogea—is both agent and stakeholder in moral decisions, explicitly extending the notions to their widest dimensions:

> Formerly a passive object, it [Biogea] becomes a determining factor. We leave behind games with two players resulting from the narcissistic relations between our sciences and our societies to engage in a new game with three players, *where the world makes the first moves, more forcefully than we do.* And as an actual subject. In a few decades, the formerly passive object has become *active*. As we have seen, the former human subject is becoming dependent on what used to depend on it. This is quite a new development for philosophers of theory and practice! (Serres 2014, p. 45).

By widening the notion of 'stakeholder' to include all beings, Serres dodges the partiality of most theory-driven approaches to applied ethics. Impartiality, once understood as detached blind justice, translates into unprejudiced inclusion. No value networks should be excluded *tout court*, since *everything* is potentially morally significant.[56]

Thus, a more robust conception of wicked problems recognizes the topological nature of space (and time) and manifold interpenetrating ontologies, the dynamic interplay between a decider and their environment, and the necessity of including the evaluative perspectives of non-human beings.

Conditions of Moral Choice

It is true that all wicked problems have a moral dimension, and I contend that *all* problems in applied ethics are themselves robust wicked problems. To be sure, wickedness is a matter of degree—not all problems are equally complicated or globally significant. It is convenient to use macroscopic issues like "climate change," or how to fight "poverty" to illustrate wickedness, which tends to obscure this point. Nevertheless,

[56] I am aware that Whitehead, Naess, and Latour also adopt this stance, and, in Chapter Six I will discuss universal consideration as championed by Birch and Calarco. Serres is not unique in this.

wickedness is ineliminable even in highly localized, seemingly small stakes "personal" problems. No local choice can be decisively separated from its global relations.

But let's not fall prey to Albert Jonsen's accusation, noted above, of theories carrying on without considering a detailed example. Since Jonsen and Toulmin used abortion debates as a backdrop for their position, and because Jonsen uses bike-riding as a metaphor illustrating practical decision-making, let us consider the following wicked problem loosely based on a real case study:

> Amy McGee is a competitive mountain biker who has recently won a scholarship from Team USA and a sponsorship from Specialized bikes. Her athletic gift is what enables her to attend university; without her scholarship and corporate sponsorship, she could not afford the tuition. Her Catholic family is hard working but has struggled with social mobility. Amy is a first-generation college student. She is well liked by her coaches and teammates and is a solid student who takes seriously her academic and athletic commitments. Amy somehow manages to make time for her boyfriend Jeff, who's also a student athlete.
>
> Amy's team has had a fantastic season, earning a place in the National Collegiate Athletics Association playoffs, partly down to her terrific riding. Shortly before the playoffs are due to start, Amy discovers that she is pregnant. She does not show any noticeable outward signs (e.g., no "baby bump"), and has not disclosed her pregnancy to Jeff or to her coach and teammates. She worries that she may let them down if she sits out or lose her funding if she is unable to race for nine months.[57]

[57] This is loosely based on an actual case study used in competition at regional rounds of the Intercollegiate Ethics Bowl in 2010. The original case study was written by a group employed by American Association of Practical and Professional Ethics (Funke, et. al, 2010).

When we consider the wickedness of situations like Amy's, a set of structural conditions constraining moral choice begin to emerge. The structural features are as follows.

First, moral choice is active and situated. Decision-makers do not sit "outside" of the problems they are asked to manage, even if there are apparent responsibility gaps[58] or distance between a decision and its effects. This is not to say that one is always robustly responsible for the downstream consequences of one's choice, but merely to acknowledge that choice is not insulated from responsibility for knock-on effects. This includes both the kinds of "ripple effects" that impact other stakeholders, and the "feedback loops" that may transform the decision-maker. On one hand this claim seems uncontroversial, but it is to deny a central non-consequentialist thesis that outcomes are irrelevant to moral judgments. That thesis presumes a sharp separation from the intentions or status of the moral agent and the outcomes of a given choice. This assumption is no longer tenable, if, indeed, it ever was. In any case, this claim does not commit one to a strong version of consequentialism, which holds that outcomes alone matter for moral judgments. Rather, it is to acknowledge that the outcomes of what one does are a factor in deciding whether certain courses of action are ethically better or worse. No matter what Amy decides, she and the other stakeholders will have to live with the continued impacts of her decision.

Second, a related feature of contemporary ethical decision-making is that no single decision-maker, regardless of expertise, has access to all of the information

[58] This term denotes the fact that hiatuses in causal sequences or series of events may problematize the assignment of moral responsibility. If an autonomous vehicle fails, say, and causes a collision, it may be hard to specify who is responsible for the failure. Is it the vehicle's information processor? The programmer who designed the processor? Or perhaps the failure is down to subpar components. Precisely pointing the finger of moral responsibility can be epistemically problematic.

relevant to managing a given problem. Ignorance is an ineliminable condition of choice. Because one cannot disconnect a problem from the overlapping and interacting relational networks underpinning or conditioning that problem, or because of the very vastness of the issue itself, managing them requires interdisciplinary cooperation and communication. The point is obvious when it comes to managing macroscopic, global problems like "climate change," or "poverty," which clearly spill over disciplinary boundaries. It is equally true, though, of an apparently local decision like Amy's. Understanding the health risks mountain biking poses for her embryo, or what the legal implications are for her team or sponsors if she has a spontaneous miscarriage, requires deep investigation into matters of which most people are practically in the dark; illuminating that darkness requires various torches.[59]

Third, contemporary problems do not concern only human beings. Minimally, a full account of the conditions of ethical decision-making must account for the biological and mineralogical beings that enable human existence. There can be no human decision-makers on a barren world devoid of life, or, more speculatively, floating in non-space. Ethical consideration *must* therefore extend to other living and non-living beings, and, following Serres, the concept of potential stakeholder (or moral patient) must extend to its widest scope.

Amy's case is set against the backdrop of competitive mountain biking, a sport with environmental impacts both prior to and during riding. The titanium used in making lightweight and durable bike frames must be mined, and although it is not a rare metal

[59] One implication of this displaces philosophy (or religion) as the authoritative seat of moral authority. Plato's *Euthyphro* countenances three possibilities as the source of moral truth/guidance: religion, law, and reason. Contemporary problems show that this a false trichotomy—each discipline can contribute, or, better, all relevant disciplines should. In any case, applied ethics is not a special province of philosophy.

and is easily recycled, the process is still parasitic on the earth's crust. Racing down mountainsides may contribute to soil erosion and degradation, as well as disturbing or harming wildlife.

Fourth, one cannot decisively isolate the "ethical issue" in any given contemporary problem. The complexity of contemporary spaces does not permit it, for any ethical choice bears relations to larger local and global matters. As Rittel and Webber note, one cannot "first identify, then, solve" a problem, and there is no natural starting point (Rittel & Webber 1973, pp. 161-162). Furthermore, it is not possible to distinguish fully an "ethical" issue from a merely "legal" or "economic" one, say, because legal or economic aspects of a problem will bear on an ethical assessment of a problem, and vice versa. Moral sensitivity does not require analysis in the sense of *separating* ethical issues from other kinds of problems; rather, it becomes a matter of *discrimination* or *discernment*. One must attempt to recognize and pick out the moral complexity in a situation while acknowledging and taking seriously its entangled relationships to other aspects of the problem at hand. In our case, the value of human life is put in tension with Amy's personal opportunities, or her loyalty to her teammates may clash with her duties to her partner Jeff, and she will need to navigate her legal and economic responsibilities to the university and her sponsor. Amy is not confronted with "a" problem, but rather with a *constellation* of difficulties that must be considered carefully.

Fifth, because they involve situated decisions with various interested parties—both human and non-human—there is no final success condition for ethically significant problems. They cannot be "solved" like an equation because they are open-ended and

interlaced with other problems, both at the local and global levels. Furthermore, making ethical choices is risky, and often attempted solutions create *new* challenges to handle. How will Amy, Jeff, her family, or church respond if she has an abortion? How will the university react if she does not? There is no simple spatio-temporal boundary around the problem space, and Amy's choices will continue to require management. At best, problems are more or less manageable in the moment, and which management strategies count as "better" or "worse" will be significantly evaluatively relative.

