Building on Nietzsche's Prelude

Reforming Epistemology for the Philosophy of the Future

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Table of Contents

Introduction

Which is more basic: rationality or reasons? Regardless of how one tentatively answers that question, both rationality and reasons are typically held to turn on *logic*. Rationality and logic have largely been presumed as virtually synonymous.[1] Whatever else they may be, *reasons* have typically been held as *some **logical** relation between a situation/action/belief and some state of affairs which motivates or justifies it.* In addition to being descriptive, this definition is also normative: there are good and bad reasons—and this judgment is typically indexed to logical *soundness*.[2] *De facto,* people *should* act on *good* reasons.[3]

This is the traditional view. However, it may be that the role of logic has been overstated, both in relation to rationality and reasons. Accordingly, a number of problems/ questions regarding rationality and reasons (and the relation between them) may be ill-formed. If this is the case, new understandings of rationality—its nature and its function —will be required. Any such reformation will have profound implications for the aims and methods of epistemology.

II.

> "The mortal sin of the philosophers is not the pursuit of the absolute. Their great offense is that, as soon as they realize they have not found the absolute, they are willing to recognize as absolute on of the products of human activity, such as science, morality, religion, etc. Obviously, the state, just like science, morality and religion has great value—but only so long as it does not pretend to occupy the throne of the absolute…But men do not know how, or rather, do not wish to make this distinction. Idols are to them—why, one does not know—nearer and more comprehensible, than God."
>
> Lev Shestov
> *Athens and Jerusalem*, Book II, X

Before delving into our investigation-proper, it may be helpful to orient the reader with a few notes on the methods and styles which will inform our inquiry:

Our primary goal is to understand the nature of rationality. Traditional epistemology (as well as ethics and related disciplines) presupposes that justifications are, *mutatis mutandis,* reflective of mental processes: terms like beliefs, desires, intentions, etc. are held to be indicative of actual mental states. We will begin by assessing these axioms in light of contemporary cognitive science. While this literature is consumed by critical debates, there is widespread and growing consensus on a number of points which will be essential to our investigation—and we have other tools at our disposal for sorting through those issues which remain controversial:

The method of Evolutionary Psychology will be a powerful aid for deciding between rival hypotheses and contextualizing these findings. However, a general problem with E. Psychology is that it is highly speculative. For any given phenomenon one wants to explain, there are possibly infinite reasonable stories which could be spun. The traditional method that E. Psychologists deploy in order to narrow the range of plausible accounts is Game Theory. However, for a host of reasons (some of which will be revealed over the course of this investigation), we find that method to be deeply problematic. Without a better way of grounding our narrative, we may end up replacing the fantasy epics of traditional epistemology with the science fiction of E. Psychology & G. Theory.

In order to *actually reduce* the speculative nature of E. Psychology, we will attempt to ground our narrative *in the way events historically unfolded* through the method of Critical Theory. However, C. Theory is, itself, a complex dialectical approach which explores the history of events, institutions, and ideas, synthesizing the resources of semiotics, sociology and anthropology.

Given the complexity of our argumentative strategy, we will need greater flexibility than many popular styles of analytic inquiry would permit. Accordingly, we will resort to aphoristic composition—much like the anti-philosophers Nietzsche and Wittgenstein, whose influence here extends well beyond style, also informing our methods and theories on a profound scale.

III.

An important contribution of this work is its exploration of how scientific advances should fundamentally change the way we ask, understand, and answer a number of persistent philosophical questions. Moreover, we demonstrate why philosophers *and* scientists must be more aware of the cultural implications of their work, and the ways in which cultural contexts influence their research. While there are certainly some within the scientific community who are aware of this issue, there is a wide gulf between acknowledging a problem and meaningfully addressing it. This work aspires towards the latter. Within the scientific community there is also a disturbing tendency (especially among the popular scientists who frequent TED talks and write bestselling books) to draw inappropriate conclusions from their research, well beyond the mandate of the evidence, while parading these *ideologies* around in the name of "science."

In defiance of these trends, our philosophical inquiry is grounded by contemporary research and embedded in social contexts. We will refrain from making grandiose claims about such topics as the meaning of life, the existence or nature of the mind, soul, or God; we will avoid metaphysical conjectures about the ultimate structure of the universe, etc. Given the current limitations of the discipline, most of these are not yet scientific questions—they may never be. Nor are they armchair questions: it is impossible to *reason* one's way to a definitive answer. But neither are they pseudo-questions which should simply be dismissed (as Carnap

might suggest). Instead, they are more like James' "live options." Being confronted with these questions, one cannot avoid taking a position on them. The key is to recognize these views as *axioms,* or *articles of faith*—and not to delude oneself and others by selling them as "science" or "empirically demonstrated," or "rationally proven."

So while we will expose many philosophical superstitions here, our work will be importantly different from that of the eliminativists, who are doubly-damned in the view of this author: first, for failing to understand the *cultural significance* of folk conceptions, and second for drawing inappropriate conclusions from insufficient evidence. We will not be arguing that folk psychological terms should be purged from the lexicon; nor will we be arguing that epistemologists' aim to understand how we think, or their method of studying justifications, are worthless. Instead, we will make the more modest claim that the study of justifications *cannot be conflated with* the study of mental processes. Because folk-psychological terms are oriented towards the former, so long as epistemologists focus on them, they will never be studying how people actually think.

Accordingly, epistemologists find themselves in a dilemma. If they wish to continue studying *justifications*, they will need to formulate new aims for their inquiry, reforming their methods in accordance with said aims; epistemology will be a misnomer for this branch of study. On the other hand, if epistemologists believe it is more important to study *how we think*, justifications are going to be pretty much irrelevant. Instead, epistemologists will need to ground their work in science, and index their research to particular "real world" problems. In all cases, pontificating from the armchair will be woefully insufficient.

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[1]   Typically, if a belief is illogical, it is held to be irrational as well. The same dynamic holds for behaviors and intentions. As an illustration, the classical conception of rationality could be well-summarized as follows:

> A **reflective** faculty which makes **explicit** and **intentional** use of rules of logic, mathematics, probability calculus, etc. (in tandem with learned knowledge and personal experience) **in order to** solve problems or make determinations.

[2]   There are many cases in which someone believes the "wrong" thing for the "right" reasons—in these cases, it is often still held that the agent's beliefs were justified despite being false. This is controversial within the literature-- but regardless of where people stand on this question, there is little dispute that, *ceteris paribus*, soundness is superior to mere validity with respect to justifications.
        Once the determination has been made (as to whether particular reasons are good or bad, however defined), there are typically gradients of *how* good or bad they are. Obviously, these judgments must be relative to some baseline, and it is a matter of dispute as to what that should be. There is a further controversy as to whether reasons are subjective or objective.
[3]   While it borders on tautology to say that people should act on good reasons, there is significant ambiguity as to how *goodness* should be understood: Morally? Epistemically? Practically? Similarly, what is most important to justify: desires, beliefs, intentions, acts?

Cognitive Dissonance: Reasons v. Mental Processes

I.

How well does the discourse of reasons map onto phenomenology? Not well. Talk of reasons typically concerns reflective, conscious, and/or volitional actions. Moreover, they typically portray reasons as *antecedent* to actions, beliefs, intentions, etc.; reasons are held to *inform* them:[1] we act the way we do, believe the things we do, we hold particular aspirations *for specific reasons*. At least, this is the prevailing view in contemporary Western contexts…

II.

One of the most powerful indictments of ethical decision-theory is that *it is largely irrelevant which ethical system one ostensibly subscribes to*; in most circumstances, they will all prescribe roughly the same course of action. Regardless as to whether or not one is a Consequentialist, a Deontologist, a Virtue Ethicist, a Particularist, or even an Egoist[2]— whether one is approaching ethics from a secular or religious viewpoint (virtually *any* religious viewpoint), a materialist or a non-realist perspective, etc.—one is typically not to lie, to steal, to cheat, to murder; one should try to treat people with respect, refrain from harming others, honor one's social commitments, etc. In virtually any circumstance in which someone would have to make a moral choice, there will be a broad consensus on the "right" course of action— especially for the sorts choices which ordinary people usually face in their daily lives.

For this reason, ethicists have to rely heavily on bizarre, extreme, and improbable cases in order to create any kind of substantive divergence between one ethical view and another.[3] *And then,* when confronted by these differences,[4] should one ethical system suggest a "counter-intuitive" result, rather than sticking by conclusions of these thought experiments, ethicists will perform all sorts of philosophical gymnastics in order to show that, actually, *there is no divergence after all*: their view is also compatible with prevailing intuitions. That is, after relying on these absurd cases in order to create some kind of substantive difference between one ethical position and another, ethicists spend a good deal of their time trying to erase these very differences and prove, if unintentionally, that it really does not matter if one adopts their own ethical system or another.

For instance, when Kant explains, at length, why we should not lie in the "murderer at the door" scenario,[5] his successors have composed treatise after treatise attempting to explain why it

actually *is* morally permissible to lie in these extraordinary circumstances within the framework of deontological ethics.[6] Or, when Consequentialism seems to imply that there are no such things as "rights," certainly not inviolable ones[7]—Consequentialist ethicists work out robust series of constraints which, in practice, would prevent counter-intuitive outcomes.[8] Very rarely are ethicists willing to "bite the bullet" and simply accept that, within the framework of their ideology, one is morally obligated to counter-intuitive actions—indeed, to actions which may be personally costly,[9] or may even seem morally repugnant from outside of their theoretical framework.[10]

The implication of these compromises, of course, is that ethical theories inform neither our convictions nor our actions. Instead, *non-reflective judgments lie at the core of morality—* an ethical system is only worthy to the extent that it complies therewith; the discipline of ethics, at best, seeks to explain *why* we feel the way we do rather than *what* we should do. That is, in trying to reconcile their ethical systems with our moral instincts, ethicists implicitly surrender the *normative* aspect of their theories, whether they acknowledge it or not.[11] But actually, the descriptive aspect of ethical theory proves problematic as well:

In his "Unprincipled Ethics," Gerald Dworkin argues that the overwhelming majority of our actions are non-reflective, and we ascribe reasons to our actions *after* we make decisions— not during or before.[12] Moreover, because we do not have good introspective access to our non-reflective processes,[13] we tend to confabulate the reasons why we behaved in a given fashion, often in falsifiable ways. On these grounds, he argued that we do not seem to use ethical principles in making moral judgments; the appeal to moral reasoning which people use to *justify* their actions (post-hoc) likely bears little (if any) relation to the mental processes which *actually* motivated the behaviors.

IV.

If moral decision-making is generally non-reflective, what of more *purely* "rational" processes, such as science or mathematics? Actually, we see the same trends. The processes of inspiration and discovery are largely outside of the bounds of consciousness or volition: we do not "will" ourselves to have breakthroughs. When we set our mind to a given problem, often our major advances occur after we "give up," turn our conscious mind to other tasks, sleep on it, etc. and then come moments of "clarity" or "revelation;" we have no control over when (or if) this happens.

It is *after* the "heavy lifting" has been done by our non-reflective processes that we systematize and *rationalize* our discoveries. To what avail? Typically, in order to make them seem more plausible/ appealing *to others*. The reason this work exceeds 70 pages of *arguments* as opposed to 2 pages of *claims* is because its author is not trying to merely convey ideas, but to *persuade* the reader. In anticipation of *skepticism and objections*, we will explore the

implications and applications of our theory. These concerns are more *social* than *epistemic.* That is, the purpose rationality plays in science, mathematics, and philosophy may have more to do with *politics* (broadly construed) than the pursuit of "the truth:"

In *The Structure of Scientific Revolutions,* Thomas Kuhn explores the hegemonic nature of "normal science," and the critical role that the *popular adoption or rejection* of paradigms has on the success of subsequent ideas (to say nothing of the significance of institutional and financial interests). The work of Foucault has focused intensely on the way norms like "rationality," "sanity," "truth," "reality," "expertise" and "professionalism" are deployed by social elites in order to manipulate the public (often with less than their best interests at heart). Michael Polanyi's *Personal Knowledge* highlights the critical role personal commitment and skill play in scientific advances; Lakoff explores the role of neurology in concept formation *vis a vis* mathematical, scientific and philosophical inquiry.[14] Feyerabend highlights the centrality of the free association of ideas and playful experimentation in his *Against Method.* [15] Taleb underscores how many scientific discoveries were "stumbled upon" rather than actively pursued in his *Black Swan.*[16] With regards to science, it seems as though the role of logic, methods, and rules has been dramatically overstated…or in any case, misunderstood.

Heuristics and non-rational processes play a huge (possibly, the essential) role in mathematics as well. If we actually *did* compute every step of a mathematical problem, it would be a severe constraint on the complexity of problems we could address. However, a good deal of mathematics is essentially *instinctual*. When presented with "4 x 3" we do not *calculate* the product, we *see* the answer is "12." For most of us, it would be as hard to recognize the equation "4 x 3 =__ " *without* seeing the solution as it would be to recognize the sequence of letters "a", "n," and "t" without seeing the word "ant." And the higher one goes in mathematics, the more theorems (which are essentially heuristics) one internalizes, and the more practice one does—the more mathematics becomes a non-rational process.[17] That is, the more complex a problem has to be to even *begin* to evoke one's reflective processes in earnest.

V.

In any of these cases (ethics, science, philosophy, mathematics), when asked to *justify* a given conclusion, one would offer something akin to an argument or proof. While these *seem to be* reports on how we came to our conclusion, it could be that these *explicit* justifications are the product of social norms bearing little relation to our actual mental processes. Are there reasons to suspect such a dissonance? In fact, there are plenty. Although we do not have introspective access to our non-reflective mental processes,[18] there is abundant evidence suggesting they diverge far from conventions of rationality:[19]

Empirical Evidence Suggesting that "Reason" may be a Cultural Convention rather than a Fact of Human Nature

In Western cultures, logic and rationality enjoy such a close relationship that they are considered to be virtually synonymous. There are historical reasons for this, which involve the West's idealization of ancient Greece and their supposed dedication to *logos*.[20] While "Reason" came to be held up as universal, as the *essence* of humanity even, there is plenty of empirical evidence suggesting that "Reason" is little more than a set of cultural norms reflective of Western European values and history—particularly of the 17th and 18th centuries *Anno Domini*.[21]

This is not to say that other cultures are *irrational*; instead, that justifications take radically different forms in other cultures and in other times[22]—and these differences may shed light on what rationality *is*.[23] For instance, the rule which is said to be the locus around which logic revolves is the Principle of Non-Contradiction: one cannot sensibly assert (P & -P). In the Western analytic tradition, it is this principle which differentiates valid proofs from invalid ones. However, asserting this axiom as universal is problematic:

The classical notion of Wisdom in Semitic (and Asian) cultures turned on the juxtaposition and/or reconciliation of apparently contradictory claims.[24] Not only were true contradictions expected and tolerated, they were embraced: the highest truths were held to lie somewhere between irreconcilable points.[25] As the possibilities open to God (or to the Universe) were not held to be subordinate to those of human comprehension, experience, expression, or even imagination—through meditating on paradoxes, one could transcend (false) limitations and experience [Truth] directly, if fleetingly.

Of course, with these radically different notions serving as the foundation of logic, dramatically different systems of rationality would emerge in these respective cultures[26] (exacerbated by the fact that these societies used different *families* of languages, relative to Western societies). [27] Accordingly, while Western standards and conventions of justification may say a good deal about *our* history, culture, and languages, they may not say much *essentially* about human nature, or human cognition. Moreover, while *rationality* plays a critical role in virtually all societies, its typical Western-ethnocentric conception does not.[28]

Akrasia

Akrasia is an unresolved (and at times, irresolvable) tension between the conclusions of our reflective and non-reflective processes; or, between the mandates of rationality and what one *actually* believes, desires, intends, etc. Awareness that one is in an *akratic* state does little to resolve it. Even being sincerely and fully convinced of one's normative obligation to abandon or commit to a given belief, desire, intention, etc., one may simply be unwilling or unable to do so.[29] Of course, if there was a clean correspondence between rationality and human cognition,

akrasia should not even be possible, certainly not ubiquitous. [30] But it is both.

The Difficulty of Mathematics & Formal Logic

If cognition was *essentially* logical, mathematics and formal logic should come naturally to virtually everyone; we should all be more or less adept, with a bit of training. Instead, the virtual opposite is true: the overwhelming majority of most populations struggle to think in accordance with formal logic. For many, these tasks border on incomprehensible, even with dedicated study—and the more abstract these tasks are, the more difficult they become. [31]

Certainly, mathematics and formal logic represent ways in which people *can* think, albeit under the right circumstances, [32] but this mode of cognition is certainly not the default. [33] In fact, it tends to be very taxing: even under ideal conditions, people can only think in this manner for relatively short spans of time before performance begins to steeply decline (even for experts— although, as previously explored, they do not have to *think* about as much of the content, having internalized it). If human cognition is indeed *essentially* logical, these phenomena seem inexplicable; after all, mathematics and proofs are logic in its simplest and purest form: this mode of thinking should be *easier* than others if our cognition were *essentially* logical.

Chronic "Errors" (Biases & Heuristics)

Regardless as to whether one accepts the dual-process account of cognition or one of its rival theories, the heuristics and biases research (closely associated with Kahneman & Tversky) suggests rather powerfully that the overwhelming majority of human decision-making occurs through a set of non-reflective processes responsive to various cues and information formats. [34] These so-called "heuristics" are fast, frugal, and often quite accurate; in fact, we often override the conclusions of these processes to our detriment. [35]

However, reliance on heuristics also entails a number of biases, and relative to various schemes of rationality, they lead us "astray" in systematic ways. Moreover, these processes resist education: non-naïve subjects fare little better than laypeople when faced with the sorts of problems which evoke the systematic errors. And worse still, group deliberation often exacerbates, rather than moderates, these biases. [36]

The situation is not totally hopeless, however. One promising solution appears to be niche construction: designing our environments in such a way as to play to our cognitive strengths and compensate for our limits and weaknesses. [37] Gigerenzer has demonstrated that a number of these biases and errors can be *partially* resolved through changing the way that problems and data are framed. Finally, we have developed a number of tools and technologies which can dramatically extend human cognition and memory in various ways. [38] Notice,

however, that all of these fixes are *external* to the agent, who remains as "irrational" as ever. And as we will see later, this may not be a bad thing.