Sixth, moral problem-solving is not a morally neutral activity because of the associated risks and the inevitability of affecting oneself and other stakeholders. Serres reminds us of this responsibility when we "cast off," or make a choice:

> Once you cast off, everything you do can be held against you. The words of the examining magistrate resound. High place: high court. Here the causal space of cases is open, with no apologies or forgiveness. Every act counts, every word and even intention, down to the slightest detail. Like a judicial proclamation, an act accomplished here is immediately performative. Reality clings to it: no sooner is an act begun than it is subject to sanction (Serres 1990, p. 112).

Pretending that one's expertise or theoretical commitments insulates one from moral responsibility is fantastical and actual choice is not a matter of applying intuitions gleaned merely from thought experiments. A decision-maker like Amy has no "right to be wrong."

Theory and Practice vs. Wicked Problems

Translating the shortcomings of traditional problem-solving into the vernacular of this chapter, theory-driven approaches fail because they ignore the wickedness of ethical decision-making and treat problems as if they are tame. Amy's circumstance is

not *only* a theoretical one about human rights to bodily autonomy or religious prescriptions about the value of life. Theoretical ideals are not totally irrelevant, though, since understanding ethical theories helps identify important perspectives on problems and potential pathways through those problems. Even if one isn't Catholic, like our hypothetical Amy, it is useful to understand Christian natural law theory—not least because it informs the views of *billions* of people.

Practice-based approaches are more attentive to situational details. Serres himself praises both medicine and law as the historical root of algorithmic and procedural thinking and as practices "uniting the universal and the particular." (Serres 2015b, 73). But practices are insufficient to the task of contemporary moral problem-solving because they have traditionally relied upon models of expertise that do not generalize across disciplines. A pediatrician's input gives Amy grist for the mill, but on its own, medical advice cannot be decisive because it omits too many of the other salient features of her predicament. Furthermore, in contemporary times, practices cannot operate without information provided by theoretical forms of reason. Again, it isn't the case that the practitioner is entirely irrelevant to making ethical decisions. Rather, expertise rooted in practice is not enough on its own to provide final counsel.

Section Three: A Third Way--Democratic Conduct

If more traditional methods of "theory" and "practice" let us down, how ought we and Amy conduct ourselves when faced with wicked moral problems? The verb 'conduct' in English has various meanings, and taken together, may offer insight into the activity of moral deliberation Serres recommends. It can mean to manage one's

behavior, to direct an activity, to orchestrate music, to act as a guide, or to serve as a *medium*, e.g., conducting sound or electricity (‘Conduct’, 2024). To conduct oneself is an activity of synthesis—it is to introduce as much harmony as possible between the non-standard multiplicity of stakeholder voices. Moral conduct is therefore similar to the activities of the musical conductor, whose gestures, expressions, and movement actively communicate directive information to musicians with the goal of creating an ensemble. The musicians respond with their contribution, great or small, though not every instrument or section bears as much responsibility for contributing at every moment of the performance. Sometimes, a soloist emerges, or the thunder of drums overwhelms the other parts; other times, the violinists or horns carry the melody. The conductor orchestrates but is not above or outside of the performance itself—the conductor is a performer who guides the performers (local), a translator who integrates diverse *noise* into artistry (global). The conductor is a medium of information exchange, and, importantly, cannot exist as a conductor *without* the musicians.[60]

There is a slight wobble in this analogy, since typically the conductor uses a written score to structure the performance and that suggests more rigidity than wicked problem-management allows. In other words, the conditions of moral choice are less bounded and structured than a musical performance. Nevertheless, Serres’ three invariant moral structures—the Principle of Least Disturbance, the Principle of Creative Risk, and the Principle of Loving Synthesis—can function like flexible and open scores, imposing recommended guidelines for creating harmony. The information exchange,

[60] The contrast with rational choice theories is also clear—the conductor is no rational monad calculating long-term self interest. Serres, like the Pacific natives in *Troubadour of Knowledge* (c.f. Ch. 4), is changing the rules of the decision-making game.

synthesis, translational media, creative performativity, and real-time adjustments to direction are all important points of similarity. To conduct oneself *well* is to act like a conductor.

But one would do well to more strongly emphasize the sharing of power in deciding. In the previous chapter, I made the claim that Serres' WAFEL is an institutionalized variation of Serresian moral reasoning. Despite it being an apparently political model, the WAFEL illustrates the kind of inclusive democratic thinking that Serres would like from individual decision-makers. Thinking about ethical decision-making in terms of "democratization" suggests that Serres' ethical thinking is fixed on large-scale, global issues. Often, I think this is the case. His emphasis is typically on human relations to nature and the global risks ignoring nature has incurred (e.g., pollution, habitat destruction), and he thinks primarily about science and practical expertise at the institutional level. Even so, this should not mislead one into thinking that Serres' decision-making process is not useful at other levels of scale, or unique to policy questions.

Tracking the discussion from previous chapters, Serres is offering new *structure* for moral thinking, of which policy-level institutions like the WAFEL are but one *model*. The structure realizes in other models, too, and one might be reminded of Plato's idea that the State is "man writ large," and recognizing justice in one helps to read a sense of justice into the other. The structures that appear globally will recur in local models. In the preface to *Troubadour of Knowledge*, Serres illustrates this with a tale of Harlequin recently returned from a journey to the moon. At a press conference, the audience is keen to learn the many differences between the moon and earth. Harlequin disappoints

them by responding that “everything everywhere is just as it is here, identical in every what to what one can see ordinarily on the terraqueous globe. Except that the degrees of grandeur and beauty change” (Serres 1997, p. xiii). There is no structural difference between political decision-making and personal decision-making, only local variations and scales of complexity. Even still, individual moral development or decision-making is not ultimately separable from political or global relations. Serres understands that the possibility of the kind of natural contract he envisions, or an actualized WAFEL, requires a *change* of reason, and, indeed, the transformation of individuals:

> …we know real people, and real people are what have to be invented. To form them, we need an education, and for that, a model. Let us then trace a portrait that never had a precedent, in order that it may inspire imitators (Serres 1990, p. 94).

The model is the “third-instructed,” a “sage” who is educated in interdisciplinarity and who knows how to “weave together the truth of the sciences with the peace of judgment” (Serres 1990, p. 94). The Sage is capable of integrating and synthesizing diverse perspectives, even those that are apparently opposite, and is comfortable navigating in ambiguous, shifting interstices. The sage does not surrender to the temptation of “belonging,” though the third-instructed must also have a burning love for “The Earth and humanity” (Serres 1990, p. 95). The figure of the instructed third is developed in detail in *The Troubadour of Knowledge,* and is present in the *Birth of Physics’* Sage, and the figure of the Helmsman. These aspirational figures show that the process of individual moral development is structurally isomorphic with the process of governing. Additionally, though, the actualization of the WAFEL would require the

synthetic, open, and multi-disciplinary reason of actual people. Those like *Amy* ought to strive to become the "third-instructed," localized variations of the WAFEL itself.

Although Serres does not use this expression, his is a *stakeholder-focused* structure of moral decision-making and is characterized more by communicative exchanges than by proscriptions or prescriptions. It is integrative and synthetic, rather than analytic, and Serres' consistent emphasis is on the *process* of problem-solving rather than the *product*. In other words, any guidance Serres would give Amy would not be directions about *what* she should do, but rather about *how* she should approach the situation.

Revisiting the notions of the "local" and the "global" is useful here; the "global" value network is the open and dynamic set of relations existing between local value networks, and the exchanges between localities and betwixt localities and the global whole bear on (change) each other. So, *every* local value network is a stakeholder to some degree—they are differentiated by causal proximity to the downstream implications of a given decision. Additionally, if every local value network has possible (or actual) agency, then the first right of a stakeholder is *participation.* Serres equates freedom with "access" (Serres 2014, p. 68). The voice of any stakeholder impacted by a problem should be included in deliberating about how to manage that problem. Serres pushes this point in reflecting on the connectivity made possible by contemporary information technologies (i.e., social media):

> Our new living space allows everyone, whether ignorant inexpert, destitute, poor, or miserable, minors in every way, to learn to engage, to give his or her opinion, to participate in decision-making, to share expertise—in short, to remain attentive to his or her destiny and active in

> the community's. A universal vote in real time is coming, which evokes a dream of an authentic participatory democracy, since equality here rules through free intervention as well as easy access (Serres 2014, p. 69).

We should be clear, too, that although Serres refers to people voting, his sense of 'democracy' relies on a broader and mingled sense of the Greek *demos*, which can mean "people," "district," or "land." Nature is not excluded from consideration as a stakeholder, and since all beings receive, store, process, and broadcast information, in principle anything could be permitted to "vote." In some cases, this might require an intermediary.

To those who have not studied Serres or his successors (e.g., Latour), this seems a bit hokey. Nevertheless, the extended sense of democracy is also a consequence of Serres' account of extended quasi-subjectivity. Furthermore, since individual subjectivity's emergence is co-extensive with the emergence of the collective (or the "connective,"), one's own identity is always *intersubjective.* Given the necessity of circulating quasi-objects for forming collectives, as well as individual identities, a person is also always *inter-objective.* In our case, Amy's own being as local value network is inextricably, dynamically entwined with others, including Jeff, her team, her bicycle, and the mountain on which she races. There is no radical separation of self and "other," or "individual" level decisions and "global" decisions. Even decisions that seem only to affect oneself will always involve other stakeholders, since those parties are partially constitutive of the self. Since no decision is without ramifications for others, even the most apparently "victimless" choice will involve beings who ought to be participants in the process of deciding.

The participation outlined above does not shut out the scientific or moral expert, either in theoretical or practical dress. In some ways, Serres is suggesting a path to resolve the apparent tensions between theory and practice by opening dialogues of information exchange: there is space for both “science” and “law” to cooperate in problem-solving. After all, Serres argues that the “reason” associated with both share historical ancestry (Serres 1991, p. 53). However, I think that Serres is not just attempting to resolve a false dichotomy. He is following the guidance of his Principle of Creative Risk and casting off in the direction of a new, non-hierarchical understanding of the place of expertise.

Accordingly, the wide democratization of decision-making does not *exclude* the moral theorist or the practitioner; rather, like the notion of subjects and objects, they find themselves *decentered.* Both theory and practice have a role, but expertise does not uniquely qualify one to have a voice, and neither is incompetence a *prima facie* disqualifier from participation. David Webb credits this as a consequence of Serres’ commitment to continuity and differences of degree rather than kind; expertise or specialization in a local epistemology does not “break” in a Bachelardian manner from everyday experiences (Webb 2023, p. 4). Exemplifying Webb’s claim, Serres points out that the Internet has allowed so much rapid transfer of information that often the “general public” may have more knowledge about a subject that a supposed expert, and, more importantly, that the experiences shared by lay people actively influence and enrich the knowledge of the “expert.” Amy would be wise to listen to the counsel of a physician, but on the question of whether to terminate a pregnancy she may profit more from the shared experiences of women who’ve had the procedure. The democratization

of shared information introduces “symmetry” into discourse and encourages active *listening* to non-experts. In deliberation, we ought to presume competence rather than incompetence, or at the very least give fair due to different competencies (Serres 2015b, pp. 61-62).

This does not entail that all voices are always equal, however, and it’s also true that those with lesser degrees of expertise do not automatically win out in deliberation. Furthermore, Serres is happy to situate the sciences at the core of governance, especially the “life and earth sciences.” The naturalistic ecological thinking common to “LESC” is a model of the “difficult” science of ecology, one that seeks to acknowledge and federate relations (Serres 2014, p. 61). This intuition is the heart of Serres’ applied ethics:

> Better balanced, more symmetrical, the new coupling of knowledge would then depend on an ethics recognized by the Life and Earth Sciences (LESC) that would be far stronger and denser than in other disciplines. To destroy, kill, and exploit are no longer possible, because this will definitively end up destroying us. To sign a natural contract seems less of a legal obligation today than an obvious reality to be met within and through the new center of knowledge (Serres 2014, 59-60).

One reason life and earth sciences form the core of knowledge is that they can conduct, or act as a medium for, (translate) the interests of other living and non-living beings. They “speak the language of Biogea,” and can therefore represent them as stakeholders. As we have seen in the previous chapter, though, this is only permissible if the sciences liberate themselves from the traditional military, religious, and economic centers of power (Serres 2014, p. 65). Furthermore, the sciences earn their special

status only if they “hold back,” respecting the Principle of Least Disturbance, and do not aim to be the only form of reason or voice in decision-making (Serres 1997, pp. 120-121). This is also true of military, religious, or economic dimensions of issues—they should be considered, but not to the exclusion of everything else. By implication, the voices of those who seek to seize power or dominate others are justly minimized. The wide democratization of decision-making need not suffer tyrants or hierarchies.

Translating this into ethical terms, moral theorists and ethical practitioners have not only a right to participate in decision-making, but also a central role in describing or pointing out morally salient features of problems or in restricting the conduct of the sciences themselves. If there is a continuity between the everyday experiences of people and scientific forms of rationality, then it follows that the role of the moral expert is to advise lay people as well. A pediatrician’s input and guidance is clearly relevant to determining potential risks of mountain biking to Amy and the embryo, and her priest would be a fair source of moral or spiritual guidance. Then again, this advice is not distinctively authoritative.

If decisions are not solely grounded in expertise, then neither are they entirely subject to the uncritical majority rule that Plato reviles. It is not a “counting up” of perspectives or reasons and placing them in a quantitative or qualitative scale (e.g., a Franklin-style “pros” and “cons” list). Instead, the decision is itself *negotiated* by the stakeholders, and the outcome of the negotiation are not prefigured as part of the process. Through negotiation, the figure of the contract reappears. Deciding is an active process of forming new meta-stable equilibria—new existential, social, or natural contracts. The Principle of Loving Synthesis is the invariant ideal for these negotiations.

Negotiation about managing problems ought not to be a zero-sum rationality with a "winning" side and a "losing" side; the better contract is the one where heterogeneity is preserved, and everyone's interests are satisfied as much as possible.

If Amy approaches this problem with Serres' democratic conduct in mind, what she ought to do is seek out the input and direction of the stakeholders involved in the case and attempt to negotiate a path through this situation. Who are the stakeholders? There are the obvious ones, including her embryo, Jeff, and her coaches and teammates, her university and her sponsor, who are directly and clearly affected by her choices. They also include the less obvious and easily overlooked, like the flora and fauna impacted near her racetrack.

To conduct herself well, Amy should *communicate* with these stakeholders and others. She should include their perspectives and input in her deliberation; Jeff, as the father, almost certainly has beliefs about how her pregnancy should be managed, as will her Catholic family. Amy's coaches and teammates are likely to have strong opinions, too, though they may be as divided and diverse as anyone else's; i.e., some may care only about winning the playoffs, while others might value motherhood over competition. Her opponents might express concern about racing against her—would knowing about her condition cause them to lay off, giving Amy a competitive advantage? To what extent would they be responsible if something befell the embryo as the result of a daring maneuver?

Sometimes communication is indirect; Amy's embryo cannot speak to her in her native tongue and is limited to expressing itself in ways that trigger interoceptive signals, and the voice of the earth on which she rides needs translation, too, so she must attend

to the geological sciences. Regardless of the challenges posed by listening to those in communicative margins, the challenge is to hear and harmonize these voices into collective.

So, a better path forward for Amy and the others involved would be one that they have *negotiated* by forming connections with each other and communicated both *about* and *through*, for the situation is not simply "resolved" if Amy decides to terminate the pregnancy or to carry the embryo to term. How will she, Jeff, her family, or church respond if she has an abortion? How will the university or sponsor react if she does not? There is no simple spatio-temporal boundary around the problem space, and Amy's choices will continue to require renegotiation.

Section Four: Is Serres' Applied Ethics Better?

So, is a Serresian applied ethics a better process of decision-making? At the very least, Serres has shown that the theory/practice dichotomy is false. The wicked character of our contemporary problems illustrates the unfitness of merely theoretical (or geometrical) moral thinking to problem-solving. It is the wrong tool for the job. Since the theory/practice duality is not exhaustive, practice does not carry the day by theory's elimination. Practice-based ethics would have to show that it is better suited to problem-solving than its remaining alternatives, and wicked problems put that claim on shaky ground.