Intuitions are Motivated by Irrelevant Consideration; they are also Unstable & Inconsistent

If our underlying mental processes were logical, we should expect our intuitive judgments to be consistent (among various types of people, or within a subgroup) and stable (over time and across relevantly similar problems and circumstances): they should follow rather directly from the salient features of a situation, and should not be influenced by "logically irrelevant" factors. However, virtually no part of this description seems to match the way our intuitive judgments actually work.[39] Yet, despite the volatility of our intuitions, if asked to *justify* any particular intuitive judgment, we typically provide an explanation which conforms to the standards of rationality.

Not only does this volatility and inconsistency suggest a discord between our tidy standards of rationality and the way our cognition actually works, it also undermines the utility of intuitions as support for *theories* (as analytic philosophers are wont to do), given that theories must be consistent, general, logical, etc.

Dumbfounding & Confabulation

Often, there does not seem to be an answer as to why we took particular actions or hold particular desires, preferences, etc.: why did one grab the blue shirt instead of the green shirt this morning? Why did one choose this particular route over another? Why does one find certain things beautiful, pleasurable, etc. and not others (or find one item superior to another)? Conversely, why does one find some things disgusting? When asked to justify these *basic* mental states, one often finds oneself dumbfounded;[40] no *logical* reason is even theoretically plausible. But if logic is foundational to our cognition, *no* judgments or actions should be unreasonable (i.e. inaccessible to reason)—certainly not the bulk of them.

While we necessarily have introspective access to our conscious (i.e. linguistically framed) thoughts *as they are occurring,* these represent an extremely small share of our total mental processes (broadly construed to include beliefs, intentions, feelings, desires, preferences, theories, etc. insofar as these concepts correspond to actual mental states). Accordingly, our actions (informed by these mental processes) are largely non-conscious as well.[41] Even for those (relatively few) actions resultant from conscious deliberation, our intentional commitments are often vague, broad and general; the specific methods deployed to execute these mandates are almost entirely reflexive rather than reflective; they are invented *intuitively/ instinctually, ad hoc,* in response to the unique, innumerable, and largely ineffable contours of particular situations, drawing on information and skills which are largely tacit. Accordingly, insofar as our actions are

rationalized, these rationalizations usually occur *post hoc;*[42] essentially, we have to *guess* why we acted in a particular fashion. These guesses are typically influenced by subsequent developments or what would be convenient for us to propose in the present—and they are often falsifiable, even when subjects are trying to tell the truth.[43]

This confabulation occurs not only with regards to our actions,[44] but also our beliefs and memories.[45] We have a difficult time accurately tracing back the origins of particular pieces of information; we often misidentify the sources of our beliefs. And however accurate they may or may not initially be, our memories change over time in light of other accounts of a given event, subsequent knowledge and experience, our evolving self-image, etc.[46] —even to the point of producing sincere, vivid, nuanced, but ultimately false, recollections: misinformation can cause us to distort memories, other memories (often traumatic) can be suppressed or altogether fabricated.[47]

These phenomena should be unexpected: if our mental processes mapped onto rationality, and especially if rationality were essentially logical, then our beliefs, memories, actions, etc. should be resultant from clean causal chains. At the very least, if we could not "backtrack" these chains for some reason, we should *be aware* of our ignorance: we should not unwittingly confabulate. But in fact, it turns out that conscious thought plays a far less significant role in our cognition (and accordingly, in determining our actions) than people have traditionally believed;[48] as we shall see, it could be that the dominant discourse is profoundly mistaken about the *role* of mankind's phenomenological capacities, and also their *nature* (insofar as they are perceived as "logical").

VI.

> "'I know what I want, wish, believe, feel,…' (and so on through all the psychological verbs) is either philosophers' nonsense, or, at any rate, *not* a judgment *a priori*."
>
> Ludwig Wittgenstein
> *Philosophical Investigations,* Philosophy of Psychology—A Fragment, 309

Epistemologists typically hold that there is a tight connection between mental processes, explicit justifications, and logical rules. Individually, and especially collectively, the previously-explored phenomena undermine these associations.[49] There are dogmas implicit in each of these supposed relations:

Implicit Axiom: Reductionism

Methods   Explicit Justifications ——— **X** ——— Mental Processes

Aims

Implicit Axiom:
Good reasoning =
good outcomes

(Normative)

Implicit Axiom:
People are
essentially rational
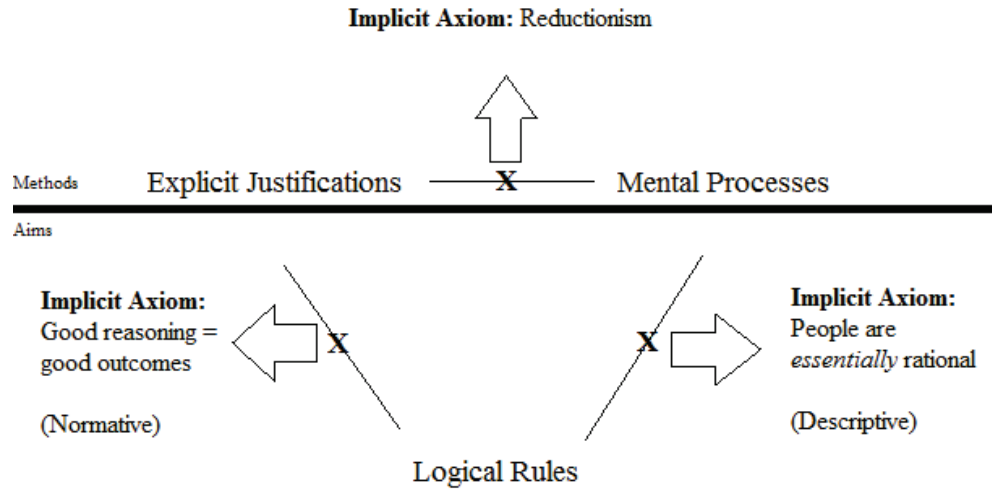
(Descriptive)

Logical Rules

Figure 1: Epistemology's Implicit Axioms

For instance, underlying the supposed connection between our explicit justifications and our mental processes is the dogma of reductionism—i.e. the belief that language cleanly corresponds to objective phenomena "in the world." Behind the presumed connection between mental processes and logical rules is the dearly-held view that human beings are essentially rational; this association motivates the descriptive aspect of epistemology. Finally, implicit in the connection between our explicit justification and logical rules is the supposition that good reasoning leads to good outcomes in the world: we should bring our beliefs, desires, intentions, and actions into compliance with logic because it will work out better for us if we do. This view motivates the normative aspects of epistemology.

Over the course of this investigation we will demonstrate all of these axioms to be false. In doing so, we will call into question the entire discipline of epistemology: its methods and aims (both normative and descriptive).

VII.

If mental processes are not "rational," how can we make sense of them? Moreover, what does rationality come to *mean* if it does not refer to mental processes? Answering the latter question will occupy the bulk of the forthcoming discussion, so let us offer some cursory remarks on the former before moving on:

While our mental processes may not be cleanly reducible to logical rules, they are not random either. The supposed (mutually-exhaustive) opposition of *logos* to *chaos* has its origins in Manichaeism; it is a thoroughly religious conception falsified by the natural world (wherein

order and regularities arise organically over the course of myriad interactions): it is a false dichotomy. There have been some works which aspire to advance positive theories without this bias (demonstrating how cognition can be non-logical but also non-random);[50] however, as this work intends to explore *conscious* (i.e. rational) processes, we will have little to say on the matter here—in any case, it is not an "armchair" question. However, our investigation of the latter question may have implications for the former, which can be explored more rigorously in the empirical sciences.

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[1]   In epistemological circles, beliefs and desires are typically held as things which people have a good deal of control over. Often, the conclusion of epistemological case studies is that the agent in question should change his beliefs, abandon his desire, or withhold judgment altogether—as an understatement, these are much easier said than done. An epistemology which is not grounded by the ways people actually form beliefs and make judgments, one which does not account for the constraints on human cognition–such a project seems rather worthless, at best.

[2]   The divide between the Egoists/ Immoralists and more "conventional" moral philosophy is one of the few authentic fault-lines in the discipline of ethics; but even *they* often succumb to the desire to compromise—reconciling their positions with traditional morality for the sake of increasing appeal. As an example, see Lester Hunt's "Flourishing Egoism."

[3]   The sheer outlandishness of many proposed counterfactual scenarios renders these examples nearly useless for practical morality. Because the situations in question are so extraordinary, it can be difficult to see how to relate the outcomes of these hypotheticals to one's everyday life. They cannot even teach us *how we should go about making ethical decisions*, as the deliberative process is so radically removed from our own: these examples typically present their reader with a precise number of clear options, small in number (typically, 2) with unambiguous outcomes which are *known* (not merely anticipated) in advance of the decision in question, removed from all social context, and wherein the reader is given virtually infinite amounts of time to consider the case in question, which remains static as he considers it. No part of this description would apply to "real-life" ethical quandaries.

[4]   Most apparent differences between the mandates of ethical systems are not, in the final analysis, the result of different *values* but of how *shared* values should be prioritized or fulfilled; Rachels, "The Challenge of Cultural Relativism."

[5]Kant, "On a Supposed Right to Lie from Altrusitic Motives."

[6] e.g. Herman, "A Mismatch of Methods"

[7]   For instance, Jeremy Bentham famously and repeatedly referred to the idea of natural rights as "nonsense upon stilts."

[8] e.g. Shaw, "The Consequentialist Perspective"

[9] Cohen, *If You're an Egalitarian, How Come You're So Rich?*

[10]   Even when ethicists are willing to *conceptually* accept counter-intuitive conclusions and extraordinary ethical demands— in practice, they do not *act* on them. That is, despite some persistent differences in *theory*, there would be very little variation in ethical *practices* between professed adherents to various ethical systems within a given context.

Consider the case of Peter Singer: in his "Famine, Affluence and Poverty," he holds that the citizens of "developed nations" are all obligated to dramatically lower their own standards of living and redistribute *all* excess wealth to the "third world" in order to ensure that no one lives in absolute squalor (while others live in decadence).

He holds that this is a personal obligation, which bears on the *individual*—regardless of whether or not the government is willing to fulfill this obligation (although the individuals should *also* democratically pressure their representatives to comply). He argues that people should live in humble dwellings, hold few possessions—purchasing anything they can second-hand. He condemns, at length, the idea that people should place more value on their own family, friends, and countrymen than on strangers across the world.

And yet, Peter Singer enjoys a much higher standard of living than the average *American*, let alone the average citizen of the world. He maintains an upscale residence in Manhattan; he travels in luxury cars; he arrives for speaking arrangements in tailored suits of the modern fashion; he regularly eats at fancy restaurants and enjoys cozy vacations— in short, he is far from living to the point of "marginal utility" (despite the 10- 20% of his substantial income he donates to charity); and his family is similarly provided for.

When confronted by this apparent hypocrisy, he simply acknowledges that he is "no saint," as though this self-mortification resolves the tension of his *continued* preaching of our need to live at the level of "marginal utility" paired with his *continuing* to ignore this mandate himself. We are not discussing the occasional hypocritical act resultant from some fleeting weakness of will, but of an intentionally and consistently hypocritical *lifestyle* (see, "Questions for Peter Singer").

However, probably the single most amusing example of this hypocrisy is that of Paul Johnson. In his *Intellectuals,* he details at length the ways in which various members of the intelligentsia consistently and dramatically violate the precepts of their own philosophies. After a series of detailed case studies, he suggests that we should *not* value ideas more than the character of their propagators (how you live says a lot about what you *really* think. If there is a consistent disparity between one's words and actions, we should question their reliability). Despite the book's heavy focus on the way these other intellectuals mistreated their families, neglected or betrayed their commitments, etc. it was later found out that Johnson had been carrying on an extra-marital affair *for over a decade* (see, "The Rise and Fall of Paul 'Spanker' Johnson").

In order to avoid the charge of *ad hominem*, consider the following: ethicists dedicate their lives to these theories— they are, unquestionably, the most passionate advocates of their respective ethical systems. And if, despite their passion, their knowledge, and their relatively easy lives—if *they* cannot manage to live in a manner roughly commensurate with the ideals they are promoting, it seems unreasonable to expect (and indeed, *demand*) that others live them better. In some cases, it seems outright immoral: for instance, when intellectuals call upon their countrymen to fight and die in the service of some ideological system while they retreat into the safety of their ivory towers to cheer them on.

And yet, it is very rare than an *ethicist* is in the newspaper for making bold and heroic decisions in pursuit of their ideals, for rolling up their sleeves and trying to make a direct and positive difference on the "frontlines" of horrific situations, for making extraordinary sacrifices, etc. The men of action who *do* perform these feats of valor rarely explain their choices in terms of complex ethical systems or principles— they typically respond that they were just "doing what had to be done."

And so, out of fear, moral laziness, self-interest, etc. the few remaining differences in ethical theories ultimately get buried, in practice. As a result, the discipline of ethics seems more like a cynical ploy for the intelligentsia to manipulate the public than a set of genuine convictions acted out in one's life.

[11] In the first place, the reason ethicists must rely on these extreme cases is that, in practice, we have no need to appeal to any ethical theory to make our decisions. Within a given context, we simply *know* what is right— and we do it, fail to do "the right thing," or we actively choose to do something we know to be "wrong." Regardless of which path we choose, we typically know where our actions stand morally. That is, extreme cases are necessary *insofar as the discipline of ethics is theoretical* because they introduce ambiguity into morality, contrary to our typical experience.

[12] To supplement Dworkin's claims: in his "Moral Heuristics & Moral Framing," Sunstein explores research suggesting that we make our moral decisions in much the same way as most of our other decisions—by heuristics, keyed to particular cues and data formats. Lakoff explores similar themes in his *Don't Think of an Elephant!*
In "An Unprincipled Morality," Dancy argues that there is no way to tell what is "right" outside of the contours of particular situations: abstract, hypothetical, and counterfactual scenarios have little applicability for the "real world." Similarly, ethical principles have little-to-no use practically or even normatively. And it isn't a big deal; ethics, he argues, can get along just fine without them. People do not really rely on them in making decisions—and it is hard to see why they should. Principles and reasons are primarily used for *justification*.

[13] We do not even have good introspective access to our desires. We are pretty bad at determining what will make us happy, how happy it will make us, and for how long. Similarly, with unhappiness.
Gilbert & Wilson, "Miswanting: Some Problems in the Forecasting of Future Affective States."

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14   Gallese & Lakoff, "The Brain's Concept: The Role of the Sensory-Motor System in Conceptual Knowledge;" Lakoff & Nunez, *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being*.
An important subtext of their work is that we can never know if the apparent order in the universe is a feature of some "objective reality," or merely a result of our cognitive- perceptual hardware and software.

15   The way the discipline of science proceeds seems to mirror the way our thought processes work: dramatic breakthroughs followed by periods of rationalization (Kuhn, *The Structure of Scientific Revolutions*).
Profoundly, while scientific processes seem to mirror phenomenological ones, it may be that the phenomenological processes themselves *mirror biological evolution*: in *The Plausibility of Life,* Kirschner & Gerhart demonstrate that evolutionary change seems to proceed through sudden and dramatic biological changes (albeit, with conserved core processes), followed by periods of "deep conservation."

In his *The Black Swan,* Nassim Nicholas Taleb argues that virtually all significant and enduring changes—be they personal, social, technological, or biological—are the result of (often cataclysmic and always highly improbable) "black swan" events. Because these events are, in a profound sense, unreasonable (within the framework of a given culture/moment), they are not amenable to being predicted, manufactured, or controlled. These revolutions are often followed by conservative processes which stabilize and hegemonize particular changes.

Rationalization should be understood in this fashion, insofar as it is *logical*. Consider: logic is always and only *truth preserving,* never truth *creating*; the best it can do is render as explicit connections between premises which were formerly implicit. Logic is an inherently *conservative* process.

16   Taleb goes on to argue that there is a wide gulf between theory and practice, invention and implementation, discovery and application. For each of these couplets, there are typically different sorts of people who do the latter as compared to the former. The transition from the first phase to the second is non-linear, and the specific ways that the novelty in question is implemented, applied, or put into practice is typically far-removed from the vision of its progenitor. Of the two, the latter is much more difficult and less glamorous—but much, much more important. In fact, the former phase is useless in the absence of the latter.

Moreover, even the people in the former phase tend not to be scientists, academics, or even professionals in the fields they inadvertently revolutionize. And their discoveries, again, are often more the result of serendipity, or else "tinkering" rather than reflecting from the armchair.

17   With regards to mathematics, it is more challenging to "show one's work" than to derive the correct answer. The "heavy lifting" is not the calculations, but the justification.

18   It may seem as though we are begging the question here, as the existence of an unconscious mind (*mutatis mutandis,* compatible with a dual-process view of cognition) is controversial—as is, indeed, the existence of a *mind*, at all (according to eliminativists).

While these debates are interesting and important, they have little bearing on the matter at hand. For our purposes, it will be sufficient to show that, *whatever else one wants to say about human cognitive processes,* they do not seem to correspond to *logical* rules, nor to our explicit justifications. Positive claims about cognition beyond this would be empirical matters which demand more evidence than can be offered from the armchair—in fact, a conclusive answer demands more evidence than *science* has at its disposal, to date.

19   Regarding our reflective processes: our *conscious* thinking is rational—this should not be surprising, as such thinking is framed in *social languages*. While there is much that is objectionable in Grice's theories on linguistics, he seems correct in asserting that languages such as English, Arabic, Japanese, etc. are necessarily social; people use these languages with *communicative intent.* Even in the case that we are thinking *to* ourselves, we use the language *as though* we are talking to others. In fact, often we *do* talk to ourselves (audibly). To frame our thoughts in these languages is to *rationalize* them. Conscious thinking is the translation of our mental symbols into communicative symbols (that is, a translation of our language of thought into "social" languages).

The point of social languages is to facilitate the exchange of *critical* information/ ideas (that is, the "gist"). However, even for this, language *always* underdetermines its referent—the correspondence between language and [that which is] will necessarily be vague and indirect. Moreover, our interpretation and use of a given language is not uniform; the way various members of an audience interpret a given expression will not be identical to one-another, nor to the intentions of the speaker. Also, not all thoughts will be easily translatable into social languages. For all these limitations, language works *well enough* (to fulfill its *telos*). And language is not meant to do "all the work" on its own:

As Wittgenstein pointed out (*Philosophical Investigations*), the "content" of a linguistic expression is largely derived from its *context* (cultural, syntactical, situational, etc.); moreover, language is often augmented by other forms of communication (the tone and inflection of the expression, accompanying gestures, posture, facial expressions, visual representations, etc.)—in fact, the overwhelming majority of human communication is non-verbal.

[20]   In order to understand how deeply misguided these evocations of antiquity are, consider the Renaissance-era "revival" of the Greco-Roman aesthetic, which could be easily summed up as "white marble." In keeping with most polytheistic societies, the *actual* Greco-Roman aesthetic was extremely bright and colorful—even gaudy. Statues and temples were covered in ornate paint designs. However, the pigments that the Romans used were typically not durable-enough to withstand the ravages of time, weather and conflicts.

Meanwhile the Renaissance-era artists and intellectuals of Western Europe did not know of antiquity by means of any active or living tradition—instead, through second-hand accounts and the (relatively few) surviving texts of various Greek thinkers, preserved and annotated by the Muslims, recovered during the Crusades, translated and circulated among the few literate and interested souls of the day, and eventually re-popularized among social elites by Petrarch (d. 1374 AD), who integrated ancient philosophy with Western European interpretations of Christianity in order to respond to the intellectual crisis of the day: the collapse of scholasticism under the nominalist critique (Gillespie, *The Theological Origins of Modernity*) .

Due to their general lack of understanding about Greco-Roman society and culture, upon encountering statues and temples bleached by the elements, Western Europeans assumed this to be the aesthetic of antiquity—even to the point where they would wipe clean traces of color they found on ruins, believing the paint to be the work of vandals. However, traces of color may still be found on some of newly-discovered works which have not been "fixed." And with the help of contemporary tools, we can get a much better sense of how these pieces originally looked. For instance, the work of artist Vinzenz Brinkmann is oriented toward restoring this aesthetic through painstaking research and attention to detail.

Nonetheless, the neo-classical aesthetic persists globally: from the White House to modern Egypt—an emulation of ruins, not of Rome; a testament to the profound *dis*continuity of the monolithically-described "Western" civilization and to the mythology surrounding its proudest cultural artifacts. This will be an important subtext of our investigation.

[21]   While most prominent Greek philosophers believed that mankind may be *essentially* rational, they did not believe people were *predominantly* rational (indeed, this was *the* problem). Even in Plato's *utopian* vision of society (*Republic*), he concerned himself primarily with the extreme minority he viewed as capable of rational action, and the institutions these people should erect in order to control the masses. Ultimately, he acknowledged that such a society was destined to collapse because rationalism simply ran contrary to human nature—there was no question of making all men rational; such an endeavor would have been understood as sheer folly.

However, Enlightenment era thinkers would come to interpret rationalism within the framework of the Christian messianic ideal; the result was an essentially evangelical form of rationalism, complete with a mythical Golden Age (Greco-Roman antiquity), followed by a fall from grace (the collapse of Rome, followed by the Dark Ages) — there was hope for the redemption and perfectibility of man, rendering conversion an imperative. There was even the belief that Reason would save us from our societal problems and eventually usher an age of universal peace and prosperity (positivism and its forbearers). Out of this hope developed the need to destroy "false religions," which, within this framework, meant religion itself.

Nomenclature notwithstanding, the Enlightenment did not come about as a result of the majority of the population simply "coming to see the light" through Reason. Instead, the Enlightenment began with the Reign of Terror— wherein nobles and religious leaders were rounded up, tortured, and killed *en masse* by a radical minority of extremists. Religious monuments were destroyed, churches were re-appropriated. Thereafter, these elites seized power (through the vacuum their killings had created) and instituted an authoritarian state wherein those who were suspected of harboring counter-revolutionary sentiments were tortured and/or killed with little-to-no due process. It was *illegal* to display religious indicators on one's house or one's person, it was *illegal* to congregate for religious rituals (upon penalty of death)—and it stayed that way for *decades.* If one wanted to survive (let alone thrive) in France, one had to adopt secularist/ rationalist positions.

When Napoleon took power, he decriminalized Christianity, although this was only to more effectively promote Enlightenment ideology, in light of the failure of state-sponsored rationalist cults (more on them soon). The priests were subordinated to the State rather than Rome, and they were made to tailor their messages in the service of Enlightenment ideals. Simultaneously, the church's sphere of influence was dramatically narrowed due to his policy of *laicite*. And then, Napoleon spread this form of government *by the sword* to the rest of Europe (the Napoleonic Wars)—instituting *laicite* on all conquered peoples (i.e. most of Europe), and ultimately crushing the Holy Roman Empire militarily. This legalistic imposition described above can be, and was, dramatically aided by co-opting the dominant symbolism and ideology of the culture (Bicchieri, *The Grammar of Society*)*:*

Enlightenment ideology was able to "take" among Europeans by explicitly playing on messianic symbols, etc. There were two spectacular examples of this: following the popular failure of Robespierre's Cult of Reason (*Le Culte de la Raison*), which attempted to worship reason itself, without the positing of any deity—the intelligentsia of France attempted to *rationalize* the divine through the Cult of the Supreme Being (*Le Culte de l'Etre Supreme*); this "supreme being" was essentially the god of the philosophers: an entity who, while the creator of the universe, was neither all-powerful nor infinitely sovereign. Instead, this god was constrained by Reason: the supreme principle in the universe to which even "god" must be subordinated. Although both of these cults ultimately failed (despite being the only legal "religions" in France at the time), they are indicative of how the Enlightenment proceeded: it may be that the West's neo-classical ideal bears little relation to the ancient Greek thought, owing more to monotheistic absolutism than it does to Plato *et alia*. That is, Western "rationalism" is not so "rational," after all.

[22] MacIntyre, *Whose Justice? Which Rationality?*

[23] While all cultures develop standards of rationality, as we will see, there are certain social arrangements which will make rationality more or less central to the society at large. Similarly, within a given society, there will be certain sectors where rationality is more (or less) important, relative to the broader culture.

[24] In contemporary usage, especially in analytic philosophy, labeling something paradoxical is shorthand for "impossible"—but again, this notion is relatively new: the term "paradox" was not widely used until the mid-sixteenth century. Even then, the term typically denoted a statement which, while seemingly absurd, *was in fact true*—or, a statement which, while self-contradictory, *was not necessarily false*. That is, even in Western cultures it was understood (until very recently) that a proposition being paradoxical did not entail it being false.

[25] Drawing on this notion of Wisdom, in Slavoj Zizek's *The Parallax View* (p. 26)*,* he argues that, "...the status of the Real is purely parallactic and, as such, non-substantial: it has no substantial density in itself, it is just a gap between two points of perspective, perceptible only in the shift from one to the other."

[26]Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently… and Why.*

[27] As the "Sapir-Whorf" hypothesis posits, language profoundly affects how the world is framed in conscious thought and public discourse. This, in turn, would have substantial implications for the development of standards of rationality in particular cultures.

[28] Weinberg, Nichols & Stich, "Normativity and Epistemic Intuitions."

[29] A particularly interesting case is that of "Aliefs," or "implicit attitudes." Often, these dramatically contradict our explicit beliefs. In, "The Motivated Use of Moral Principles," Uhlmann *et alia* show that, in "trolley problems," white people who self-identify as political liberals tend to be much less willing to sacrifice someone for the "greater good" if the would-be martyr has a "black sounding name" (Tyrone). Conversely, they were much more willing to sacrifice someone if the victim's name suggests whiteness and/or affluence (Chip Ellsworth III).

Despite this apparent bias *in favor* of black people, when white liberals take implicit association tests, they tend to robustly associate black features with negative traits (see, "Stealthy Attitudes" by Lambert). These aliefs tend to be *extremely* resilient, and can guide our actions in subtle and nefarious ways, albeit not *always* for the worse (consider the white liberals on the trolley problem: overcompensating?). Implicit attitudes are just one example of the ubiquity of *akrasia*.

[30] Davidson, "Paradoxes of Irrationality."

[31] Some of this difficulty can be mitigated by framing problems in different ways, as Gigerenzer's research suggests ("How to Improve Bayesian Reasoning without Instruction: Frequency Formats"). However, many of these problems persist in spite of these efforts (Kahneman & Tversky, "On the Reality of Cognitive Illusions: a reply to Gigerenzer's critique").

³²   If subjects are uncomfortable, tired, distracted, under stress, etc. performance at these reasoning tasks drops very quickly. Given the rigors and unpredictability of the Pleistocene environment in which our species evolved, this is not a result we should expect for our *essential* mode of cognition.

³³   Until the 17th century, mathematics was not widely known or used. Engineering tasks, from the construction of the pyramids to the building of Roman temples or Medieval castles—not only were they built with the simplest of tools (levers, pulleys, chisels, man and horse power, etc.)—but also *without appeal to algorithms, models, projections, calculations, etc*. Outside of the rudimentary arithmetic used in markets (typically addition or subtraction by abacus), mathematics was considered an intellectual diversion with little real-world application. Even the much-lauded Pythagoras was considered in his own time as a kook, a cult-leader. Most Greeks were not clamoring to implement or celebrate his ideas. In the West, mathematical tasks relied on Roman numerals until after the Crusades, which introduced the Arabic numerals currently used; even the mathematical concept of "zero" was absent in the West until this time. Into the 13th Century there were only a handful of people in *all of Western Europe* who even knew how to perform division, let alone anything more complicated.

      That is, humanity's most enduring and celebrated artifacts had little need of mathematics or other abstract knowledge. Most great inventions and advances in technology were (and are) built by people who did not know *why* or *how* they worked from a scientific or mathematical perspective. They relied instead on tinkering, tacit knowledge, traditional heuristics and tricks passed across generations of craftsmen. Nonetheless, in narratives about "science" often co-opt these breakthroughs by highlighting how scientists eventually figured out the mechanics of a given technology, etc.—albeit, often after it was already widely proliferated and in use. Although the trajectory of was from invention to theory, rather than theory to invention.

      The contributions of mathematics and directed scientific inquiry to human history is much newer and smaller than most people assume--a critical reading of scientific, medical and technological breakthroughs makes it glaringly-obvious that the ivory-tower variety of "knowledge" is much less important or valuable than typically described (especially and unsurprisingly, in academic circles). In fact, revolutions often happen *in spite of* the intelligentsia, not because of them: again, logic is inherently conservative—including the logic of various fields, disciplines and institutions; intellectual "gatekeepers" were often the nemesis of sociological and technological evolution (although this struggle can itself often be productive). The recent vintage of many of these abstract fields helps explain why mathematics and formal logic remain so difficult for most people—they are, in a sense, unnatural (artifactual) modes of cognition, the products of particular sociological circumstances.

³⁴ For an excellent summary of this research, Daniel Kahneman's *Thinking Fast & Slow*

³⁵ Gigerenzer, Todd et al., *Simple Heuristics That Make Us Smart*.

³⁶ Sunstein & Hastie, "Four Failures of Deliberating Groups."

³⁷ For elaboration on the notions of "ecological rationality" and "niche construction" see:
Todd et al., "Ecological rationality and its contents;" Sterelny, *The Evolved Apprentice*; Thaler & Sunstein, *Nudge*.

³⁸ For a robust survey of the relevant literature here see *The Extended Mind*.

³⁹Alexander & Weinberg, "Analytic Epistemology and Experimental Philosophy."

⁴⁰ Haidt *et al.*, "Moral Dumbfounding: When intuition Finds No Reason."

⁴¹ In his *The Tacit Dimension*, Polanyi explores the sheer quantities of *ineffable knowledge* we possess, which profoundly inform our "reflexive" actions (and often our "reflective" ones as well).

⁴² Here referring to the fallacy *post hoc ergo propter hoc*, as opposed to the more mild *ex post*.

⁴³ Bar-Anan et al., "Inaccurate self-knowledge formation as a result of automatic behavior."

⁴⁴ Nisbett, "Telling More Than We Can Know: Verbal Reports on Mental Processes."

⁴⁵ Johnson, "Source monitoring and memory distortion"

⁴⁶   Memory is not the same as experience—both because memory is imperfect in catching/ preserving details without corruption, and also because one reflects upon one's memories from one's current mental state. When one calls upon one's memories, our minds do not simultaneously regress into their state at the time the memory was impressed.

⁴⁷ Loftus, "Memory Distortion and False Memory Creation"

⁴⁸ DL Smith, "Natural Born Liars"

⁴⁹   We should note that much more could be said of each of these topics, and many more classes of examples could be added to them in order to demonstrate the dissonance between our mental processes and logical rules.

As an easy anecdote, consider the apparent irrationality of dreams (insofar as the recollections are accurate)—given that they are held to be expressions of our *unconscious mind*, if our underlying mental processes were *essentially* logical, the apparently surreal nature of dreams seems rather difficult to explain.

50   In his, "What Might Cognition Be, If Not Computation?" Van Gelder provides an overview of some promising counter-models; when viewed in context of Lakoff's research on the neurological origins of mathematics, etc. it seems as though we must reconsider the nature of, and relationship between, logic and cognition.

Etymology: Rationality & Reasons

"A radical shift from previous forms of thought was occurring. Ernest Gellner calls it the 'Big Ditch' in the history of human cognition because it separates the modern West (and by now most of the world) from everyone else in history. Just to suggest the magnitude of the change...the following terms were not yet in use in the sixteenth century: 'Adjectives such as 'absolute' or 'relative'; abstract' or 'concrete'; 'intentional,' 'inherent,' 'transcendental'; nouns such as 'causality' and 'regularity'; 'concept' and 'criterion'; 'analyses' and 'syntheses'; 'deduction' and 'induction,' 'coordination' and 'classification.' Even the word 'system' came into usage only in the middle of the seventeenth century. 'Rationalism' itself was not christened till very late in the nineteenth century.'"

Robert Bellah
Religion in Human Evolution, p. 40

Our investigation has hitherto suggested that the epistemologists' notion of rationality is deeply problematic; it is our project to provide a better account. Towards that end, it may be fruitful to consider the etymology of the central terms ("rationality" and "reason"). Both words share a common root:

Df. *ratio* (Latin) = To reckon or calculate. The term was most commonly used in the context of *business transactions*.

Rationality

In the classical context, the term *ratio* denoted a *comparative measuring:* of an individual to a group, of a sub-set to a set, etc. The term has retained this meaning in the mathematical term "ratio:" 2:1 odds of a given outcome, 3 out of 4 dentists endorse Trident, etc. This meaning is similarly preserved in the verb "to ration," which is to set aside some portion of a larger whole. Within this context, the term "irrational" would not have meant "inferior," "foolish," etc. Instead, "incomparable," something closer to *uncanny*.

It was not until the 1630's that the term came to be used in the contemporary fashion, by comparing a given act or individual, not against actual others "of its kind," but to some idealization; a given phenomenon was "rational" to the extent that it resembled its "Platonic form" (or, it was rational *in those aspects* which resembled said abstraction).

Reason

We have explored evidence that reasons are *not* representations of mental states or processes; instead, utilitarian confabulations, albeit, often unconscious. Accordingly, let us revise

our understanding of "reasons" to denote *explicit justifications provided to others*. There is etymological support for this move, as well:

The term "reason" is a translation of the French *raison* which is, itself, a translation of *ratio*. *Ratio* is often said to be a translation of the Greek *logos*,[1] whose root verb is to "count, tell, say, or speak." Notice that this verb is oriented *externally and socially*,[2] not introspectively or psychologically.[3] We believe this is the correct way of understanding the term and its derivations. Henceforth, "reasons" will refer exclusively to explicit justifications. From this starting point, we will derive a theory of rationality.

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[1]   Appealing to the philosophies of Plato *et al*. will be of little help to the rationalists. While many ancient Greek philosophers revered the *Logos,* they had a radically different understanding of it than that of Enlightenment-era thinkers. The *Logos* was the supreme principle which ordered the universe; it was not a faculty which people possessed—it was external to agents (and agency).

While Plato and Aristotle *did* posit a human faculty ("intellect") which was responsive to the *Logos* and superior to other faculties—even to the point of Aristotle holding it as the *definitive* human trait—there was not a robust notion of *intentionality* accompanying it. People's actions were determined by their constitution and their upbringing rather than their "free will." Even the reflective faculty's purpose was merely to push people to *submit* to the *Logos* (as opposed to *submitting to* the spirit or the passions). The goal was to arrange one's life (and broader society) in order to allow one deterministic force to prevail over other deterministic forces. So the "intellect" of the ancients is not really doing the same work as "reason," in modern discourse. It would be anachronistic to assert that contemporary or Enlightenment-era thinkers are talking about the *same thing* as the ancient philosophers.

[2]   There are vestiges of the classical meaning in the contemporary usage of "reason," as well. For instance, when we say of someone that they are being "unreasonable," we usually mean that they are unwilling to *negotiate* or *compromise*. When we define something as "reasonable" we usually mean "acceptable" (e.g. a reasonable price). Again, considering that the primary domain of *ratio* was business transactions, these are probably the most natural meanings. As it relates to the Greek point of origin, consider that the contemporary term "logo" denotes a *symbol* for a *brand*.

[3] Given this understanding of *logos*, illogical would mean "ineffable," not deficient or false.

Rationality & the Machiavellian Intelligence Hypothesis (MIH)

> "You'll reply that reality hasn't the least obligation to be interesting. And I'll answer you that reality may avoid that obligation but that hypotheses may not."
>
> Jorge Luis Borges
> *Death and the Compass*

I.

In "The Social Origins of Folk Epistemology," Hugo Mercier argues that rationality was likely developed in response to social, rather than environmental, pressures. Specifically, he argued that rationality was developed in order to better manipulate others and avoid being, ourselves, manipulated. That is, rationality is *not* about discovering "the truth.[1]"

Of course, any evolved capacity can come to be *used* for a number of purposes; rationality is no exception. However, as we have hitherto suggested, social manipulation remains the primary end towards which these capacities are utilized—even in domains such as science or philosophy. Mercier's claim also helps explain the ubiquitous and systematic "errors" in reason (relative to various logical models): whenever one utilizes a faculty outside its proper domain, these anomalies should be expected. While Mercier's argument is important, its implications have not been sufficiently explored:

II.