I think a Serresian applied ethics warrants strong consideration because it is better able to manage capably the wicked problems of our times than its traditional competitors. Serres' new reason, fluid and open, unfettered from a single method or

discipline, inclusive and widely democratic, *anticipates* wickedness because wickedness is predicated on the same fluidity and openness of value networks. It also arises in response to wicked problems, which unfold dynamically, often increasing in complexity. Furthermore, unlike the theory-driven and practice-based models, Serresian applied ethics recognizes that problems cannot be "solved" once and for all. Novel problems are often the progeny of "solutions," so what's needed is a process of management and negotiating about ongoing, changing circumstances. Put simply, Serresian ethics is more *flexible.*

By including both theoretical and practical reasoning, Serres does not reject the contributions of traditional approaches to ethics. Rather, they cease to be competing methods and partner as vital augments in the process of decision-making. "Science" and "Law" harmonize, and there is no reason prefer one to the exclusion of the other if the affiliation of both forms of reason serves to stabilize and preserve the integrity of metastable existential, social, and natural contracts.

Furthermore, because Serres' metaphysics does not permit designating specific value to beings in advance of their relations, his ethics avoids the theoretical injustice of marginalizing certain stakeholders. It is therefore less morally biased from the start, more inclusive*,* and less harmful. In other words, I contend that it is a more ethically sensitive ethical theory choice.

Taking into consideration non-standard, multiple voices *enriches* the availability of information relevant to managing problems, too, especially with respect to the massive global problems that dominate our contemporary consciousness. By insisting that all beings contribute to the process, responsibility for the decision is *shared.* The

wide democratic character of his thought better positions Serresian ethical thinking to grapple with the pluralistic spectrum of values in today's world.

There are some objections that critics might raise at this point, and they concern the decentralization of the process of deciding. First, while it may be true that there is virtue in inclusivity and hearing voices from the margins, especially on large-scale questions, democratizing decision-making seems to place undue burden on those like Amy making smaller-scale choices. Even if it is true that she cannot separate herself from the relations that condition her choice, it seems to demand too much to ask her to include *marginal* stakeholders. It would demand too much, especially if this ideal level of participation is realized:

> …Our new living space allows everyone, whether ignorant inexpert, destitute, poor, or miserable, minors in every way, to learn, to engage, to given his or her opinion, to participate in decision-making, to share expertise—in short to remain attentive to his or her destiny and active in the community…I would like to write stories, songs, poems, and a thousand enthusiastic texts *to encourage every woman and man to intervene, in a timely or untimely manner, in every possible public affair, whether it is their business or not* (Serres 2014, pp. 68-69, emphasis mine).

If other ethical theories are too exclusive and do moral harm by not taking stock of enough value networks (e.g., nature), then Serres may be guilty of being too inclusive! Not only does it seem to ask Amy to do too much work, excessive participation also divests her of too much agency. Why should strangers who have no direct stake in Amy's choice have any right to participate? The burden it imposes is morally

problematic, especially if it makes Amy responsible for effects on stakeholders that are ultimately out of her control.

A related concern is that shared governance in decision making is often indecisive and inefficient. Anyone who's endured an academic committee meeting has experienced first-hand the nitpicky, hyper-detailed, slow, tedious and inconclusive process that happens when many voices are included. "Too many cooks spoil the soup," as the old saying goes, and decentralizing decisions does not avoid the paralysis worrying Jonsen and Toulmin. Rather, it only amplifies it by adding *more* noisy cooks.

In response, it is important to remember that the results are less important for Serres than the process itself. There will be no perfect answers that satisfy all parties, and his model does not predict or expect that outcome. Amy is not expected to be in possession of every possible bit of information—nothing, and no one short of God could be. All Serres asks is the effort—engaging in the "difficult science"—of trying to include as many stakeholders as possible. It's certainly true that this imposes *additional* burden on Amy, when compared to what she might have from a simpler theory, but asking additional effort from her is not morally problematic if she is able to be inclusive without expending excessive energies. Burden is proportional to the effort or sacrifice demanded. Since information exchange these days is encyclopedic and instantaneous, it's not demanding much of Amy to try to account for additional stakeholders, even those whose voices require translation. In other words, the moral and intellectual laziness engendered by simplistic ethical reasoning ("My body, my rights," or "All life is sacred!" in Amy's case) is no excuse.

Serres is also aware of the charge of inefficiency, but claims the contrary:

> Let us sing the praises of reciprocal control. By restoring complete faces at both levels [employee/employer], the best companies put their workers at the center of practical decision making. Far from organizing, like a pyramid, a logistics of flows and regulation of complexity (which in fact multiplied complexity by adding layers of regulation), they let Thumbelina control her own activity in real time. *Breakdowns are more easily identified and repaired, technical solutions are found more quickly, productivity is improved* (Serres 2015b, p. 49, emphasis mine).

Serres does not support that assertion with citation, but it does show that there is at least the possibility that democratizing processes *increases*, rather than decreases efficiency. It is an empirical question that could be tested, in any case, and the contrary claim that centralized decision-making is more efficient *itself* needs evidential support. Thus, it would be premature to decide one way or the other. However, even if evidence did weigh *against* Serres on this point, the matter of whether *efficiency* is the right criterion for judging applied decision-making is an open question. In the balance of reasons, it is unclear why efficiency—usually an economic concept--should matter more than inclusivity, freedom, and so forth. This raises interesting questions about what standards are relevant to judging an ethical theory.

In the next, and final chapter, I will continue my argument to establish Serres as a moral philosopher by clarifying a set of criteria of adequacy for ethical theory choice. As a preview, efficiency is not among them. However, *conscientiousness*, or a sensitivity to the moral and material impacts of a theory, is. On that score, I will argue that not only has Serres shown himself to make contributions to existing moral debates, but also that his theory may be preferable to other alternatives.

Chapter Six: Michel Serres as Moral Philosopher

I will conclude this thesis by taking up the second thread to argue that there are good reasons to *adopt* a Serresian ethics, even if it creates tension with Serres' own commitment to modesty and desire to avoid an imperialistic kind of universalization. The world of moral philosophy needs difference, to be sure, but it could also use a few more Serresians. To that end, I will argue that being a Serresian ethicist is warranted because his account helpfully engages not only contemporary ethical issues, but also because it satisfies certain other criteria of adequacy for an ethical theory.

We therefore return to the question I raised at the end of Chapter Five regarding criteria of adequacy—standards by which one could evaluate competing ethical frameworks. One ought to be able to provide some standards or grounds upon which to decide between theories. In the next section, I will set out and evaluate some criteria and propose that three criteria—a minimal sense of plausibility, usefulness and conscientiousness—are core standards when contemplating ethical theory choice. Serres readily meets these criteria, which gives Serres' ethical theory presumption over views that fail to live up to them.

It must be said, though, that the approach of this chapter does not itself seem *Serresian.* As I laid out in Chapter Four, Serres does not play the game of justification, which is precisely what I'm attempting to do here, i.e., lay out a reasoned argument for why one ought to consider a Serres-inspired ethics. Serres both models and refers ostensively to norms he recommends, but he is also deeply committed to the Principle of Least Disturbance's insistence on modesty and reserve. As I will discuss below, he is concerned about the ethics of advocacy, too, and fears the excessive expansion of even

good ideas (including, presumably, his own). After all, the philosopher is not meant to be the master or commander of others' intellection—it is the job of the philosopher to guard the "possible" and inspire *inventive* thinking. Does the fact that I am arguing that philosophers should take Serres' approach therefore *contradict* the spirit and letter of Serres himself? If so, is it inappropriate to make such an argument?

I agree insofar as this concern highlights a tension in how one goes about working with Serres, but there remains value in arguing that others adopt Serresian ethics. First, there is an ostensive function in making the argument, for it *draws attention* to Serres' work. As noted in the first chapter, it has thus far received relatively little sustained interest. The arguments herein are therefore a way of pointing to Serres' own indication of his normative recommendations. Second, though modesty about advocacy is important, it is not inconsistent with the Principle of Creative Risk to argue that one ought to seek out new ways of moral reasoning. I argued in the preceding chapter that Serres does not seek to *eliminate* competing theories like Utilitarianism or Deontology, but rather to decenter them. One might therefore safely argue on Serres' and still respect the Principle of Loving Synthesis, since he does not seek to exclude other ways valuing.

Finally, one can take up advocacy of Serres without betraying the vision of philosophers as inventors, precisely because Serres' ethics emphasizes process over product. Three Serres-inspired ethicists may very likely look at the same issue, and using the model of democratic conduct, develop three very different management strategies. The focus on process over product therefore allows that anti-dogmatism is *built into* the process in ways that may not be true elsewhere. A philosopher may both

be a Serresian ethicist and a vestal of the possible at the same time, and Serres may be too cautious about advancing his own views. Having addressed that, let us turn to the argument itself.

Section One: Criteria of Adequacy

How does one decide between competing theories claiming to explain the same phenomena? What seems necessary is a criterion or set of criteria for evaluating the competing explanations—one can differentiate, say, between a conspiracy theory and a genuinely explanatory theory by checking them against the criteria to see which meets them more successfully. The criteria amount to a list of theoretical desiderata—better theories meet the criteria as well as possible. So, other things being equal, the theory that best meets the criteria enjoys an explanatory presumption over competing theories.

Such criteria are widely accepted in scientific reasoning. For starters, a theory must be internally consistent, which is to say that its assumptions must be free of contradiction. Other criteria include testability, scope, simplicity, fecundity, and conservativism. Testability refers to the relation of a theory's core hypotheses to evidence and the ability to weigh evidence for or against that hypothesis. A passable theory must be rooted in evidence. Better theories also have wide explanatory scope and can account for diverse phenomena, e.g., the theory of gravity factors in the explanation of both the hydrodynamics of tides and why a toy falls when my schnauzer Hans drops it in a game of keep away. The wider the scope of phenomena explained, the stronger the theory. Simplicity—Occam's Razor--is a third consideration. Better scientific explanations and theories make use of the fewest assumptions, particularly in

terms of the theory's ontological catalogue. Furthermore, if a theory explains phenomena without requiring revisions to bodies of existing knowledge, it is arguably better than a theory that demands rethinking various other explanations. This is the criterion of conservativism. Finally, scientific theories are stronger to the extent that they are fecund; that is, that the theory opens new horizons for explanations or enlarges the spectrum of novel scientific predictions. Other things being equal, the strongest theories are those that best meet the criteria of adequacy.

There is a question about how much weight to assign to certain criteria, though, especially since many theories do not satisfy every criterion or do so to differing degrees. For instance, a motivating concern for Quine (1948) and other 20th Century philosophical naturalists is simplicity; arguments like Moore's for the existence of abstract moral properties are rejected principally on the grounds of introducing new items to the world's ontological list. As we have seen, Serres seems less concerned with parsimony than he is with fecundity. Invention and novelty are the important hallmarks of theoretical thinking, not simplicity.

Criteria of Ethical Theory Adequacy

I will return to the question about weighing criteria against each other shortly, but when it comes to ethical theory there is not really a well-defined, circumscribed, or universally accepted set of criteria of adequacy. Some, like Pollock (1988), argue that the same basic scientific criteria apply. Others, like Rorty (2010), spurn the idea that scientific criteria have value in assessing competing moral theories.

C.E. Harris (1986) navigates between these extremes and helpfully characterizes the most generally accepted criteria. He takes seriously the need for some standards of rigor like those used in sciences yet also recognizes that moral phenomena and the

degree of normativity in ethical theories requires different criteria. He recommends the following standards: consistency, plausibility, usefulness, and justification.

Regarding consistency, Harris argues that any theory selection hinges on the law of non-contradiction. Contradictory theories are incoherent and given Occam's logical principle that anything follows from a contradiction, contradictory statements render theories untestable (i.e., anything would be compatible with it). Though Harris does not argue that the presence of a contradiction requires automatic rejection of a theory, since avoiding inconsistency in ethics is notoriously difficult, it nevertheless signals a significant weakness (Harris 1986, pp. 40-41). One could push the point further, as Kant does, arguing that "the action to which the 'ought' applies must indeed be possible under natural conditions" (Kant *Critique of Pure Reason,* B576). If logical contradictions mark the boundaries of actual states of affairs, and the reasonableness of moral "oughtness" relies on possibility ("ought implies can"), then inconsistency delineates a *modal condition* that ethical theories must meet. This has implications for Harris's other criteria.

Harris's second criterion, some version of which is frequently accepted, is plausibility. The demand that an ethical theory be plausible is a variation of the constraint of testability for scientific thinking. For Harris, plausibility amounts to whether the theory squares with "our most strongly held moral beliefs" (Harris 1986, p. 41). Similarly, in her overview of ethical theoretical virtues, Julia Driver refers to this as "common-sense morality," which acts as a touchstone for the principles of an ethical theory (Driver 2022, p. 2). Vaughn refers not to beliefs as such but rather to "considered moral judgments" and "our experience of moral life" (Vaughn 2022, p. 467). A moral

realist might push the demand for plausibility further, insisting that a theory adequately explain moral *facts of the matter.* In any event, the intuition is that there is something *external* to an ethical theory that could act as a constraint on the account of morality and prescriptions that the theory provides, which is the same intuition that natural scientist holds about the role the world plays in verifying or falsifying a scientific hypothesis. Since most people agree that murder is wrong, or that one ought to tell the truth, say, an ethical theory that does not account for those core intuitions is likely *not* an adequate ethical theory. Of course, this assumes that there are such moral facts of the matter, well-established beliefs, and so on—some point of agreement that can act as a constraint. For his part, Harris is willing to concede that peoples' beliefs are not an absolute test of a theory, since human belief is fallible, and a theory may be correct despite the mistaken beliefs of actual people (Harris 1986, p. 40).

There is a deeper problem with this criterion as Harris frames it, though. Assuming that there is a specifiable set of beliefs or experiences of moral life is to take for granted that one has *already answered* the very questions that ethical thinking is meant to address, i.e., questions about human conduct, the moral quality of specific actions, and so on. And, as we have seen, people tend to cherry pick the examples that most favor their theoretical positions. For instance, the moral status of murder may be quite different if one is a deontologist or a utilitarian. Thus, the graver concern is that trying to designate exactly which beliefs are the right constraints is bound to collapse into confirmation bias at best or vicious circularity at worst. In Serresian terms, it would also seem to elevate a model to the status of structure.

There is a way of rethinking the plausibility criterion, though. Rather than referring to actual peoples' experiences or answers to moral questions, one could refer to the questions themselves as a criterion. This is a minimal demand, and simply a bar for entry. Does a theory seek to address the core *questions* of ethics? The object of study for the theory must be these sorts of questions. How ought we to live? How ought we evaluate actions? To what are moral actors responsible? What is the nature of good and evil? If a theory works to answer to these or other core ethical questions, *irrespective of the content of the answer*, then the theory is minimally plausible. This avoids begging the question and at least serves as a starting place for evaluating the quality of the theory.[61]

Usefulness, Harris's third criterion, has already been addressed in this thesis. Moral theories ought to be useful in "resolving moral dilemmas," and Harris recognizes the practical dimension of ethical theorizing (Harris 1986, p. 41). On balance, an ethical theory that fails to be useful is less adequate than a theory one might use to make actual decisions. Harris points out that ethical theories sometimes fail to be useful by giving ambiguous guidance, which he exemplifies with the role of "natural inclinations" in Aquinas' natural law theory. They also fail by not being able to reconcile conflicting advice internal to the theory, such as cases of conflicting but equally binding rights for natural rights theory. Unpacking this a bit more, the modal condition appears again when it comes to guiding action. A theory is not useful if it gives contradictory guidance. Harris's last problem with usefulness involves demanding access to information that

[61] An interesting parallel case centers around ethical egoism and the objection that it is not genuinely an ethical theory. Although he does not spell this out specifically, the minimum plausibility criterion is at the heart of Ellin's rejection of this objection to egoism. Insofar as it attempts to answer core questions of ethics, it counts, despite the unpalatability of its answers to those questions (Ellin 1995, p. 65).

cannot be had in the moment of decision-making. The last is the familiar objection to consequentialist theories' lack of knowledge about long-term outcomes and impacts of a particular choice—making a moral judgment is impossible because of missing epistemic access (Harris 1986, p. 41).