Under the MIH account, rationality serves as a mediator, helping to avoid and mitigate social conflict (or conflicting interests). But it is not an *objective* or *impartial* mediator; instead, it is *de facto* self-serving.[2] In his "Distrusting Reason," Hilary Kornblith highlights some of the myriad ways in which we deploy rationalization, often unconsciously, to further our own ends, shore up antecedent beliefs, and justify our actions (either planned or committed).[3]

Rationality also fails to be objective[4] to the extent that there are asymmetries between states of affairs and our abilities to produce reasons to justify them. That is, certain people are great at rationalization, and they can produce compelling justifications even if "the facts" are not on their side.[5] Others are less capable, and may fail to provide compelling arguments, even when an extremely powerful case could be made. And should a dispute arise, the "winner" in most situations will be the person who is best at convincing himself, his interlocutors, and any relevant others—*not* the person who is most honest, the most logical, the most knowledgeable, etc.

Rationality maps imperfectly onto logic[6]—imperfectly because often the maximally-effective *rationalization* will be, strictly speaking, illogical. One need not comply with logic to be persuasive: in many situations, one will fare better appealing to *ethos* or *pathos*, or to sneak in

logical fallacies.[7] And to the extent that these arguments are *successful*, they are *superior* to more logical arguments, or even "truer" arguments, relative to the *telos* of the faculty.[8]

However, it is important to note that "the truth" is not especially important for logic, either. In formal logic, a proof can be valid (i.e. formally perfect) without being sound (i.e. true). Validity is seen as the more foundational of the two (a proof can be valid without being sound, but cannot be sound without being valid); indeed, a number of formal proofs are never "cashed out" in the real world, such that soundness is even relevant (to include a good deal of philosophy, unfortunately). That said, the correlation between logic and truth, tenuous as it may be, is actually *stronger* than the one between rationality and truth. A logical argument is "guaranteed" to be truth-preservative:[9] the conclusion will be as strong as the premises, if the argument is valid. This guarantee holds with *rationality* only insofar as a justification is logical.

III.

Given the preceding considerations, we have arrived at a point where we can offer up more robust definitions of reasons and rationality, which will inform the rest of this examination.

> Df. Rational (arguments)= providing or exploiting reasons/justifications in order to persuade (typically) others to act in a particular way and/or accept or resist a given belief or state of affairs.

> Df. Rational (actions) = providing or exploiting threats/incentives in order to persuade (typically) others to act in a particular way and/or or accept or resist a given belief or state of affairs.

Given these definitions, compliance with various logical standards would not be the proper method for evaluating rationality. Instead, rational arguments/actions should be weighed in terms of their *effectiveness* (relative to the aforementioned goals).[10]

IV.

On this account, rationality is related to reasons teleologically: reasons are the means of realizing the aims of rationality.[11] Rationality is in the business of persuasion and doubt; reasons are its currency. Upon reflection, this definition should not be terribly controversial. Consider the cases in which reasons are provided: typically in cases of a conflict or challenge, either actual or anticipated.[12]

To whom are reasons provided? Typically, they are offered to those one is, in some sense, accountable to.[13] Reasons are provided when one is unable to, or uninterested in, stark coercion. In cases of absolute authority, justification is superfluous. One may indulge subordinates by providing justification, but there is no obligation to do so, and it is largely irrelevant whether or not the reasons offered are satisfactory. To help motivate this point, consider the situations where justifications are typically absent, or even inappropriate: parents to young children, kings to their subjects, prophets to their acolytes, military officers to their soldiers, etc. In these situations, proclamations are made, demands are offered, and compliance is expected—challenges or non-compliance are usually met with sanctions of varying severity.

V.

Understanding rationality through this lens has a good deal of explanatory power; consider the Enlightenment: "reason" took a central position in Western culture at a time when socio-cultural authorities were being undermined and overturned. We can also see why rationality would have been central to a *democracy* like Athens: in contexts where people are highly-accountable to one another, justifications, arguments, and reasons will be especially significant.[14]

VI.

Given our definition of rationality, it will be an ill-formed question to ask whether or not *people* are rational. Rationality applies to arguments or actions. Also, asking whether or not something is rational will be trivial. In the case of arguments, *de facto*, yes. In the case of actions, sometimes. The *substantive* question(s) will be, were the actions or arguments effective? and/or how effective were they? Accordingly, we would also evaluate *reasons* in terms of effectiveness: good reasons successfully persuade; bad ones do not. Logic is irrelevant to this determination.

VII.

It should also be apparent that the subjective/objective distinction of rationality and reasons is ill-formed: justification is *essentially* social and objectivity is impossible. As it relates to the supposed "subject" of subjectivity—identity is a social construct, as is consciousness (insofar as *conscious* thought relies upon social languages). For all of these distinctions: subjective v. objective, social v. individual, natural v. abstract, "the self" v. "the world"—at best, the boundaries are fluid and highly-permeable; it may be that, beyond linguistic and/or cultural conventions, there is nothing which divides them at all.

1   While Mercier contents himself here with discussing norms of rationality, he is drawing from a larger tradition. The Machiavellian Intelligence Hypothesis holds that, not only our social norms, but also our raw intellectual capacities largely evolved as a result of these same social pressures.
This view was originally put forward by Bryne & Whiten, who edited two volumes exploring the matter, *Machiavellian Intelligence: Social Expertise and the Evolution of Intellect in Monkeys, Apes, and Humans* and *Machiavellian Intelligence II: Extensions and Evaluations.*

2   According to the MIH, our rational faculties evolved, not to help people *cooperate*, but to manipulate others in the service of one's own ends, and to avoid being so manipulated (to one's detriment). In either case, while oriented towards others, the faculty is self-serving. e.g. Cosmides & Tooby, "Cognitive Adaptations for Social Exchange."

3   Commensurate with the MIH, Kornblith highlights how the more intelligent we are, the harder it is for us to escape using reason for self-serving, even self-deceptive, ends. That is, *smarter people are more prone to biases*, and are more resistant to having them purged (due to their stronger mental defenses). These findings were replicated in a recent study by West *et al.*, "Cognitive sophistication does not attenuate the bias blind spot." Again, if our intelligence was evolved for Machiavellian ends, this sort of correlation would be expected. However, these self-manipulative abilities can also get out of hand. In *Madness and Modernism,* Sass argues that while typically described as a loss of rationality, schizophrenia is probably best understood as "hyperrationality." He argues that this *over-rationality* is symptomatic of modern culture and institutions, more broadly—leading to a host of social problems. This is an important consideration we will be returning to throughout: more rational ≠ better.

4   Objectivity is hopeless due to our inability to step out of our own minds—we cannot separate ourselves from our previous experience, antecedent beliefs, our cognitive and sensory limitations, our subconscious biases, our desires and aspirations, etc. Our justifications will *necessarily* be informed by these. But it gets worse: in order to *effectively* adjust our thinking (to the extent that we can just choose to do so), we have to have some notion of the target we are aiming for. As we necessarily have absolutely no phenomenological experience of objectivity, it seems implausible that we could effectively calibrate ourselves in that direction, let alone evaluate progress towards the target. So even if objectivity were sensible (which it isn't), and we could adjust our cognition at will (we can't), we still would not be able to direct our cognition *towards* objectivity. At best, we can swap one bias for another.

5   The "truth" or "falsity" of justifications is relevant only insofar as they are "falsifiable," and/or the cost of the justification being *perceived* as disingenuous is high. I have put the terms "facts," "truth," and "falsity" in scare quotes for reasons which will soon be explained.

6   In defiance of the absolutism so prevalent in naïve discussions about "rationality," logic is hardly monolithic. There are several, often incommensurate, modes/models of logic which could theoretically be applied in a given situation. These subtleties are explored robustly in Fetzer's "Evolution, Rationality, and Testability." Although not explored by Fetzer, among these interpretations are paraconsistent modes of logic, which comfortably subvert the "sacred" principle of non-contradiction.

7   Despite the non-correlation between logic and rationality, it is not the case that *anything* goes. Norms and standards of rationality emerge in virtually all cultures/societies which help clarify what sorts of justifications are considered appropriate, etc. *in that culture*. The relationship between particular justifications and the contextual standards of rationality is analogous to the relation between jazz and "formal" music: flouting the rules/conventions only "works" because of the overwhelming levels of compliance.

8   In virtually any context in any society, those who are good at manipulating people and navigating social environments are typically going to fare better than most. The upper-echelons of most institutions are populated by Machiavellians (of various stripes) rather than technocrats or veterans of the profession: people climb social ladders much faster (and much higher) through charisma and networking than by hard work or natural talent.

9   It is the view of this author that logic's "truth-preservative" guarantee is radically overstated. One could make such an assertion iff the world operated in a strictly-logical fashion. But this is not the case: our logic conforms to the universe (this is why we have so many counter-models and revisions over time), the universe *does not* conform to human logic. So the "guarantee" of the logicians holds only insofar as their logical systems correctly reflect the way the world works. People used to understand this much better: in his, "How to Improve

Bayesian Reasoning Without Instruction," Gigerenzer points out that the Enlightenment-era probabilists had long proceeded under the mandate of trying to codify how people *actually* thought (i.e. divining the "laws of the mind"). Accordingly, if a proposed rule seemed to defy our cognitive tendencies, that rule would be modified or tossed out. In the intervening years, this dynamic has been reversed—rather than tailoring algorithms to the world (a descriptive project), the goal is to bring the world into compliance with the algorithms (a normative project). Of these irreconcilable projects, the former seems much more viable—the latter, likely pernicious (Taleb, *Bed of Procrustes*).

As a further complication for logic's "truth-preservative" nature, it is important to note that the truth-value of any proposition will not be an "objective fact." Instead, it will be indexed to a number of pragmatic considerations as well as the relevant socio-cultural context—including but not limited to how certain concepts are framed, how a given context defines "knowledge" and which propositions have already received this designation. And *this* is only when the truth-value of a proposition is determinable at all. In many cases, the value will be mixed or altogether opaque. Accordingly, insofar as logical argument successfully preserves the "truth" of its constituent propositions, the "truth" being preserved far removed from the rationalists' depictions.

[10]   The "Machiavellian" nature of justification is merely representative of communication, more broadly: While we previously mentioned Grice's notion of Communicative Intent (i.e. language is used in order to convey *something* to the audience), we should also make note of the intent of communications (i.e. *why* someone is attempting to convey something at all). People communicate with others *with purpose*—typically to get others to believe/disbelieve in some proposition and/or to get others engage in/refrain from some course of action. Either feat is accomplished by altering another person's understanding of reality, generally, so that it corresponds to that of the speaker, or serves the agenda of the speaker without reflecting his own beliefs (in the first case, the speaker would be telling the truth, in the latter case, "lying" in some form).

This renders communication as necessarily biased and often exploitative: the speaker has a certain agenda for attempting to communicate, and that agenda is informed by the particular worldview and circumstances of the speaker. Facts are selected to be omitted or included to correspond to that worldview and circumstantial desire under the title, "relevance." That is, we do not encounter language as detached and unbiased observers; instead, as *participants* with limited information, a number of biases, and a vested interest in the propositions with which we are presented and present. In all communications, objectivity, on the part of either the speaker or his audience, is impossible. Notice also that "honesty" and "dishonesty" is not indexed to "truth" and "falsity" but to whether or not the speaker is engaging with his audience in *good faith*—if the picture of the world he is promoting is commensurate with his own *beliefs*.

[11] To answer the question we began with, rationality is more basic than reasons, for what its worth.

[12]   Introspective justification functions in much the same way as social ones: we typically rationalize our actions and beliefs to *ourselves* in times of internal conflict or self-doubt.

[13]   What a party is demanding when they ask for justification is a compelling narrative by which they can understand a (typically adverse) state of affairs and/or formulate a proper response thereto. Again, the "truth" or "falsity" of these narratives is subordinate to their utility (insofar as their truth-values are even determinable)—justifications are instrumental rather than epistemological.

[14]   In these two examples there is a further parity between each culture's conception of rationality and democracy. In the case of Athens, democracy was a game for the social elites; the majority of people who lived under its jurisdiction were not "citizens." Accordingly, the conception of reason was elitist also: only a small minority were held to be capable of reason, and it was these people's job to orient society for the others. Conversely, during the "Enlightenment," despite the elitist *realities* of the institutions which emerged from the revolutions, they were animated by the *ideology* that freedom, justice, self-determination, etc. were the right of all. Accordingly, their conception of rationality was also universal (this trend was exacerbated by the influence of Christian eschatology).

The Metaphysics of Reasons

"…the paradoxical character of self-deception flows from the idea, formalized by French polymath René Descartes in the 17th century, that human minds are transparent to their owners and that introspection yields an accurate understanding of our own mental life. As natural as this perspective is to most of us, it turns out to be deeply misguided. If we hope to understand self-deception, we need to draw on a more scientifically sound conception of how the mind works. The brain comprises a number of functional systems. The system responsible for cognition — the thinking part of the brain — is somewhat distinct from the system that produces conscious experiences. The relation between the two systems can be thought of as similar to the relation between the processor and monitor of a personal computer. The work takes place in the processor; the monitor does nothing but display information the processor transfers to it. By the same token, the brain's cognitive systems do the thinking, whereas consciousness displays the information that it has received. Consciousness plays a less important role in cognition than previously expected."

David L. Smith
Natural Born Liars, "Fooling Ourselves"

I.

If justifications do not refer to mental states, how should we understand the ordinary discourse regarding reasons and rationality, with their appeals to beliefs, desires, intentions, feelings, etc.? Here, it may be helpful here to compare Folk Psychology to Folk Physics.

There is a sense in which we can articulate F. Psychology and/or F. Physics as systems of propositions and commitments, but such a rendering would bear little resemblance to how they actually operate. The folk conceptions are deployed automatically, instinctually: they inform how we, literally, *perceive* the world—they are hermeneutic devices for the data we receive. The folk conceptions are *not* theoretical; without the folk axioms, there *are* no theories.[1]

Our F. Psychology carries no ontological commitments to intentional states, any more than relying on F. Physics entails an ontological commitment to physical objects, causality, etc. Understood as a theory, F. Physics is false. Newtonian physics would undermine much of the folk, and modern fundamental physics would suggest that the folk *and* the Newtonian conceptions are deeply flawed. In spite of this, F. Physics remains indispensable.

Assume there was a car accident. A police officer arrives on the scene and asks a witness, "What happened here?" Now, imagine that witness responds by handing the officer a sheet of paper with some physics equations on it. This would be the most *literally* correct way of answering the question—indeed, there is a sense in which any other answer would be more or less *mis*leading. But of course, this would not really be helpful to most (if any) police officers— especially for such things as deciding who deserves *blame* for the incident, what the proper legal response should be, etc. Accordingly, it would not really be doing the work that "answering the question" is supposed to do. The "misleading" F. Physics answer is actually *better* than the "accurate" scientific/ mathematical answer (even sidestepping the difficulties in measuring the relevant data in real-time to make such an answer possible). There is nothing special about this

case: the "folk" answer will be superior in virtually all circumstances that most of us are faced with in our daily lives.

Rarely, if ever, in our normal routines is it really important/ useful to go beyond F. Physics. This is true *even for specialists*: it is not important to deal with Quantum Theory if you are just trying to design a better jet—the Newtonian stuff works just fine. For most of us, Newtonian physics is *way* more than we need to get by in the world; the folk is great. The "truth," such as it is, is not so critical—in fact, it can be a costly distraction (adequacy trumps accuracy).[2]

The purpose of F. Physics is not to provide profound insight into the ultimate nature of the physical universe—but to help us navigate said universe. Even if causality is, technically, problematic, and there are no physical objects[3]—*acting as though these propositions are true* is a virtual requirement for survival.[4] We see the same in F. Psychology, which is oriented towards *mitigating social tension*, rather than making profound observations on the nature of humankind.[5]

II.

Consider the following case:

1. Kant is hungry[6]
2. Kant eats

Question: was hunger the *reason* Kant ate? This seems difficult to affirm. Typically, we do not think, "I am hungry…what should I do about it? Should I eat?" Nor, "I want to eat, how can it be justified? By my hunger?"

The relation between hunger and eating is not one of *reasons*.[7] Nor is there a *causal* relation, per se. One can be hungry and not eat, even to the point of voluntarily starving to death. Conversely, one can eat without being hungry (this is, indeed, the American way). However, it seems ridiculous to claim that hunger and eating are *independent*; indeed, this is not my claim. Also, there should be little doubt that *if asked*, "Why did you eat?" Kant's reply would likely be, "I was hungry." And given the premises of this example, that statement would be "true."

This underscores the point: there is a relation between hunger and eating, but it is not one of reasons. There *was no reason* Kant ate until he was asked. Reasons do not exist independently;[8] they are not something to be had or obtained. They are *produced* as needed, typically for the sake of others, typically in response to/anticipation of some kind of challenge or conflict.

What we say by, "Jim has reason ψ to φ" is something akin to, "given what we know about this situation,[9] we think Jim can justify φ by means of ψ, if necessary (i.e. ψ would, to us, be an acceptable justification for φ);" or, "If I were in his shoes, I would justify φ thusly." This justification may or may not line up with Jim's beliefs or the way Jim would try to explain his action, if pressed. And the justification may reflect the "actual situation" with more or less accuracy. But as to the question of what *was* the reason that Jim did φ—there simply *is no fact to the matter*.[10]

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[1]   In the introduction we explored how moral justifications should be understood in a similar manner as F. Physics and F. Psychology. While there is a sense in which morality can also be rendered into a system of propositions, etc.—such a picture seems to be out of touch with its phenomenology. In fact, it seems to be our F. Morality which grants credence to ethical theories, rather than vice-versa. We do not *reason* our way to moral behavior: morality is a part of our folk philosophy—it is a hermeneutic device for interpreting the world, it is prior to theory, and it is deployed *instinctively* in response to the contours of particular situations.

[2] Hertwig & Todd, "More is Not Always Better: the Benefits of Cognitive Limits."

[3] See Ross & Ladyman's "The Alleged Coupling-Constitution fallacy in the Mature Sciences," for a brief primer on contemporary fundamental physics, as relevant to this discussion.

[4]   We can see here that the eliminativists are deeply misguided: although there may be little room for the folk conceptions in science (to include epistemology "proper")—this neither entails nor implies that they should be purged from broader society. In fact, this seems like a fairly ridiculous position to hold.