For my part, I agree with the spirit of this criterion, though I differ with Harris about the ways a theory may fail to be useful. In the previous chapter, I raised additional factors that undermine an ethical theory's usefulness; namely that a theory may oversimplify complexity or not be designed to manage the kinds of problems with which it must contend.

Finally, if an ethical theory cannot justify its moral standards, then it may not be an adequate theory. Harris recognizes that there are *two* dimensions to the justificatory question. First, one might demand that an ethical theory offer justification a set of moral rules, guidelines, or prescriptions that constitute the body of the theory, and, following Dr. Martin Luther King, Jr., insist that the theory's ultimate moral standard ground other norms external to the theory itself (e.g., legal statutes must be rooted in a larger moral law). Additionally, theories owe an account of what makes their core standards authoritative. He proffers the examples of connection to religion (e.g., Divine Command Theory, Natural Law and Natural Rights Theory) or "intuition," (e.g., Kant's deontology) (Harris 1986, p. 41).

Lately, though, some moral philosophers have argued for the need for a further criterion of adequacy for ethical theories. There is a demand for a kind of *conscientiousness* about ethical theorizing driven by the increased awareness that moral theory choice is not a morally neutral activity. As we saw in the preceding

chapters, the institutionalization of some modes of ethical thinking perpetuates exclusionary practices like marginalizing stakeholders or excluding them from the process of moral decision-making and has rationalized some causes of domination, and Serres advocates for ethical constraints on all forms of "reason," including the ethical.

However, Serres is not unique in this demand.[62] Though they make the point slightly differently, environmental ethicist Thomas Birch (1993) and animal ethicist Matthew Calarco (2010) rely on this criterion as an argument in favor of universal moral consideration—the idea that all beings are at least potentially morally valuable. Birch inveighs against the claim that ethical theories ought to be in the business of identifying characteristics that determine moral insiders and outsiders, "members of the club," as he puts it, and rejects the notion that human reason alone is sufficient to pick out those characteristics. Birch denies that morality is simply about maximizing good for the club's members, which, historically, have not included slaves, barbarians, women, and so forth (Birch 1993, p. 315). Developing Birch's point in defense of Levinas as an animal ethicist, Calarco insists that:

> …these presuppositions betray a *rather unethical,* even imperialistic starting point, coupled with the fact that they have served as the ground for some of the worst atrocities human beings have committed, *should be enough to make us rethink this approach to ethics anew* (Calarco 2010, p. 128, emphasis mine).

Making the demand that an ethical theory demonstrate its commitment to ethics or using the demand as a way of critiquing a theory, is to accept that ethical theories

[62] This is a small but important point, and I use the examples of Birch and Calarco deliberately. The point is that Serres is not setting his own goalposts and philosophers from other traditions also demand conscientiousness about one's moral position. Birch is not a continental environmental ethicist, and Calarco is a phenomenologist developing an animal ethics out of Levinas's work.

themselves have morally significant consequences. It seems fair to demand that champions of ethical theories acknowledge the actual or potential impacts of their theory, and to own up to them. Rittel and Webber refused to grant a “right to be wrong” about how one handles the wicked problems that are contemporary moral philosophy’s stock in trade. As we have seen in Chapters Four and Five, Serres defends the position that theoretical reasoning of all sorts must include ethical constraints. This must also apply to the way one approaches ethics. Calarco drives this point further by deploying it as *the* decisive criterion for ethical theory selection, which may be warranted if the other criteria of adequacy are irrelevant, or if the negative ethical impacts overshadow success according to other standards (e.g., consistency or plausibility).

One does not have to go so far to incorporate conscientiousness as a criterion of adequacy, though. Calarco is right that some criteria may carry more weight than others. This is because the *ceteris paribus* clause usually attached to theory choice is rarely satisfied. Determining which criteria are more important or relevant is a bit nebulous and an ever-moving target. In geometry, consistency is a more important concern than conscientiousness, say, and in certain natural sciences testability may matter more than usefulness. Similarly, given that ethics is not perfectly analogous to science, some criteria ought to weigh more heavily than others.

Since the principal aim of ethics is understanding *conduct*, not acquiring knowledge as such, adequate theorizing about ethical questions must reflect this. Logical consistency as a modal condition is an important criterion, but only insofar as it describes a range of possible *choices*. The standard of plausibility for which Harris and Driver advocate fails to account for the plurality of moral beliefs and the wide spectrum

of difference about models of morality (i.e., “experience of moral life”). As I argued above, a more general and minimally demanding notion of plausibility is less biased and ought to be adopted instead. When it comes to criteria for ethical theorizing, though, I would suggest that the degree of normativity and the emphasis on action tips the scales in favor of *three* core standards: minimal plausibility, usefulness and conscientiousness.

I argued for usefulness as a criterion in Chapter Five; if a given ethical theory better manages moral decision-making than competing theories, it ought to enjoy a presumption over its competitors. Again, guiding action is *the* core concern of morality. I would add that usefulness can be construed as an answer to the question of how a given ethical theory justifies its standards, which, depending on what one accepts as an answer, potentially renders Harris’s fourth criterion redundant. If one takes the foundationalist stance that moral justification requires a relation to an *antecedent* condition, like divine providence, then usefulness might be a separate criterion to justification. But one might just as well argue that the justification of a set of moral guidelines is a *consequence* of the extent to which it is genuinely useful. I depart from the latter conclusion, given the centrality of action to ethics, and disregard the antecedent sense of justification as a distinct criterion.

I also addressed the scope and scale of the potential harms of ethical theory choice in the preceding chapter, which are not insignificant. Given the potential downstream impacts of how one *does* ethics, evaluating an ethical theory in terms of its own self-awareness and sensitivity to those impacts is warranted.

Section Two: Evaluating Serres

I think that Serresian ethics fares well against these three criteria. Does Serres work meet the minimal sense of **plausibility**? Most of this thesis has advocated for this very point. It seems to me that this line of argumentation should be enough to motivate scholars to look more closely at Serres work in ethics. He is doing moral philosophy throughout his corpus and engaging with questions in each traditional "domain" of ethics (i.e., metaethics, normative moral theory, and applied ethics). Even if one rejects Serres' assumptions and conclusions *tout court*, Serres at least deserves consideration because he offers fertile terrain for new ways of thinking about ethical problems. Since he is clearly engaging with ethical questions, Serres satisfies the minimal plausibility criterion.

Regarding **usefulness**, Serres shows the "theory" and "practice" distinction among approaches to applied ethics to be false; both theoretical and practical input are useful when managing the problems of our times, though neither is decisive. They are therefore *less* useful; expertise as traditionally conceived ought to be decentered. The wickedness of contemporary challenges requires a democratic process that integrates and synthesizes as many perspectives and values as possible, and I argue that Serres' philosophy is therefore more useful in the face of these challenges.

Finally, what about **conscientiousness?** Serres' moral thinking feeds back into itself, and he is consistently self-aware about the moral implications of his philosophy. Like Birch and Calarco, Serres expands the notion of "stakeholder" to include non-human beings. While not every local value network or denizen of value networks will often be morally equivalent, or situation equitable, Serres' moral thought reveals sensitivity to minimizing ethical prejudice. Recall, too, that modesty and restraint are the

departure point for Serresian ethics, and that accordingly, expansion of *any* ideology leads to peril. The dominating kind of universalization, at scale, yield "the theoretical physicist whose equation can blow up the Earth or the philosopher who enslaves entire peoples for generations—or the sect that mimics him throughout his career" (Serres 1997, p. 135). Serres shows keenness to avoid the proliferation of his moral stance, to the extent that he seems nervous about advocating it to others—and certainly avoids commandments. For instance, in *Troubadour of Knowledge,* he writes that he will adopt no idea that has any trace of vengeance, throw himself into a polemic, and endeavor to avoid "membership," or belonging:

> Always avoid all membership: flee not only all pressure groups but also all defined disciplines of knowledge, whether a local and learned campus in the global or societal battle or a sectorial entrenchment in scientific debate. *Neither master, then, nor above all disciple* (Serres 1997, p. 136, emphasis mine)

These rules of ethics, he tells his reader, are for his private use, and do not "trace a method" (Serres 1997, p. 136). Serres professes that he is not interested in founding a school of thought, or subscribing to one, and remains consistent with his identifying a certain variety of "belonging" as a kind of moral harm—a topic we addressed in Chapter Four. It's difficult to imagine Bentham or Kant being so concerned with their own thought being adopted by others, and, in some ways, this flies in the face of the "experience of moral life" criterion proposed by Vaughn. Ellin notes that one might argue that a constraint on ethical theories is whether they capable of being publicly advocated, and that some of what it means to have moral beliefs is to believe that those beliefs should be shared, which tends to be true in moral experience (Ellin 1995, pp. 63-65).