[5]   Wittgenstein (in)famously argued that beliefs are not something "in the head;" they merely denote dispositions to act a particular way in certain contexts. One's beliefs are defined by how one acts in the world, not by means of words (or therefore, conscious thoughts).

[6]   For our purposes, we will sidestep considerations about what hunger *is*. The reader can define hunger as they like.

[7]   To the extent that considerations are made, it is usually about *what* one should eat—it is taken for granted that eating will alleviate the hunger.

[8]   It is unclear what the "independent existence" of reasons would mean ontologically, and there is certainly no *evidence* in support of such existence—in fact, as we have demonstrated, there is plenty of countervailing evidence. This has not prevented many philosophers from dogmatically positing reasons and principles as objectively "real."

[9]   By indexing justifications to situations (as we do in "real life") we can make exceptions for ignorance, misinformation, good intentions gone awry, or other mitigating circumstances, should we find it problematic that Jim did φ.

[10]Clark & Toribio, "Doing without Representing?"

Epistemology "Proper" (EP)

"Believing what you read in a book on epistemology is like believing that the action on the stage of a theatre is all there is and that there are no people behind the scenes turning on the lights, changing colours, putting items where they are supposed to be, a jug, for example, or a telephone, ringing the telephone and bringing down the curtain."

Paul Feyerabend
The Tyranny of Science, p. 113

I.

Epistemology has traditionally included two main projects. First, a descriptive study of how we know what we know, what is the nature of knowledge, belief, etc. Second, a normative component: given the above definitions, how *should* we think, what *should* we believe, etc.

Regarding the first project, in "Epistemology Naturalized," Quine argues that questions about our mental processes (how do we come to form beliefs? How do we allocate credence? How/why are beliefs changed? *How* do we make decisions?)—these will more properly fall in the domain of psychology, broadly construed. These questions are largely empirical, and cannot be answered from the armchair. To the extent that armchair work is done, its methods, axioms, and aims must be grounded in and/or constrained by contemporary scientific research. Our examination suggests that the study of justifications will be irrelevant to this project.

II.

So long as epistemologists continue to focus primarily on reasons and justification, precisely what they will *never* be studying is how we actually think. Instead, to examine rationality is to study *how individuals mitigate differences with the broader societies they find themselves in* (with implications for internal conflicts). This study may be of value, both descriptively and normatively—but calling it "epistemology" will be a misnomer.

Properly contextualized, the study of justifications will be a sociological/anthropological enterprise—accordingly, it will deploy radically different methodologies than those of classical epistemology. While will may be room for some meta-inquiry in this new discipline, the project will also be indexed largely to particular cultures and circumstances (given the contextual nature of rationality). The proper aims and methods of the discipline would become much clearer (and the study, accordingly, more fruitful), once practitioners accept justifications for what they are. A tentative step in this direction may be Zeruvabel's, *Social Mindscapes: An Introduction to Cognitive Sociology.*

Ameliorative Psychology (AP)

"In the modern world, the most dangerous form of determinism is the technological phenomenon. It is not a question of getting rid of it, but, by an act of freedom, of transcending it…The first step in the quest, the first act of freedom, is to become aware of the necessity… by grasping the real nature of the technological phenomenon, and the extent to which it is robbing him of freedom, [man] confronts the blind mechanisms as a conscious being."

Jacques Ellul
The Technological Society, Introduction

I.

Does good thinking = good outcomes? This has been a foundational assumption for analytic philosophy—but it is not the sort of claim that logicians can simply help themselves to; it is an empirical question. From the armchair, philosophers can conjure infinitely-many situations in which it would seem as though the assumption would hold—but it is far from clear what sort of relation these sparse hypotheticals have to the actual world, in all its messy richness. In fact, in the real world, with real people confronting actual problems in particular contexts in real time—this assumption fails with alarming regularity. Should we be concerned with improving outcomes in the actual situations we find ourselves in, the solution is not going to lie in (futilely) attempting to bring our cognition into line with logical standards.

However, accepting this does not entail abandoning the normative aspirations of epistemology. In the same way that the normative aspect of classical epistemology was contingent upon the descriptive—so, too, would EP have a normative component, based upon *its* descriptive component (psychology, broadly construed).

II.

In their *Epistemology and the Psychology of Human Judgment,* Bishop and Trout make a case for "Ameliorative Psychology" which applies the findings of EP in the "real world." The authors focus primarily on the development of Statistical Prediction Rules (SPRs) which can consistently and dramatically outperform even seasoned experts at making identifications and predictions—while being far less demanding in terms of time and information.[1]

While there are some exceptional situations within a given context wherein experts have unique insight, or where the SPRs may fail to account for some critical variable, practitioners tend to be pretty bad at determining *when they are in those cases*. Specifically, practitioners tend to overestimate their own powers of judgment, and underestimate those of the model (the latter of which can usually be modified to account for blind spots, when detected). And so the best

course of action will typically be to dogmatically follow the verdict of the SPR's regardless of personal doubts or reservations.[2]

Beyond developing SPRs, our investigation has suggested other significant strategies: niche construction, data formatting, technologically extending our cognition, etc. Through these and other methods, we can play to our cognitive strengths while compensating for our shortcomings. However, there are some critical constraints and caveats which must be built into this project…

III.

As the name implies, *Ameliorative* Psychology (AP) will be necessarily indexed to particular problems in particular contexts. Just as it is an ill-formed question, on our account, to ask whether or not people are rational—it will also be senseless to ask how we can improve our cognition *generally*. AP will develop tools and methods, effective in *particular* situations, in order to maximize *particular* outcomes. And this improvement, as Bishop and Trout point out, may or may not imply bringing our cognition into compliance with "logic," or increasing our introspection (in fact, generally, it will not).[3]

IV.

There will be a number of constraints, as well. First, practical: regarding SPR's, N.N. Taleb's *The Black Swan* helps to lay out the sort of situations where predictive modeling is not only ineffective, but malignant—particularly because it can instill undue confidence in people, causing them to expose themselves to unnecessary risk.

A Black Swan is an event which, relative to a given set of data or assumptions, seems extremely unlikely or even incomprehensible. Taleb sets out to demonstrate that it is Black Swans which are the primary driver of change in the world, birthed from what he calls "the Platonic Fold" (the resulting dissonance from when our tidy analytic concepts and projections are superimposed over the complex, messy, and volatile world *we actually live in*).

In explaining B. Swans, Taleb draws a distinction between "Mediocristan" and "Extremistan;" B. Swans will be particularly influential in the latter. In Mediocristan, the level of variance is relatively small, such that any new data point will have little effect on the aggregate trend—to include B. Swan events. Accordingly, modeling and prediction are robustly reliable for the sorts of things which fall within this domain.

However, modeling will be particularly ineffective and dangerous in what he calls "The Fourth Quadrant." In a nutshell, these are situations in which the inequalities/ variations among the phenomena in question are such that *one single observation can profoundly and*

disproportionately impact the aggregate (i.e. "Extremistan")[4]—and when the potential risks and payoffs are complex or opaque. In these situations, it is better to rely on no model at all; attempts to model or predict the 4th Quadrant tend to not only make us blind to B. Swans, they also tend to make us more fragile to them, should they occur.[5] Similarly, regarding attempts to control events in this domain, because the risks and payoffs are often incalculably complex or opaque, there is an increased peril of unforeseeable blowback or *iatrogenesis*: attempting to manipulate 4th Quadrant phenomena to prevent B. Swans can actually make them more likely and more severe! Unfortunately, many situations we *want to* predict or control fall into this sector, to include the costs, duration and second-order effects of natural and man-made cataclysms (including wars), most economic trends and significant socio-cultural and/or political changes…

When we find ourselves in the 4th Quadrant, or otherwise faced with extraordinary/ novel situations for which our modeling will be of no use, sometimes our general-purpose cognition can help—but in other times, there simply is no good (epistemic) answer; reasoning, like modeling, can lead to the illusion of comprehension or control, instilling false confidence, and interfering with preparing and responding appropriately to the particular contours of fluid situations. But just because there is nothing which can be done *epistemically* in these circumstances does not mean there is nothing to be done: there are ways to reduce the quantity or quality of information necessary to flourish in the face of uncertainty.

In general, one should aspire to robustness: minimizing exposure to catastrophic harm by testing for, and redressing, severe vulnerabilities in a system. But this is just a first step; robustness means "harder to break;" but usually, when robust things fail, the impact is profound. The goal, as he sees it, is to aim for *antifragility*.[6] Antifragile entities benefit from occasional shocks, disorder, and chaos; the natural world is replete with examples—in fact, virtually all organic systems *benefit* from irregularities and stressors and atrophy without them. Some do extraordinarily well in extraordinary circumstances. According to the author, this is the target to aim for.

And so, after ensuring robustness, it may be prudent to *partially* expose oneself to risk in such a way that losses from Black Swan events which do not go "your way" may be severe, but not be ruinous; meanwhile, when such events *do* go as hoped, the payoffs can be enormous. In order to be maximally prepared to exploit these potentialities, one should aspire to be light, responsive, flexible, attentive, open-minded, ambitious/opportunistic, and stoic about risk and loss—knowing that a number of phenomena which will profoundly alter the course of one's life are going to be completely beyond comprehension or control. This sort of strategy will almost always pay off better than attempting (in vain) to plan, model, predict, or control the course of events in the 4th Quadrant. In his *Antifragile*, Taleb explores, at length, how these conclusions can be applied to individuals, and especially, institutions.

There is good news and bad news for the AP project. The good news is that modeling works great in "Mediocristan," and this domain includes most *natural* phenomena and many social phenomena, as well. Accordingly, we can get *a lot* of mileage out of exploiting the regularity of this domain in order to develop SPRs or build a stable infrastructure for niche construction, data formatting, and extending our cognition. But the first important caveat for AP is that practitioners must constrain their efforts to *this* domain, under the knowledge that naïve interventions in the 4th Quadrant may well do more harm than good. Second, the practitioners of AP must remember that chaos, disorder, unpredictability, stress, risk, inequality, and even occasional loss/failure—these are not *de facto* bad; in fact, they are *healthy* in moderation. Accordingly, the goal of AP should not be to minimize or eliminate them entirely, but merely to help curb their especially pernicious effects on especially vulnerable populations.

Minding this constraint has an additional benefit: tightly-regulated, massively interconnected, hyper-efficient, and extremely large systems are ill-advised; in the event that such institutions are hit with catastrophe (as all things eventually are), the effects tend to be much more severe, widespread, and prolonged. The impacts are often so traumatic that more harm than good can be generated, over the long term, through creating an institution of this sort—despite their enormous potential (which is, indeed, the source of their appeal).[7] Systems and institutions should be designed such that they can fail with minimal contagion.

Finally, with the awareness that Black Swans are *relative to particular frameworks and axioms*, one way we can actually *reduce* their likelihood is going to be to reject epistemic rigidity or homogeneity in favor of promoting diverse interpretive strategies (of a given phenomenon or data-set), and robust good-faith conversations between the practitioners of these strategies.[8]

V.

> "Whatever is not a condition of our life harms it: … "Virtue," "Duty," the "Good-in-Itself," the good which is impersonal and universally valid—chimeras and expressions of decline, of the final exhaustion of life… A people perishes when it confuses its duty with duty in general. Nothing ruins us more profoundly, more intimately, than every "impersonal" duty, every sacrifice to the Moloch of abstraction…"
>
> Friedrich Nietzsche
> *The AntiChrist,* p. 577

The second set of constraints will be ethical. In *The Net Delusion: The Dark Side of Internet Freedom,* Evengy Morozov demonstrates how "big data" (whose purpose is to develop SPRs) offers not only the possibility to improve human life, but also to hegemonize power, to exploit and manipulate people, to undermine privacy and freedom, etc. That is, in the wrong hands, the methods and tools of A. Psychology can be extremely pernicious.

This distrust of paternalism should be particularly strong in those situations where the interests of the people designing and executing systems and/or policies diverge from the people most affected by them. Also, insofar as there are asymmetries in cost/risk for those designing and executing the systems/policies, compared to those for whom the policies were intended. In both cases, the greater this divergence, the greater the cause for prudence, vigilance, and at times, resistance.

In *To Save Everything, Click Here*, Morozov explores how, even if we assume developers/ policymakers to be generally well-intentioned, operating in institutions without perverse incentives, and deploying tools which are highly effective at their intended purpose (situations which would be rare, indeed)—there may still be important reasons related to human freedom, autonomy, dignity, privacy, etc. to limit the development, and especially the application, of these tools. To the extent that we attain a marginally higher standard of living at the expense of the challenges, effort, risks, opportunities, surprises, uncertainty, and personal engagement that make our lives *worth* living, the entire ameliorative project becomes self-defeating.

Moreover, while technocrats can (and should) take the lead in determining the *means* of ameliorative projects, deciding what the *ends* of these efforts are cannot be left to elites. Instead, they should arise from public debate, with the programs themselves subject to public oversight—and both the ends and means should be subject to revision as a result of this accountability. As we have seen, even the most educated individuals can be pretty bad at determining what their interests are and what they *really* want. Accordingly, it seems presumptuous for the intelligentsia to answer these questions for everyone else, believing that they can determine what's good for an agent better than the agent himself (if one cannot even determine or predict one's own wants and needs, how could they possibly make these determinations for others?). Again, the goal is to minimize asymmetries of costs/risks/ payoffs between the people designing and executing a given system, and those for whom the system is designed.

These considerations are important due to the high likelihood of unintended consequences resultant from piecemeal interventions into complex and fluid systems—especially given the broad and elusive target of increasing human wellbeing and satisfaction.[9] Situations could easily arise wherein, despite every incremental step being an apparent improvement over the circumstance which immediately proceeded it, at some point we find ourselves worse-off than our initial position in some substantial way.[10]

VI.

In, "The Rationality of Side Constraints," Nozick argues that when we sacrifice the interests of a particular person or group for the "greater good," these victims rarely actually receive much (if any) of the benefit achieved at their expense. The so-called "collective good" is

nothing more than an abstraction—the only "real" good is at the individual level, indexed to particular circumstances. It is meaningless to talk about an "overall benefit;" policies oriented towards this chimera merely provide for some at the expense of others. Accordingly, the primary purpose of social institutions should be to protect and maximize *individual* rights and freedom—even with the best intentions, we should be hesitant to undermine these for the sake of some mythological "greater good."

VIII.

The work of Taleb, Morozov and Nozick suggests boundaries of the AP project, and can help lend further definition to what "reformed epistemology" should look like—both at the practical and the normative levels. Of course, these considerations are only cursory; much more work can and must be done in this field.

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[1]   The superior performance of SPRs relative to experts has been robustly demonstrated across a wide spectrum of fields; the authors cite a host of studies in support of their claims. For an example which *this* author is personally familiar with, see "Clinical v. Actuarial Judgment," by Dawes *et alia*.

[2] *Epistemology and the Psychology of Human Judgment,* II.4: "The Tempting Pleasures of Broken Legs."

[3]   Because AP primarily involves avoiding reflections/introspection in favor of dogmatically complying with SPR's or instinctually responding to cues built into the environment—this dramatically undermines the aims and methods of Standard Analytic Epistemology (SAE).

Over the course of their book (especially in Chapter 7, and the appendix), Bishop & Trout lay out a series of arguments which forcefully suggest there is simply no place for SAE in epistemology, at all. It is not a matter of incorporating some additional considerations from contemporary science—the discipline is just fundamentally and irrevocably futile. So for those readers who find my own rather comprehensive arguments unsatisfactory, Bishop & Trout's case can serve as an excellent supplement.

[4]   Some other attributes of "Extremistan" include (p. 36): extreme scalability of phenomena, dominated by winner-take-all inequality, no physical constraints on the thresholds (often because they correspond to *abstracta* rather than physical qualities), difficulty predicting from past information as the total will be determined by a small number of extreme events, it takes a while to understand what's going on, distribution is either Mandelbrotian (fractal; tractable scientifically) or wildly random-- as opposed to Gaussian bell curves, etc.

[5]   Not only does modeling typically fail to anticipate B. Swans in the 4th Quadrant, but even when modeling *does* suggest the possibility of said events, it usually dramatically underestimates both their likelihood and their impact. But even if the modeling *correctly* attributes the likelihood of some event as remote: saying that the odds were 1: 10,000 is a cold comfort when that situation is upon us—especially in the event that one is ill-prepared for it. This is why robustness and antifragility are so important.

[6] N.N. Taleb, *Antifragile: Things that Gain from Disorder*

[7]   The Black Swan problem is one of the primary flaws inherent in the Platonic vision of "Philosopher Kings" and its contemporary analog of having ivory-tower technocrats regulate and micromanage extremely large, complex and fluid systems and institutions in a top-down fashion. For other moral and philosophical arguments against these methods see Popper's *The Open Society and Its Enemies.*

[8]   Additional benefits of deliberative enclaves are explored in "Deliberative Democracy and Inequality: Two Cheers for Enclave Deliberation among the Disempowered," by Karpowitz et al. Nozick presents an ethical case for promoting these enclaves in his *Anarchy, State and Utopia*.

[9]   The central question which animates the discipline of ethics is, "how should I live my life?"—a question which can be rephrased as, "how can I live a fulfilling life?" That is, "the good" towards which ethics strives is, ultimately, fulfillment.

This is the essential flaw of hedonistic accounts of morality (to include most Consequentialist models): pleasure is shallow and fleeting and does not answer this essential desire for fulfillment (*eudaimonia*). Very rarely do people on their deathbed look back on their lives and proclaim, "I wish I had more sex," or "I wish I ate more delicious food," or "I wish I spent more time on entertainment," or "I wish I had a nicer house," etc. Instead, there are a number of sacraments, the pursuit of which brings meaning to life and tends to promote a lasting feeling of satisfaction/ happiness for most people, regardless of time or culture. Among them are:

1. Making a change in the world; creating things (especially legacies which endure beyond oneself)
2. Actualizing plans and aspirations (especially as a result of hard work)
3. Overcoming pain, adversity, limitations, risk
4. Building lasting, deep, and reciprocal relationships with friends, family, lovers, and the Divine
5. Gaining a deeper knowledge of ourselves, the world, etc.