Despite his protestations, Serres clearly *is* in some sense advocating for his views and is, in fact, working to get at least some others to share his beliefs. Otherwise, why write so many books, or go on TV and radio? One difference is that Serres does not insist that *everyone,* or even most, share his views. Perhaps it would be better to think of Serres encouraging others to consider new ways of approaching ethics, rather than advocating for a specific theory, which is consistent with his view of the philosopher as the vestal of the "possible." It also bears repeating that the advocacy criterion is as shaky and theory-dependent as other "experiences of moral life," and, since Serres openly questions the theories and the *ethics of advocacy itself*—gone too far, it becomes parasitic proliferation—pressing it as a criterion too hard seems question-begging. Serres shows his commitment to conscientious moral theorizing by trying not to drown out other voices.

One might object that Serres is not really displaying conscientiousness here, but rather internal consistency. Perhaps he's simply illustrating the dangers of resting too much of one's identity on belongingness autobiographically, or the risk of increasing the volume of *noise*, rather than displaying modesty about his own views. After all, it would be disingenuous of Serres to write off his insistence on the need to forge a new natural contract or to find a new "democratic intellect" or to found new institutions on the structure of that intellect (e.g., WAFEL) as mere maxims of prudence.

The response to this objection is clear. It is possible to be both internally consistent and conscientious at the same time. Serres demonstrates commitment to *both* in the passage highlighted above. Despite the fact that Serres doesn't champion coherence as a general standard, he remains consistent with his own assumptions and

conclusions throughout his work. At the same time, though, I think he is conscientious in addition to consistent *precisely because* he is aware of the real-world implications of universalizing *any* system to the exclusion of others, whether they happen to be logically coherent or Serres' own creation. In other words, conscientiousness requires an ethical sensitivity that *transcends* mere internal consistency, which is encapsulated and inward facing. Conscientiousness demands reflectiveness about the impacts of the theory on other value networks.

So, if plausibility, usefulness and conscientiousness are the core criteria of ethical theory adequacy, and if my arguments have demonstrated that Serres satisfies those criteria, then it is at least reasonable and morally *permissible* to adopt a Serresian approach to ethics. That assumes, of course, that one continues to be conscientious about the impacts of one's ethical thinking.

Furthermore, it seems to me that Serres' ethics is *preferable* to at least the older forms of ethical reasoning discussed in Chapter Five. Its fluidity, openness, willingness to embrace ambiguity and uncertainty make it *better suited* to handle the lability of contemporary moral problems than deontology, utilitarianism, or rights theories. I also think these theories suffer by way of *conscientiousness*—they tend to ignore the harms they may perpetuate (e.g. excluding stakeholders, harmful forms of universalization, and so on). So, ethicists who seek a way to work ethically ought to consider Serres as an alternative to those theories.

I cannot show decisively that Serres' ethics is the best possible moral theory, and I will not make the case that everyone should become Serresian disciples. Serres would blush at any such suggestion, and to make it would commit the anti-Serresian sin of

showing a desire for mastery or domination. This highlights a tension in Serres' work, I think, between the Principle of Least Disturbance and the Principle of Loving Synthesis. One cannot traverse from the local to the global *without* impacting others, and it is impossible to enact global change without some movement toward universalization. The question regards how one goes about it, and Serres is committed to as peaceful a path as possible.

The gulf between utter absence and omnipresence is massive, though, and presently Serresian moral philosophers are in closer proximity to the former rather than the latter. It may be difficult to specify the point at which Serresian thought becomes *too* influential. However, given the lack of attention his thinking on ethics has received, there is no imminent danger of transgressing that limit. There is space for more thinkers to work with the ethical tools Serres provides, and so long as we do so with Miraut's cautionary tale in mind, we could use more ethicists traversing between those limits.

Conclusion

Section One: Summary

The goals of this thesis have been to bring to light Serres' important contributions in moral philosophy and to try to persuade at least some others working in ethics to take up a Serresian approach. My missionary work traversed terrain across ethical theory, from the abstractly theoretical to concrete applied decision-making. In Chapter Two, I argued that Serres' rethinking of contracts allows one to give an account of normativity that does not rely on human mental states, or metaphysically basic "subjects." Normativity, "oughtness," and the possibility of value are introduced coextensively with the organization of spatio-temporal being, so any existing thing is spatio-temporal-valuable. Specifying something's value, however, cannot be thought to be essential to it, since value is assigned relationally. However, the omnipresence of value means that the dreaded fact/value gap cannot be maintained decisively on Serres' view. Thus, his account of the genesis of value allows one to circumvent debates about the soundness or cogency of ethical inferences and the problems of moral knowledge.

In Chapter Three, I argued that Serres has an interesting and distinctive position in the debate between robust moral realism and moral constructivism about moral "facts." While Serres is a realist about normativity, the specific variation of normativity is not prefigured and only emerges via a process of *refraction.* His metaethical refractionism allows one to take a constructivist middle position between the extremes of realism and anti-realism, and, in fact, Serres' refractionism sits in the conceptual space between a robust moral realism and the constructivism of classical

contractarianism. Refraction—the assignment of moral value--occurs within what I call local and global "value networks," which are partly formed by the circulation of quasi-objects amongst quasi-subjects. Definite values fluctuate and are never fixed, however. The relational assignment of moral status permits Serres to have an unprejudiced view of the kinds of beings worthy of moral consideration. Since anything can be assigned definite value within the value network, *all* being is potentially morally significant. This approaches the position of universal moral consideration.

In Chapter Four, I addressed the question of moral universals and ethical principles as a means of handling the problem of moral relativism that appears to beset Serres' metaethical refractionism. Drawing on structuralist mathematics, Serres articulates an account of "invariants," structural universals that emerge within, and organize, localities of space-time-value. Serresian invariants are not universals in the classical philosophical sense, but rather isomorphisms revealing commonalities. These structural commonalities, he argues, are sufficient to bridge moral difference without taking an absolutist position. Serres works through the dilemma of moral relativism and absolutism by integrating both sameness and difference within the same framework. Moral agreement happens at the level of invariant, where difference occurs in local variations. When there is dispute or need for conflict resolution between value networks, Serres relies on a set of principles to offer general guidance towards ethically better solutions. I call them the Principle of Least Disturbance, the Principle of Creative Risk, and the Principle of Loving Synthesis.

In Chapter Five, I unpacked a Serresian model of conduct for managing ethical issues. Serres shows the "theory" and "practice" distinction among approaches to

applied ethics to be false; both theoretical and practical input are useful when managing the problems of our times, though neither is decisive. The wickedness of contemporary challenges requires a democratic process that integrates and synthesizes as many perspectives and values as possible, and I argued that Serres' philosophy is a better candidate for handling the complexity of our times.

Finally, in Chapter Six, I argued that Serres is not only a philosopher who addresses questions about morality, but also a thinker who approaches ethics in a conscientious way. This conscientiousness as a *moral* philosopher distinguishes Serres from competing theories that heed not the downstream implications of their concepts, advocacy, or application. Making my case required discussing criteria of moral theoretic adequacy. Serres scores favorably against a modified constraint of plausibility, usefulness, and conscientiousness.

Section Two: Contributions

As far as I am aware, this thesis constitutes the first English-language, book-length treatment of Serresian ethics. It therefore adds to the body of Serres scholarship by exploring both the value theoretic textures of Serres writings and by putting Serres in conversation with philosophical controversies with which many of his readers have not dialogued (e.g., metaethics). In this way, too, I think the thesis embodies the spirit of opening novel areas of inquiry and bringing apparently dissimilar discourse into conversation. Moral philosophers who've never read Serres may use this thesis as an introduction to his work, and Serres scholars who've not engaged directly with ethical theory or applied ethics may find it a worthwhile inroad to some of those debates.