Note that many of these are either altogether non-material, or only tangentially related to the material world (they play out more socially than physically)—moreover, they are *unbounded*: there is no point at which these sacraments are "completed." "Progress" on each of these fronts is more a matter of subjective perception than objective fact.

Finally, *actually* feeling happy/ fulfilled as a result of these pursuits is heavily dependent upon the individual in question. One can imagine a person who acknowledges great success in each of these sacraments, but for reasons ranging from biology to their general outlook on the world, remains unhappy and discontent (one can imagine the converse as well). In short, "the good" is nebulous, elusive—it is neither abstract nor hedonistic; it is agent-relative. There is, and can be, no "alchemy of happiness." This is why decisions about the ends towards which the ameliorative project aspires cannot be taken for granted or dictated from the ivory tower.

[10] Morozov has additional concerns that these narrow solution-oriented approaches, while often effective, are also deeply conservative. Accordingly, while they may reduce *the impact* of certain problems, piecemeal approaches may also perpetuate problematic states of affairs—as compared to more radical measures (which also tend to be more expensive, difficult, controversial, and/or risky) with the potential to *solve* problems altogether, to push societies in exciting new directions, and to test the boundaries of our capacities.

Epistemic Pluralism & Defeasible Coherentism

> "Biologically considered, our minds are as ready to grind out falsehood as veracity, and he who says, "Better go without belief forever than believe a lie!" merely shows his own preponderant private horror of becoming a dupe…For my own part, I have also a horror of being duped; but I can believe that worse things than being duped may happen to a man in this world: so Clifford's exhortation has to my ears a thoroughly fantastic sound. It is like a general informing his soldiers that it is better to keep out of battle forever than to risk a single wound. Not so are victories over enemies or over nature gained. Our errors are surely not such awfully solemn things. In a world where we are so certain to incur them in spite of all our caution, a certain lightness of heart seems healthier than this excessive nervousness on their behalf."

> William James
> *The Will to Believe,* VII

I.

Having redefined epistemology in terms of psychology, there is still the question of defining *knowledge*. Our investigation suggests rather forcefully that any answer to this question must be indexed to particular cultures/ societies, as "truth" and "falsity" are themselves merely socio-linguistic functions, with no bearing on any objective reality.[1] That said, the way knowledge is defined *within a context* is significant, affecting social conceptions of ethics, religion, philosophy, science, politics—there is virtually no sphere of human activity which is unaffected by how knowledge is defined. What follows are some cursory reflections on how our conclusions, if widely-adopted, might inform this cultural conception:

II.

For the sake of argument, we can posit the existence of some singular and objective Reality— a Truth which in which we are all immersed, so to speak. However, we must also accept that we cannot perceive, reflect upon, or communicate this Truth in an objective and/or comprehensive fashion. Accordingly, the notion of objectivity becomes meaningless—we can have *absolutely no conception* of what the "objective reality" is like, other than the (safe) assumption that it would vary radically from our phenomenological experience. Therefore, the primary value of objectivity (as a concept) would be in undermining our epistemic arrogance: whatever it is we think we know, however useful, well-substantiated or widely-adopted a given proposition happens to be, we certainly are not channeling objective truths.

Knowledge, therefore, concerns itself with *beliefs*, not *facts*. The notion of "facts" requires an appeal to objectivity.[2]

III.

Foundational to our beliefs must be some kind of *ideology* which informs *how we interpret and evaluate* the information we receive.[3] We can call this hermeneutic device, "Proposition 0."

This "proposition" will be tacit and largely unconscious; it need not be explicable (it typically won't be)—it is a basic disposition towards Reality, towards life, and towards other people. The proposition is further refined in accordance with our life experiences; it is even possible to outright change this disposition—however, such a shift is difficult, and becomes increasingly less likely (barring some severe trauma) as we continue to build knowledge and experience around it.[4]

IV.

With these considerations in mind, we must reform our aspirations and expectations *vis a vis* knowledge. Rather than *attaining* the Truth (which is impossible), the emphasis should be on *exploring* the Truth.

Towards this end, given that human beings possess *a number of faculties which track different types of information and respond to various cues*, a more appropriate attitude to adopt towards knowledge will be one of *epistemic pluralism*. Our reflective processes should operate in harmony, rather than competition, with our experience,[5] our emotions, our intuitions[6] and our convictions.[7]

V.

In addition to relying on multiple *faculties*, we must employ multiple *methods* of exploring the Truth, to include science, mathematics, religion, tradition, art, and direct personal experience. There is no inherent conflict in these methods[8] should we abandon the Enlightenment-era idolatry of "Reason."

Of course, any particular question or idea may be more fruitfully explored with one method over another; but in all cases, we should place an emphasis on where these methods and their findings intersect with, verify, or complement one-another. These would be the truest truths, the best beliefs. [9]

VI.

At the same time, we must bear in mind that our epistemic faculties are individually and collectively fallible.[10] Should we become aware of contradictions (be they among multiple epistemic faculties, or between the conclusions of these faculties and our previously held beliefs), we should pay particular focus to them. This is not necessarily to resolve these tensions; they may not be resolvable—however, these conflicts are usually indicative of some kind of human error/ limitation and/or a situation of extraordinary gravity/ profundity.[11] In either case, greater attention is warranted.

We must also bear in mind that our epistemic faculties may be individually and collectively indecisive. Whenever our own epistemic faculties are insufficient to reach a conclusion in which we are confident, we should defer to a trusted authority, if possible.

VII.

These tests of coherence[12] would *prima facie* be the means of defining *knowledge[13]* at the individual level:[14] first, within our epistemic faculties, then comparing these findings with our established knowledge and overall worldview, and finally, with the consensus of others, as appropriate. [15] We can label this view *Defeasible Coherentism*.[16]

VIII.

Within the framework of Defeasible Coherentism we can even salvage Clifford's attempt at linking epistemology to ethics:[17] we should strive to ensure our words and actions are in keeping with our "knowledge." That is, we should be honest and genuine; we should live in "good faith"—even to the point of enduring risk or cost for the sake of upholding our doxastic commitments. This is the final, and perhaps most important, coherence test.[18]

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1   Even in scientific inquiry, "truth" & "falsity" are typically understood as socio-linguistic functions rather than objective realities: paradigms are adopted in favor of others because they seem to have the most *explanatory power and development potential*; these are *utilitarian* rather than epistemic concerns. Accordingly, we can see how it might be prudent to reform *which propositions count as* "true" or "false," dependent upon how useful the existing taxonomy is. In this way, we can explain why it may often be important to reconsider our "knowledge" without any appeal to "objective truth."

2   Bruno Latour makes a similar distinction, arguing that the domain of *knowledge* is "matters of concern" rather than "matters of fact." He goes on to demonstrate how this distinction does not undermine, but instead affirms, science and empiricism. See, "Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern."

3   It may be worth (empirically) exploring whether this hermeneutic device is the result of genetics, environment, or free choice. This author suspects this predisposition is informed, to various extents, by all three.

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[4] This is a subversion of Quine & Ullian's *Web of Belief*.

[5] By "experience," we are referring to our memory and sense perception.

[6] By "instinct" we are referring to our tacit knowledge, aliefs, and heuristic judgments.

[7] By "convictions" we would mean, first and foremost, our Proposition 0 which informs judgments of valence, to include the overall *telos* of our lives. Religious beliefs would fall under this general category also.

[8]   In, *The Formations of the Secular: Christianity, Islam, Modernity,* Talal Asad demonstrates how prior to the rise of secularism, there was no robust notion of "religion" either. And as there were no "secular" and "religious" spheres, there was no conflict between "religion" and "science." Attempts to interpret history in terms of these contemporary secular frameworks are necessarily anachronistic. These schisms are contingent, not necessary.

[9]   While philosophers enjoy drawing clear lines between our "intellect" our "emotions," our "sense perception" etc., these categorizations do not tie out to our phenomenological experience. Consider sensory perception:

> When we see someone of the opposite sex, we immediately pass a *judgment* as to whether they are attractive or not (just as quickly as we recognize them as a human being and distinguish their gender— both of which are conceptual distinctions). It happens *at the same moment* as perception, and we are unable to suspend these judgments. Similarly, when presented with food, we do not merely observe what is on the plate, but *immediately* decide if it looks and/or smells appetizing (even recognizing/ designating something as "food" is a *utilitarian* judgment). When we eat the food, we do not objectively analyze the flavors; instead, based on the taste, smell, texture, etc. we decide if the food is *pleasing* or not. These are our first impressions, our most basic sensory experience—and it seems as though our initial encounter with *any* phenomena is colored by concepts and value judgments, which vary from person to person (or even within the same person in different circumstances).
>
> When we look around we do not see "the world as it is," but rather "buildings," "trees," "people" (i.e. conceptual constructs)—try to look around and *not* see these things.

We find a similar dynamic at play in our emotions: fear, for instance, has a certain physiological component, and an emotional component, but it also includes a very specific *concept*: that there is danger afoot. And emotions, much like our sense perceptions, track various data and respond to appropriate cues. In fact, it may be helpful to think of emotions as a *social* analog to sense perception.

   In any case, we see that our faculties are integrated to the point where it is senseless to talk of any one in *isolation from* the others. Those ideologies which rely upon these distinctions, pitting one faculty against the others—not only are they inaccurate and unhelpful, they are likely malignant. Consequently, they should be done away with.

[10]   Note: This section concerns itself with defining *positive* knowledge, which can be a tricky affair, as much of what any generation considers knowledge will be substantially revised or altogether "falsified" by subsequent generations. A more reliable epistemic approach will often be to narrow the sphere of possible "right" answers by process of elimination—a sort of "negative epistemology." That which is considered "knowledge" has a bad habit of being proved wrong. However, that which has been established as wrong tends to stay that way (although this is far from universal, it is a fairly reliable heuristic). But of course, this method, on its own, can only result in skepticism or *aporia* (although it also has the benefit of helping prevent foolish actions)—in order to really address the need to gain positive knowledge rather than merely avoiding misinformation, the *via negative* has to be combined with some affirmative methodology, such as Defeasible Coherentism.

[11]   Accordingly, our primary method for challenging someone's beliefs would be by demonstrating internal incoherence between a particular claim they make and other beliefs they profess to hold or actions they engage in.

[12]   These tests would be more passive than explicit. That is, we need not scroll through all of our beliefs in order to test for coherence (we couldn't if we wanted to), we should just be sensitive to conflicting messages—in these cases, we should do more rigorous examinations with our epistemic faculties, in pursuit of a more consistent conviction or a recognition of a true contradiction. We may also want to actively seek this pluralistic affirmation when faced with new/unusual circumstances, or decisions of great importance.

[13]   It must be emphasized that *knowledge* is importantly different from *truth*. The former is a utilitarian entity: a datum becomes *knowledge* insofar as it has some perceived value or use. Knowledge also carries *social*

implications: it is the sort of thing which can be transmitted from one person to another. For these reasons, knowledge is intrinsically distinct from any notion of "objective truth."

¹⁴   In order to anticipate a potential objection, we should clarify the nature of coherence. Coherence is not exclusively the domain of logic; after all, conflict can occur independent of reason. Our emotions can be conflicted, our intuitions can pull in different directions, even our sense data can be contradictory. These would be possible even if we had no notions of "logic," "reason," or "paradoxes," and they could (and do) occur independent of conscious thought. So the pursuit of this coherence is not a strictly intellectual pursuit, and *logical* paradoxes are not our only (or even primary) concern in terms of our tests of integrity.

¹⁵   Of course, beliefs may be coherent and "wrong," but this risk is inevitable with any system. As we have demonstrated, "objective" accounts are necessarily incoherent. Moreover, given the increased breadth of data which this system encourages us to consider, we may have reason to be much more confident in our conclusions should we have substantial agreement across faculties. We should underscore again that the "rightness" of beliefs should be indexed, as in science, to pragmatic considerations rather than any notion of absolute "Truth."

¹⁶   Defeasible Coherentism entails a commitment to an absurdist interpretation of empiricism: one looks to the external world to justify beliefs, relying on a host of external cues for validation. However, the D. Coherentist does not believe that this exercise yields "objective facts" or brings one closer to universal truths—instead, the goal is to test a given belief's *reliability, utility,* and *resonance* relative to our particular circumstances.

¹⁷   In *The Ethics of Belief*, W.K. Clifford argued that to hold unjustified beliefs, and especially to act on those beliefs, is unethical because it can lead to "bad consequences." However, a number of problems manifest themselves, almost immediately, in response to Clifford's arguments: In the first place, there is a distinction to be made between eliminating false beliefs and acquiring true beliefs. Clifford's methodologies emphasize the former without any clear description of how to go about the latter; his "sufficient proof," standard is completely ambiguous, and if the standard is set too high it would be impossible to hold any beliefs, at all.

Many of our ordinary beliefs are not easily justifiable (if at all), to include a number of historical events, the laws of physics, etc. (i.e. it would be unreasonable to demand that we go out and "prove" the age of the universe in order to hold a view on it). Considering the sheer number of beliefs we hold, it would be impossible to explicitly justify many or even most of them. And lacking "sufficient justification," people cannot simply remain in a state of *aporia*. Moreover, we are largely unaware of when and how we came to hold many of our beliefs; our narratives of belief-acquisition are often simply untrue, and unintentionally so. If we cannot even perform source-monitoring well, how could we begin to execute Clifford's standard of examining and justifying each new belief? But source monitoring is just the tip of the iceberg; as we have examined, people do not have conscious access to a good deal of their mental contents: our actions and attitudes are heavily informed by subconscious aliefs and heuristic cognitive processes to which we have no introspective access.

And finally, the simple fact of the matter is that justified beliefs ≠ true beliefs—and *this* distinction is relevant only insofar as the "truth" or "falsity" of a belief is obvious or even determinable (for many beliefs, they will not be). We can see Clifford's view is totally incoherent without even considering the myriad flaws of consequentialism (which is supposed to give normative force to his conclusions)—although our investigation has also undermined his axiom that good thinking= good results.

¹⁸   William Wainwright posits one's actions as a means for justifying religious beliefs in his, *Mysticism: A Study of Its Nature*. But of course, this test of coherence has been traditionally affirmed in both "Athens" and "Jerusalem." For elaboration, see Pierre Hadot's *Philosophy as a Way of Life*: *Spiritual Excercises from Socrates to Foucault*.

Ecce Homo

> "Descartes once said, 'I think, therefore I am.' He doubted everything but his own existence. And built his whole philosophy upon this doubt. A second statement was made by Gide, 'I feel therefore I am,' and a third by Camus, 'I revolt, therefore I am.' All these assertions are correct, but the most exalting becoming, peculiar to man, is referred to by Camus."
>
> Ali Shariati
> *Man & Islam*, "Modern Man and His Prisons"

I.

There is one important objection we should address in closing. The significance of the classical conception of rationality transcended epistemology—it was part of how generations of people (especially in Western societies, although by now, much of the world) have defined their "human" identity in contrast with the "lower" species; it was more than a description, it was a mandate, an ideal to aspire towards. And so we may wonder, isn't there some kind of teleological cost for abandoning this notion? Simply put, our answer would be, "not really." There are several ways to press this case.

First, as demonstrated throughout, if we define rationality in terms of our reflective processes, it is a faculty we use sparingly, and often to our detriment (when we override the judgments of our other faculties). Insofar as this was our *definitive* quality, it would not speak well of us as a species. But it turns out that it is not so definitive—animals exhibit many of the same capacities we had formerly believed to be exclusive.[1]

II.

For the sake of argument, we can imagine that "rationality" was defined in terms of *behaviors* rather than reflective processes, explicit justifications, etc. This seems like the best method of evaluating rationality across species because, at the end of the day, *behaviors* are observable across species while cognitive processes and communications are largely opaque.

Under this model, we would call a creature "rational" to the extent that each of its behaviors (which expend an organism's resources) clearly and efficiently promoted the survival and/or reproduction of said entity or the group to which it belongs.[2] Notice, under this conception it would still be an ill-formed question as to whether or not any particular entity was rational—instead, organisms would fall on a spectrum, relative to one another, based on efficiency.

Well, by this model, there would be essentially an inverse correlation between a species' level of rationality and its place in the "pyramid of being." The most *rational* species would be

near the bottom of the "evolutionary chain:" creatures like bacteria, ants and bees which are extremely efficient, spending almost the entirety of their energy on promoting the survival and reproduction of themselves or their colonies.

The higher one travels up the evolutionary chain, the less "purely rational" organisms seem to be— in fact, rather than *rationality* being a mark of a "higher-order" being, it seems as though the capacity to *emote* is a better indicator of more sophisticated species. As we proceed further, there is an increased prevalence of "playful" behavior, especially among the young. Intergroup tensions, waste, and even nihilistic behavior also become increasingly frequent and increasingly pronounced. At the pinnacle of *these sorts* of behaviors would be human beings: possibly the least rational creatures to have ever graced this planet.

III.

While rationalists have, from the beginning of their movement, been willing to concede that people are "imperfectly rational," that our reflection is constrained by our physical frailties and hampered by misinformation, disinformation and ignorance—these concessions have proven woefully insufficient. Our survey has demonstrated that, across the spectrum of human judgment, the way people actually think seems to confound in their entirety theories of "rational choice," or "rational deliberation:"

We have little introspective access to our desires, wants, and needs; we are typically wrong about what will make us happy, about how happy it will make us and for how long.[3] We confabulate stories about our mental states in order to explain our actions—both to ourselves and others. We do not act on reasons, but instead produce them when useful for justifying ourselves. Our intuitions are wildly unstable from person to person—and for any given person across time and circumstances. Accordingly, we are unable to rank or weigh our preferences other than in a shallow and capricious fashion. And even if we sidestep these grave concerns, we have a number of priorities which supersede and supervene upon our "expected utility" calculus.[4]

In light of these considerations, it would likely be more effective to abandon altogether the notion of human beings as "rational agents" in favor of a more plausible conception. [5]

IV.

If we return to the idea that some *cognitive* ability of mankind sets us apart from the rest of creation, another (perhaps, more compelling) candidate is the ability to *deny* reality: to believe in things for which one has little evidence (or even in defiance of countervailing evidence), to create elaborate fictions, to evaluate counter-factual scenarios, to plan or hope for possible futures and to idealize the past.

In fact, distancing oneself from the "actual" is the very ability which allows for abstract thinking in the first place—a phenomenon which Sterelny[6] calls "Decoupled Representation." While this capability is *not* exclusive to humans, humans seem to be unique insofar as we exhibit tendencies to outright *deny* or *ignore* the actual *in favor of* the symbolic. Insofar as *this* is what makes us "human," our exemplar should not be Plato, but Don Quixote de la Mancha.

From this perspective, [7] man would be a "surreal animal," or an "imaginative animal," rather than a "rational animal." The popular adoption of *this* conception would also have profound implications for the identity, *telos*, and trajectory of our species.

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[1]   For an overview of this literature, see *Rational Animals?* (ed. Hurley & Nudds).
One implication of the research seems to be that the entire "pyramid of being" concept is misguided, and should probably be abandoned altogether.

[2]   This is also more-or-less the definition of rationality that underlies game-theory. It is a scandal of the discipline that, despite the assumption of this efficiency as people's "default setting" for purposes of virtually all modeling and prediction—people *hardly ever* act in accordance with these assumptions when the experiments are run with actual subjects. Accordingly, it should not be surprising that GT has a rather horrendous prediction record. First, because of the "Black Swan" problem, present in many of the trends modelers want to map (a problem nearly-exclusive to *human social contexts*)—and second, because people often have a host of other concerns which supersede and supervene expected utility calculations. Finally, even were they primarily interested in maximizing a given outcome, human "reasoning" is robustly influenced by a host of biases, etc.

The supposed credibility of GT and its cousin Rational Choice Theory (RCT) is derived almost entirely from *post-hoc* analyses of historical events—analyses which can be conveniently spun regardless of what course of events ultimately occurs; accordingly, GT serves mostly to "explain" the status quo rather than to provide insight into fluid situations or to predict the future. For these reasons, even prominent game-theorists have come to admit that the method has negligible "real-world" utility, and that reliance upon the method for making predictions about *actual* situations is likely to do more harm than good (insofar as it obscures more effective analytic frameworks or is used to lend credibility to terrible policies).

All of this is further evidence that people are not "supremely rational" compared to other animals (it also vindicates our choice to ground E. Psychology in C. Theory over G. Theory). This non-rationality should be understood as an asset rather than a problem: a "perfectly rational" human being (as conceived by game theorists) would be, essentially, a sociopath. This seems like a perverse ideal to aspire towards.

For elaboration see:
Dubner et al., "The Folly of Prediction"; Mandel, "A Nobel Letdown in Economics"; Martin, "The Selective Usefulness of Game Theory"; Ronson, *The Psychopath Test*; Rubinstein, "Dilemmas of an Economic Theorist"; Stone, "The Use and Abuse of Game Theory in International Relations."

[3] Gertner, "The Futile Pursuit of Happiness"

[4]   People do not seek to "maximize" their share of so-called primary goods: there is such a thing as too much freedom, too much responsibility, too many choices/opportunities; it can be onerous when society places too much value on an individual; wealth has diminishing margins of utility *vis a vis* happiness; rapid rises in success can even *adversely* affect one's happiness. These facts call into question not only many essential axioms of game theory, but also liberalism.

For elaboration see:

Kucera, "Voting Against Freedom;" Hedges, "The Surprising Poverty of Too Many Choices;" Tugend, "Too Many Choices: A Problem that can Paralyze;" Easterlin, "Diminishing Marginal Utility of Income? Cavaet Emptor" & "When Growth Outpaces Happiness;" Kahneman & Deaton, "High income improves evaluation of life but not emotional well-being;" Graham & Pettinato, "Frustrated Achievers: Winners, Losers, and Subjective Well-Being in New Market Economies;" Markus & Schwartz, "Does Choice Mean Freedom and Well-Being?"
[5] Dan Ariely, *Predictably Irrational*
[6]Sterelny, *Thought in a Hostile World*
[7]   Accordingly, our position at the top of the food chain despite, or maybe because of, our quixotic nature – this is a rather poignant statement on the importance of "truth," "reality," etc. (the ostensive target of classical epistemology).

HOW THE "TRUE WORLD" FINALLY BECAME A FABLE

The History of an Error

1. The true world—attainable for the sage, the pious, the virtuous man; he lives in it, *he is it*.
   (The oldest form of the idea, relatively sensible, simple, and persuasive. A circumlocution for the sentence, "I, Plato, *am* the truth.")

2. The true world—unattainable for now, but promised for the sage, the pious, the virtuous man.
   (Progress of the idea: it becomes more subtle, insidious, incomprehensible—*it becomes female*, it becomes Christian.)

3. The true world—unattainable, indemonstrable, unpromisable; but the very thought of it—a consolation, an obligation, an imperative.
   (At bottom, the old sun, but seen through mist and skepticism. The idea has become elusive, pale, Nordic, Kantian.)

4. The true world—unattainable? At any rate, unattained. And being unattained, also *unknown*. Consequently, not consoling, redeeming, or obligating: how could something unknown obligate us?
   (Gray morning. The first yawn of reason. The cockcrow of positivism.)

5. The "true" world—an idea which is no longer good for anything, not even obligating—an idea which has become useless and superfluous—*consequently*, a refuted idea: let us abolish it!
   (Bright day; breakfast; return of *bons sens* and cheerfulness; Plato's embarrassed blush; pandemonium of all free spirits.)

6. The true world—we have abolished. What world has remained? The apparent one perhaps? But no! *With the true world we have also abolished the apparent one.*
   (Noon; the moment of the briefest shadow; end of the longest error; high point of humanity; INCIPIT ZARATHUSTRA.)

Friedrich Nietzsche
Twilight of the Idols: Or, How to Philosophize with a Hammer

Appendix I: Postscript on Fundamentalism

"What unity do we find in these various aspects of bad faith? It is a certain art of forming contradictory concepts which unite in themselves both an idea and the negation of that idea... Bad faith apprehends evidence but is resigned in advance to not being fulfilled by this evidence, to not being persuaded and transformed into good faith… Let us understand clearly that there is no question of a reflective, voluntary decision, but of a spontaneous determination in our being. One puts oneself in bad faith as one goes to sleep, and one is in bad faith as one dreams. Once this mode of being has been realized, it is as difficult to get out of it as to wake oneself up; bad faith is a type of being in the world, like waking or dreaming, which by itself tends to perpetuate itself, although its structure is of the metastable type. But bad faith is conscious of its structure, and it has taken precautions by deciding that the metastable structure is the structure of being and that non-persuasion is the structure of all convictions."

Jean-Paul Sarte
Being and Nothingness, p. 98, 113

I.

Fundamentalism is not exclusively, or even primarily, a religious phenomenon: it is the result of interpreting reality through an *ideological* lens. Our investigation has previously suggested that, at bottom, all of us understand the world ideologically: there must be some unsubstantiated axiom which serves to anchor and orient our knowledge, etc. That is, we all fall somewhere on the "fundamentalism spectrum."

However, the fundamentalist's relation to his ideology is explicit and volitional (as opposed to tacit and instinctual). Accordingly, ideology plays a much more significant hermeneutic and justificatory role to the fundamentalist, to include often sanctioning beliefs and actions which fall far outside their socio-cultural "mainstream." It is not that fundamentalists are more "ideological" while most people are more "rational"—the preceding investigation shows that such a dichotomy is profoundly erroneous. Instead, fundamentalists are more self-aware of their doxastic commitments as compared to the general population;[1] and they are more devoted to instantiating their ideologies through their actions and "in the world."

While most people are driven by a host of ideologies, often conflicting, whose relative significance fluctuates over time and according to circumstance—the ideological commitments of fundamentalists are much more stable.

II.

Whether these traits promote or degrade fitness will have wide contextual variance. For instance, fundamentalists and their ideologies typically flourish during periods of crisis/ cataclysm or severe unrest/uncertainty, even as their "establishment" detractors perish.

Fundamentalists are *antifragile*; however, like all antifragile entities, they atrophy in the absence of sufficient stressors. This is one reason why so many fundamentalist movements blossom under persecution and whither upon being institutionalized. Imperialism (of various stripes) is one way to prolong this decline by perpetuating the volatility which fundamentalists thrive on.

III.

Despite their pretense as counter-ideologies, secularism and rationalism are no less ideological than Islamism, Marxism, nationalism, or any other "ism." As the preceding examination makes clear, rationalism is a dogma which could only be accepted *in defiance of virtually all existent scientific evidence on psychology and human cognition*. There is an irony here: Rationalists are among the most fanatical advocates of "science" as an alternative to "faith." And yet these very zealots are largely ignorant of its findings, aims, methods and history—even as it relates to rationality itself. In this, they are much like the Christians who hold up the Bible as the ultimate criterion of Truth, but who are generally ignorant of what it says, let alone the proper socio-cultural, historical, linguistic and other frameworks which would enable one to properly interpret the scriptures. There is little distinguishing the rationalist from the religious zealot:

We have previously explored the religious origins of rationalism, along with the fanaticism which ushered in the "Enlightenment." We have explored how the notion of "truth" deployed by rationalists and "scientifists" is thoroughly unscientific (i.e. Truth as objective, universal, eternal; Truth as intrinsically valuable and morally, rather than merely pragmatically, normative)—in fact, it is religious to the core…specifically evocative of monotheism.

IV.

Consider the rationalists' obsession with justification and proofs—it is driven by the thoroughly religious conviction that everything happens "for a reason." We have shown that these sorts of people are typically confused about what "reasons" are and how they function (reasons are *not* causes)—but this is hardly the extent of their error: they also typically confuse catalysts for causes and conflate correlations with causation. Fundamentalists have a "causality" problem which enables (and often motivates) their interpretations of the world.

V.

From a non-religious vantage point, events have no meaning apart from that which human beings impart to them. Accordingly, evolution is about *change* not *progress*: Imagine a line that is infinitely long. From any point on that line, one could travel in any direction for any

span of distance and one would be no closer to reaching the end-point, which would forever remain infinitely-far away. Accordingly, no matter how far or how long one travelled in a given direction, it would be senseless to talk about "progress." This is because implicitly or explicitly, "progress" must always be indexed to some presupposed *end-state*.[2]

It is inappropriate to speak of "progress" in science, technology, philosophy, socio-cultural arrangements, etc. In these cases, "progress" is always an aesthetic judgment[3] and never an empirical "fact." Interpreting evolution as "progress" is a hallmark of fundamentalism—and not only (or even primarily) of the religious variety.

VI.

Religious fundamentalists typically have an eschatological vision which culminates with the inevitable triumph of their ideology over all incompatible counter-models--ushering in an age of unprecedented peace and prosperity. This determinism is just as prevalent in ideologies like secularism, rationalism, liberalism, communism, humanism, and atheism—with all of their evocations of "progress" and exuberant visions of the inevitable trajectory of history.[4] Ultimately, these secular utopian visions are about as well-substantiated as those of their religious counterparts, and by the same means: through selecting and interpreting empirical evidence in "bad faith."

It deserves to be repeated that, rather obviously, these eschatological projections have *never* come to pass--except in the most vague or superficial senses conceivable.[5] But this is sufficient for the fundamentalist, whose ideologies (whether secular or religious) are self-justifying, and predictions, self-fulfilling.

VII.

Fundamentalism is a feature of human societies—one which cannot, and probably should not, be purged. Fundamentalists seem to play an important role in helping make sense of, and respond to, crises—in giving societies a vision and sense of purpose, in helping to drive social changes. Nonetheless, we can strive to contain the adverse effects of fundamentalism in those contexts where it is pernicious (just as fundamentalists can be central in organizing people to respond to calamities—if left unchecked, they can also bring them about or make things worse). Central to this endeavor will be ceasing to understand fundamentalism as an exclusively, or even primarily, religious phenomenon in order to better identify instances which are far more widespread and dangerous in contemporary systems and institutions.

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[1]   In his, "Moral Heuristics and Moral Framing," Cass R. Sunstein approaches the striking consistency between morality and cognition from an evolutionary standpoint. However, his analysis is plagued with same false assumptions as ethical *theorists*— among them, the assumption that moral facts are items which are amenable to rational criticism. That is, he takes for granted that moral positions can, and should, be rationally justifiable or falsifiable, and that logical inconsistency is problematic for a moral system. As he is approaching these issues from an evolutionary perspective, it should have been clear that this sentiment is a relatively new development in the discipline of ethics:

        Traditionally, morality was decided by the decree of religious prophets or ruling kings— in these systems, it would be perverse for the prophet or the king to attempt to *justify* decrees to the plebeians; the role of the lower classes was merely to execute these demands. Logic only touched upon morality in order to draw inferences from cases where the law was explicit to cases which were not covered, or to help settle questions of priority in the case of conflicting obligations (at the institutional level).
Similarly, Sunstein seems to suggest that moral decisions can be decided as "good" or "bad" based upon their outcomes/ consequences. This is also a relatively new development in moral theory. Again, the traditional moral view was that compliance with the Law was the definition of morality— to incur negative results upon oneself in order to ensure such compliance was understood as a noble act. The refrain was, "Let justice be done, though the heavens might fall!" People were called upon to face fortune and adversity with equanimity.
        In short, the unwavering adherence to the Law was not, as Sunstein portrays it, a mere shortcut for avoiding critical thought. Instead, this compliance was the definition of ethical behavior—to be fulfilled *regardless of* our pragmatic reservations or independent judgment. It is not as though these historical adherents did not come to their own conclusions, they merely subordinated their own convictions to the Law, often through heroic acts of will and great sacrifice to themselves. That is, the path of compliance was *not* the choice of laziness or convenience—quite the reverse. In fact, given the self-serving nature of rationality, it is likely that the interpretation of ethics Sunstein is advocating would better facilitate moral laziness: there is no need to act according to one's moral convictions if shortcomings can be absolved by simply come up with a justification for *akrasia*. As we have seen, rather than being paragons of virtue, ethicists are among the worst offenders in this regard.
[2]   *Mutatis mutandis,* the linear refutation of progress would apply equally to one's trajectory on a circular path or in a cyclical process. That is, no matter how one understands the "flow of history," absent a distinct end-state, the notion of progress is vacuous.
[3]   "Progress" connotes *improvement*—however, neither increased complexity nor novelty entail betterment. Whether one is talking about entrepreneurship, medicine, technologies or ideas--most attempts at innovation fail, often catastrophically, or produce otherwise negligible effects. Insofar as a change proves significantly useful, it is often not in the way intended by its progenitors, and the added benefit to some usually entails significant costs to others. The outcome of interfering in complex systems will always be difficult to predict or control. Many of the effects, and especially the 2nd-order effects of a change, will not manifest themselves until much later—and they typically turn out much different than anticipated. So those who herald such an intervention as "progress" shortly after it is carried out (or especially before) are making claims about things they could not possibly have knowledge on. In philosophy circles, this sort of rhetoric is known as "bullshit" (Frankfurt, *On Bullshit*).
        Even sidestepping the first epistemological problem—there is simply no objective measure for "better" or "worse" in any of these fields. Typically these transformations carry tradeoffs, which again, are rarely apparent or well-understood beforehand. And how one ultimately evaluates the phenomenon in question will be largely determined by who is doing the measuring, when and in what context, what they find to be the appropriate metrics of evaluation, and the specific means used to collect the relevant data. And these criteria virtually always conceal a number of controversial biases—often by design.
[4] Derrida, *Specters of Marx*.
[5] Popper, *The Poverty of Historicism.*

Appendix II: Postscript on Ethics

"What then becomes of this category (ethics) if we claim to suppress, or mask, its religious character, all the while preserving the abstract arrangement of its apparent constitution? …We are left with a pious discourse without piety, a spiritual supplement for incompetent governments, and a cultural sociology preached, in line with the new-style sermons, in lieu of the late class struggle. Our suspicions are first aroused when we see that the apostles of ethics and the 'right to difference' are clearly horrified by any vigorously sustained difference. For them, African customs are barbaric, Muslims are dreadful, the Chinese are totalitarian, and so on. As a matter of fact, this celebrated 'other' is acceptable only if he is a good other—which is to say what, exactly, if not the same as us? Respect for differences, of course! But on condition that the different be parliamentary-democratic, pro free-market economics, in favor of freedom of opinion, feminism, the environment…It might well be that ethical ideology, detached from religious teachings which at least conferred upon it the fullness of a 'revealed' identity, is simply the final imperative of a conquering civilization: 'Become like me and I will respect your difference.'"

Alain Badiou
Ethics: An Essay on the Understanding of Evil, 2: IV

So long as the process of ethical decision-making is understood as being in some way *essentially* rational, it is inevitable that ethicists will continue appealing to *theory* in order to define morality. In the preceding, we have attempted to cast doubt upon this rationality; however, in order to avoid the "is implies ought" fallacy,[1] we must address the long-overdue question, "(why) should ethics be rational?" Given that the default moral decision-making process seems to be atheoretical and non-rational, it falls to the rationalists to demonstrate why we should override it.

Plato's response to this challenge[2] was to deliver rational arguments (as was Kant's, and a number of others')—but of course, this move is impermissible: it begs the question. We could imagine asking an intuitionist why it is that our intuitions are the best guide and have him respond, "it just feels right;" or, we could ask a divine-mandate anti-theorist why the scriptures should be the criterion for morality and have him respond, "because the Scriptures claim to be just this criterion— and they are infallible;" believing that power was the criterion for rightness, perchance Thrsymachus should have challenged Socrates to a duel in order to determine the definition of Justice. Of course, all of these methods are absurd[3]—the rationalist needs to appeal to something other than logical arguments to prove his point.

One tempting move may be to appeal to consequentialism: we are more likely to do the "right" thing if we act reflectively and/or on principle. However, our investigation has already precluded this appeal: in many cases, *we actually perform better* when we rely on heuristics over deliberation, on instinctual responses to particular contexts rather than on *abstracta*—especially if we are working with extremely limited information, if we are faced with an extremely complex problem, or if we need to respond quickly to a fluid situation. In these and other cases, rational deliberation can create more problems than it solves; morality seems to work in much the same way as other forms of judgment.

Accordingly, we seem to have discredited the supposed rationality of moral judgment on both the descriptive and normative levels, rendering the very notion of "ethical theory" incoherent in relation to individuals.

II.