Furthermore, the thesis helps Serres scholars working on other areas of his thought see the ethical *depth* to his corpus. It infuses his work from early on and is never absent. The moral invariants I discussed in Chapter Four, the Principles of Least Disturbance, The Principle of Creative Risk, and the Principle of Loving Synthesis, are more heavily moralized models of structures with much wider scope, and, as I argued there, are isomorphic with metaphysical and gnoseological models, too. There is always, and everywhere, a moral significance to Serres' account of being, knowing, perceiving, and so on. Granting that these invariants are not just philosophical constructs, they will have variations across human (and non-human) value networks, disciplines, areas of inquiry, and so forth. There is a discernible ethics working in the background of a Serresian reading of *anything.* Therefore, engagement with moral theoretical issues or Serres' value theory is not an *ad hoc* practice or distraction while navigating his thought. It is, in fact, an inevitability.

Moral theorists reading this thesis will also profit from Serres' work in their areas. Staunch adherents of more well-defined "positions" may feel challenged or threatened by the way Serres reorients some of the assumptions of Western moral philosophy, but that is one of its principal virtues. Philosophers need to remember that at least part of philosophy's value is in *uncertainty.* We must guard and be open to all possibilities. And, indeed, we see new possibilities for ethics with Serres. In particular, I think his metaethical *refractionism* offers a fresh perspective in debates between on moral cognitivism, and that the use of mathematical structural isomorphism as a means of navigating between moral absolutism and relativism. Above all, though, I think the most

useful and promising takeaway comes from rethinking how applied ethics might be conducted.

The thesis may also be useful for ethicists or other professionals working to manage wicked problems. Introducing Serres into other discourses means that his ethics travels with him, along with his associated metaphysics and theory of knowledge. So, this thesis highlights possible ways of problem management that Serres offers the possibility of engaging with complexity in a morally sensitive way without relying on rigid and inflexible moral principles. In other words, the Serresian way proceeds with careful *concern* for handling challenges but not with excessive (alienating or imperialistic) *commitment* to such-and-such a school of moral thought.

The notion of 'value network' I introduced in Chapter Three illustrates this point, for instance, and offers a way of thinking about relations that both acknowledges the inseparability of normative dimensions from any form of organization yet also does not specify in advance what those dimensions *are* or prejudicially tip the scales of an analysis in favor of one or another interpretation. Because 'value network' substitutes for more rigidly bounded concepts like 'person,' 'animal,' 'machine,' 'plant,' or 'object,' it is a more neutral notion that is useful for allowing one to think around or through dichotomies like "natural" and "artificial" or "human" and "animal," and the interrelations and interstices between such concepts.

This may be a welcome maneuver when philosophizing about problems that challenge or stretch traditional moral distinctions too far, such as reckoning with the current explosion of artificial intelligence computing and machine learning. If moral values are refracted through the prisms created by relational networks, and non-human

relata play an active and indispensable part of creating those values, we may no longer casually dismiss questions about the moral status of non-human intelligences. As value networks, they are potentially morally valuable. So, too, are non-human animals, trees, oceans, and solar systems. It is also a more open way of thinking that does not rely on sharp definitional boundaries and the term 'value network' also accommodates discussions of relational normativity at any scale. It seems to me that there's a general tendency in discussions of environmental concerns to emphasize relations between macroscopic beings (e.g., animals situated in an ecosystem, discussions of "invasive species, and so forth) and large-scale global issues at the expense of minute levels of scale (e.g. microbiomes). Like the way that quasi-objects extend dignity to "things," thinking of local and global value networks permits one to take an unbiased view of both microscopic and macroscopic phenomena and articulate the significance of minute members of a global patchwork. Reconceiving of 'being' as 'value networks' opens the possibility of more nuanced discussions of relations in areas like philosophy of technology, animal ethics, or environmental ethics.

Section Three: Limitations and Next Steps

While this thesis is a book-length study of Serres' moral philosophy, it is not without its limitations. One should not think it a complete or exhaustive account of Serres' ethical significance. A thinker whose work is as comprehensive and expansive as his simply cannot be treated in one work. Accordingly, there are a considerable number of questions I have left unanswered, or problems unaddressed. I gestured toward one such omission early on. Lueck and Webb have worked through Serres'

notion of virtue. Webb is especially keen to read Serres from the virtue theoretic standpoint, and I have knowingly set that reading to the side. Though Lueck and Webb's work is excellent, one might also continue to explore the possibilities for a virtue-based account of morality liberated from a conception of human nature. Relatedly, there's much more to be said about moral education and development.

I should also note that the scope of moral theoretic controversies I included is artificially parochial. There are additional issues I might have engaged from a Serresian standpoint. For instance, if one adopts the notion of quasi-objectivity and quasi-subjectivity, one should reconsider concepts such as "selfishness" or "altruism" that hinge on a sharp distinction between subjects and objects (others). How might Serres change the way philosophy has approached altruism? What does 'selflessness' mean when one's identity is inextricably relational and subject to the action of objects? The same goes for moral psychologies or accounts of moral motivation that depend on "internalism" or "externalism." That dichotomy erases in an ontology of mingled bodies. These are but two examples. The spectrum of issues in ethical theory is much wider than represented here and thus there are more possible Serresian forays into moral space. Such attempts also continue the missionary work at the heart of this thesis.

So, these lacunae constitute natural trajectories for a research program. I could take up the challenge of situating Serresian virtue within my account of moral theory, and I could broaden my account to encompass additional moral controversies.

Quite apart from the obvious research program, though, I have interest in *implementing* what I have learned from Serres. To say that the process of writing this thesis has transformed my own thinking is an easily mocked cliché, yet it is true,

nonetheless. My former philosophical commitments infused my work in applied areas, and, since my transformation I am keen to try out Serres' thinking in real time.

There are two potential avenues I have identified. First, I intend to create or participate in actual attempts to use Serres' model of democratic moral conduct to manage issues. I currently work with a group of interdisciplinary experts, headed by Patrick Lin at Cal Poly San Luis Obispo and funded by the National Science Foundation, who explore ethical and social impacts of emerging technology. Specifically, our current research project focuses on the use of artificial intelligence, machine learning, and robotics in "last mile" food production, i.e., restaurant and home kitchens. So far, the group has conducted two "expert workshops" to brainstorm both beneficial and detrimental implications of emerging technology in kitchens. The group hosted two workshops (California and Czechia), with more in the planning stages. The workshops are deliberately interdisciplinary, including agricultural scientists, philosophers, psychologists, food technologists, food writers, culinary anthropologists, roboticists, computer engineers, and so on. In fact, I was invited to participate not primarily for my background in philosophy, but also for my career as a chef. I am convinced that Serres would applaud the inclusion of a range of different academic perspectives, for it is an intentionally interdisciplinary project.

However, the group has not gone far enough to represent a genuine attempt at a democratic process of problem management, precisely because it still prioritizes *expertise.* I intend to work with the coordinators to expand the deliberation to include other stakeholders, including restaurant employees (e.g., dishwashers and serving staff), the regular folks who'd potentially eat recipes designed by AI chefs and prepared

by robot cooks, and attempt to find voices to represent the non-human stakeholders (e.g., the robots or animals used in the process). Since others are potentially impacted by policy decisions on the issue, and because this group aims to impact how policy is crafted, as many stakeholders as possible should participate in the process of deliberation. This is one possible area in which one might implement Serresian moral decision-making.

Second, I am motivated to reimagine a curriculum for teaching ethics in a post-Serresian classroom. Above all, I see myself as a teacher. How might Serres' theorizing translate in the classroom? Should the relational dynamics in the learning environment be a variation of WAFEL? Should students negotiate about what moral concepts they learn, or regarding the types of assignments used to assess their learning? In what ways could outside stakeholders be included in classroom deliberations or discussions? I intend to experiment to find answers to these (and other) questions in future academic semesters.

Whether my future projects are essay in extending the scope of work on Serres' ethics, or advocate for more readers of his moral thought, or work to actualize his norms, this thesis points in new directions for "casting off."

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