We may be able to recover the discipline of ethics by reforming our understanding of Reason. Again, contemporary findings of cognitive science and evolutionary psychology suggest that the primary purpose of our rational faculties is to *manipulate other people*. And as we have previously explored, despite pretenses of objectivity, ostensive commitments to analysis over rhetoric, and our remarkable scientific and technological advances—social manipulation remains the primary use to which we dedicate our rational faculties, while our problem-solving and decision-making remains overwhelmingly non-reflective. The primary function "reasons" serve is in justifying our actions retroactively—typically in response to, or expectation of, some kind of *interpersonal dispute*. In light of these propositions, ethical theory may have some relevance *at the institutional level* for mitigating disagreements or conflicting interests:

Ethics v. Morality

Should we regard institutions (rather than individuals) as ethical agents, we may be able to salvage the discipline. However its aims and methods would be dramatically changed:

For instance, while many individuals struggle with their *raison d'être*, the *telos* of institutions is relatively simple and unambiguous: institutions are created for specific purposes. And so, although ethics would be (more-or-less) an institutional analog to morality, the existential differences between the relevant agents would prevent ethics from being simply reduced into morality (or derived therefrom). Consider the case of the law (the primary arbiter of social conflicts and enforcer of ethical norms)—the primary purpose of our legal codes is not to produce a *moral* society, but a *stable and prosperous* one;[4] accordingly, we must divorce the Law from the pretense of morality.[5] Under analysis, a similar dynamic plays out across the virtual entirety of social institutions.

Accordingly, while ethics obviously has moral dimensions, the discipline will be more of a *technocratic* than a philosophical enterprise; the answers to questions such as "what is good?" (or "right" or "just") will be derived from ethical agents themselves and the contexts they find themselves in. This, in turn, would render the discipline less ideal/ abstract, and more practical/pragmatic. Moreover, because the teleology of institutions is indexed to particular outcomes, ethics would trend towards consequentialism in the formulation and evaluation of ethical practices.

Ethical debates would turn primarily on questions of policy,[6] indexed to *particular problems in particular social contexts in light of particular desired outcomes*. That is, relative to a particular society or culture, we would be able to speak coherently of business ethics, medical ethics, legal ethics, environmental ethics, of the ethics of science, of journalism, etc.— relative to a number of *ethical agents,*[7] their interactions with one-another, with the public-at-large, and with the environment. It would be difficult to talk about a field of "general ethics," with grandiose theories which applied to any and all ethical agents in any and all circumstances.[8] Talk of a field of "personal ethics" would be recognized as just that (talk), and little more; the actions of individuals would be *ethically* relevant only insofar as they were operating on behalf of an institution.

II.

A significant advantage of this reformulation is that, at the institutional level, *the discipline of ethics would actually have salience*. As we have explored, ethical theory has very little relevance in our personal lives: we do not use ethical theories in making moral judgments— and even if we wanted to, they all offer roughly the same advice in most "real-world" contexts individuals find themselves in.

The Value of Theory

There is a much cleaner translation of ethical theory into institutional behavior. This is because, in the same way that humans act primarily through their non-reflective systems, institutional volition is expressed primarily through *policy*. The job of people working in or for an institution is primarily to figure out how to best execute these policies in specific situations. Therefore, insofar as ethical considerations are *written into* policies, they can affect institutional behavior far more effectively than any abstract ethical system can affect the behaviors of individuals.

The situations with which institutions are faced more closely resemble the "hypothetical cases," so heavily relied upon in ethical theory. Institutional policy decisions are also much more deliberative, often involving committees rather than individuals, with a number of reviews, checks, and balances on the decision-making process. Typically this process relies heavily on case-studies, legal precedents, projections, etc. in making their decisions. That is, there is a clearer utility in analyzing specific cases—be they actual or hypothetical. Moreover, institutions typically *do* have measurable outcomes (based on specific, relevant criteria), complete with tools and methodologies to measure those outcomes, and compare them to previous performance and projected results.

For better or worse, institutions are much more "rational" than individuals.[9] This is partly because institutions typically concern themselves with a very narrow scope of operations and activities (allowing them to develop consistent strategies across multiple transactions)-- augmented through automating decision-making through various actuarial models, computer projections, etc. (although, as with individuals, overreliance upon these models, especially in inappropriate domains, can blind agents to critical information). These factors, unfortunately, can also give rise to perverse incentives, as well as malignant institutional strategies to realize those incentives with maximal effectiveness and efficiency. This is why the discipline of ethics remains so important at the institutional level, despite its essential irrelevance in the personal domain: ironically, to *constrain* the internal logic of institutions.

II.

While a reformation such as the one proposed here would necessarily invalidate the bulk of what has hitherto been understood as "ethics," the benefits would greatly outweigh the "cost." Policies are *enforceable* in a way which individual morality is not—and the scope and influence of institutions and their actions are generally far greater than those of individuals. As a result of the larger scope of institutions and their greater ability to enforce normative policies on themselves and upon others—policies shape not only *institutional* behavior, but *individual* behavior as well.[10] Major social normative changes, as a matter of fact, are typically top-down rather than bottom-up.[11] Accordingly, by understanding institutions as ethical agents and restructuring the field accordingly, the discipline would cease to be essentially an intellectual sport for the ivory tower,[12] and would instead become a field of study that *matters* in the real world and changes people's lives…God willing, for the better.

1　　A rationalist could reply that, although it seems we typically do not use reason in making moral decisions, we *should*.

2 Plato, *Republic*: 582 d-e

3　　While question-begging responses would be illogical for any party, it is a much bigger violation for the rationalist—after all, the intuitionist, religious ethicist, and "might-makes-right" adherents have not made any commitments to *logic* being a criterion for Truth—the rationalist has. In a sense, it would actually be permissible (within their axiomatic frameworks) for these others to commit logical violations, insofar as they do not believe themselves to be necessarily beholden to logic. For the rationalist, however, it would be totally impermissible.

4　　This aspiration of the legal system (to promote a stable and prosperous society) ties out to the essential purpose of government more broadly: to promote the security, welfare, and freedoms of its citizenry (in apparently descending order of importance).

5　　While it may seem controversial to claim that the law should be divorced from morality, the assertion actually ties out cleanly to the truism that legal ≠ right.

6　　Accordingly, on our conception, the job of ethicists would be to develop policies to address particularly pernicious effects of institutional operation in particular contexts.

7　　Again, *ethical* agents would be institutions, as opposed to *moral* agents, who would be individuals.

8　　There may be room for some defeasible practical constraints which can be built into the ethical project, much along the lines discussed previously with regards to A. Psychology.

9   Here we are referring to the G. Theory notion of rationality, which is totally appropriate for institutions considering that (unlike people) they are created to achieve specific ends and are intrinsically amoral.

10   This assertion dates back to the very foundations of ethics (and philosophy, more broadly): it was one of the major subthemes of Plato's *Republic.* Although Plato himself was an avowed rationalist (viewing *Logos* in a *religious* manner), and while he believed that people were *essentially* rational, he was quick to acknowledge that people are not *primarily* rational, nor will they ever be. Instead, he drew repeated analogies between the *institutions* of a city and the *ethos* of its inhabitants, insisting that the only way to ensure a stable and prosperous society would be to *legislate rationality* into the State itself (although he held that even this project would be doomed to eventual decline and collapse due to humanity's overwhelming irrationality). In short, *the discipline of ethics was founded on the notion that individuals could not be expected to utilize rational theories in their moral judgments*.

11 DL Kincaid, "From Innovation to Social Norm: Bounded Normative Influence."

Typically, the dialectic of social change is as follows: there is a change in the law (often, an unpopular change) instituted by some group of social elites (often who have very-recently seized power); the enforcement of these laws results in a change in behaviors, one way or another. Over time, this change in behaviors leads to a change in attitudes as it becomes the "new normal" (especially for successive generations). That is, *policies* are the primary driver of socio-cultural change (to include normative shifts), not *reason*.

We have previously explored how, despite the mythology of the Enlightenment, it played out in just the fashion described above. However, one can choose virtually any major social change—for instance, the civil rights movement in America.

Again, it is fascinating to note that social change mirrors biological evolution, the process of science, and even the process of inspiration and creativity: moments of sudden and dramatic change followed by periods of consolidation/conservation.

12   This specialization of ethics also neutralizes one of our earlier criticisms by introducing legitimate variation into the field. Due to the diversity among institutions in terms of relevant issues, who counts as moral agents, etc. there would be *substantive* differences in the sorts of policies advocated from institutions to institution, and from one context to another.

Appendix III: Postscript on Reductionism

Plato was among the first to raise problem of the apparent tension between our words and our perceptions. Rather than trying to integrate the two, he believed that because our perceptions are faulty and inconsistent, they should be understood as being inferior to the more-enduring abstract concepts which frame them. In his own lifetime, this claim was most drastically challenged by Zeno of Elea, whose paradoxes continue to plague rationalists to this very day—but hopefully not hereafter.

In his essay, "What Metaphors Mean," Davidson argued that the distinction between literal and metaphorical language is false;[1] the primary distinction between literal and metaphorical language is one of degree, not type. In his *Philosophical Investigations*, Wittgenstein suggested that every person speaks his own personal variation of social languages. He went on to argue that languages do not directly relate to "the world;" instead, cultures create "language games," whose rules allow participants to derive meanings of complex expressions from their context. Michael Polanyi's *The Tacit Dimension* posits that within a given language and culture, this context includes the larger linguistic or situational circumstances into which the expression was uttered,[2] but it also includes those personal experiences which shape our hermeneutics. It is these premises, rather than mathematical or logical proofs, which hold the solution to Zeno's Paradoxes.[3] We will explore these ideas over the course of a few examples centered on the ordinary phenomenon of the Apple:

II.

Imagine that someone is standing before you and they hold up an object and say "apple," in such a way as to indicate that the object they are holding is being referred to by the word. To what does the word "apple" refer? Suppose I was to ask you for more information about the item he is holding: which breed of apple is referred to by the word? What is its size, color, condition? How does it feel in the hand or taste in the mouth? Is it, in fact, an actual piece of fruit or a plastic simulacrum? Or a picture of an apple? Or just the letters, "A-P-P-L-E" written on a piece of paper? Or even an Apple™ product, such as an iPod? In short, what can be said about this "apple" which supposedly *is*?

There are essentially two ways of responding to this question. The first method would be to fabricate the details according to your imagination; another option would be to concede *aporia*: we must admit that we know nothing about the "apple," being referred to in the above example. The word does not tell us anything; it is nearly meaningless if separated from context (even if we know what "apples" are). Most of us, when we encounter a word, choose the first option. Indeed, when encountering the word "apple," in the previous example, it is possible that the term automatically evoked a number of assumptions in the reader which were later called into doubt. The significance of this phenomenon is difficult to overstate.

Assume you are shopping in a supermarket and have the thought, "I want an apple." Again, we use the term "apple," as though all apples were the same— but we recognize the flaw in this assumption the moment we encounter the object to which the word is supposed to refer. If the material world operated the same way as language, we would not *shop* for produce at all: we would choose apples arbitrarily, or simply grab the most convenient "apple" within reach. But this is not how we choose apples. Instead, we narrow down, "apple," by breed, size, condition, texture, etc. Eventually, we choose one that fits all of our criteria (many of which were unconscious); ultimately, we did not want an "apple," but rather, a specific object, unique from others "of its kind," an object which has no name and could never be captured in its fullness by language—a specific item we had no knowledge of or way to refer to until we actually encountered it. That is, an "apple" is not an [Apple]. Words do not refer to "things," instead, they illicit templates of "things." Nouns refer to genres, not items.[4]

III.

Intuitively, there is a legitimate distinction to be made in naming the genre "apple" as distinct from the rest of the material world. In fact, once we come to understand the genre, it becomes difficult, if not impossible, to view an [Apple] without associating it with its genre ("apple"). But what it is that makes an "apple" an "apple" is largely tacit and partially inexplicable. Moreover, it varies across people and contexts.

Imagine asking a botanist, a chef, an artist, a farmer, a linguist, and someone from a different time and/or culture, "What makes an apple an apple?" That is, "what makes an apple distinct from all other objects?" Or, "what does 'apple' *mean*?" If you were to ask a thousand people, it is likely that you would get a thousand different responses. It may be that the differences are largely questions of emphasis which do not contradict one-another— but these differences in emphasis are significant nonetheless insofar as they demonstrate that the term "apple" does not make a *uniform* semantic contribution, even within the same sentence, if we simply change the audience.

Were we to allow this diverse group to work together at comprising a list of traits that applied to 100% of apples, without exception, there may be some common "core" applicable to

all apples and agreeable to all people— but it is likely that these traits would be general to the point of being insufficient to distinguish an apple from, say, a pear. And these problems are just in defining the genre itself— it would be much more complex to distinguish an individual apple from the rest of its kind. And "apple" is a relatively simple phenomenon of which we can find straightforward instances in the physical world. Imagine performing the aforementioned examples with a word like "justice," or "friendship."

In short, there is no uniform or objective use of language. Each of us internalizes words in a different context of life experiences and linguistic understanding. Through communication, we can mitigate our personal language variations, but they can never be truly reconciled.

For instance, if we are to understand empathy as "feeling someone else's pain/pleasure," then it must be admitted that empathy is impossible. Other minds interpret my appearance, words, actions, and reputation (which comprise the totality of my "raw existence" in other minds) — that is to say, they interpret "me" in the context of themselves: *their* feelings, *their* experience, *their* beliefs, *their* perceptions; and this interpretation is not even based on the *totality* of my appearances, words, actions, and reputation—but only that small fragment of these which a particular person has access to. Empathy is not someone else feeling my feelings, but rather a counterfactual projection of how someone else *believes* they would feel in similar circumstances (as they understand them). Indeed, it is an impossible feat for the human mind to remove itself from context, which is the essential demand of objectivity.[5]

IV.

Imagine you have a friend who went blind at age 30; when talking to him you use the term "red apple." In this instance, the term "red" is comprehensible. Although he cannot see at present, we may reasonably assume that he knows the meaning of the adjective. Now consider using the same term when speaking to a person who was born blind. In this case, "red" is incomprehensible and it cannot be explained through words. It is irreducible to language if independent of experience:

One could describe "red" in terms of metaphors: comparing the color to blood or fire or passion—that is, he could come to understand the symbolism of "red." One could explain to him that colors are the result of light refracting off of the atmosphere, etc. But for all of that, he would have no idea what "red" actually looks like. This is substantial because appearance is the most significant aspect of "red;" it is the foundation upon which even the symbolic aspects are built.

For instance, our born-blind friend would soon realize that red apples do not taste more passionate than green ones; that is, the metaphor does not tell you the meaning of "red." Through taste, he may eventually come to distinguish the taste of "red" apples from "green apples," but this does not let him know the meaning of "red," either. The flavor, texture, and size differences between red and green apples would not apply to red vs. green peppers or sweaters or

traffic lights because the distinction between red and green is not *flavor* but appearance. In short, one cannot really know the meaning of "red" unless they see it. All the language in the world would be no compensation; in contrast, a single glimpse would altogether eliminate the need for further explanation.

V.

As language does not correspond to objects, but rather to ideals and abstracts, its nature is to extrapolate characteristics categorically. "Apple," is not an item, it is a mental construct. However, an [Apple], and indeed every *actual* object, is infinitely different from all others, conceptually united with others in its genre (and composed as distinct objects in the first place) only in our minds.

For instance, no two apple trees are the same; each is slightly different genetically and molecularly, due to history and environmental conditions. Even if one were to clone a tree, such that two trees were genetically identical, and the trees were then planted in as similar environments as possible— as they grew, one would find that branches would grow in slightly different directions, flowers may bloom from slightly different stems. That is, while genetically identical, they would eventually cease to be identical visibly or, especially, molecularly.

And even if one managed to encounter an *exact* duplicate of a phenomenon, one would not be able to encounter it in the exact same spacial/ temporal context, under the exact same circumstances. Nor could we approach it in the same state of mind (if for no other reason than the corruption caused by the memory of the previous encounter). For this reason, every experience is completely unique and inimitable. When you encounter a phenomenon, no one else can experience your encounter in this way, in this place, at this time, in this state of mind, (*ad infinitum*); in fact, you cannot even experience it again yourself.

VI.

Insofar as words are referential, the connection between a word and its referent domain is arbitrary.[6] There is nothing particularly "appley" about the combination of sounds (or letters, if written) which comprise to term "apple." We can imagine an alternative language wherein the same combination of sounds refers to a different genre of items; perchance, in another language, "apple" could even be a verb or an adjective. Similarly, while many of these genres seem to transcend specific languages, they are referred to with different words[7]—for instance, in Spanish, "manzana" refers to the class of items which English labels, "apple." That is, even after we acknowledge that words refer to classes of things rather than things themselves, we must further concede that there is no meaningful connection between words and the genres of phenomena to which they "refer." This is especially true of (physical and/or abstract) artifacts:

We say "cup" for a whole host of items, as though a cup actually exists outside of the semantics of utility. Imagine there is a nuclear holocaust in which all humans are killed and only our possessions and/or ruins remain. "Cups" would cease to exist: insofar as a "cup" is a vessel from which to drink, an artifact would cease to be a "cup" if there were no humans to drink from it. What would an artifact which we refer to as a "cup," function as to a rat, for instance?

There is no "America," in Reality, only in the minds of men. Sure, the land that comprises what we call America probably exists in some pure sense, but there is nothing particularly "American" about it. It existed before the concept of America and will continue after America is forgotten. Such it is with all our distinctions. I was not born in any particular place, in any particular time. The circumstances we would use to describe my birth do not actually exist, and they never have. Where are the phenomena of 6PM or 1983 outside of language?

VII.

At the heart of Zeno's Paradoxes is the profound insight that the world does not operate in the same manner as language and mathematics. When we use the word "apple," we are conceptually separating a genre of phenomena from the rest of the material world. This conceptual framing, however, does not correspond to any *actual* distinction in existence.[8] Similarly, when measuring a span of time in an equation, we cannot *actually* isolate a segment of time from the whole, nor can we isolate a section of space. Regarding motion, there can be no presupposition of a beginning or end to it because there is no such thing as stasis, nor are there "objects" for movement to be exercised upon: any item is comprised of smaller particles, which are comprised of smaller particles, and can be broken down into even smaller components, which are constantly in flux. At the most foundational level, it appears that there is not matter at all, but rather energy blinking arbitrarily in and out of "being."

One could also follow this logic by scaling up: each "item" is itself a mere component connected with and dependent upon a host of other phenomena which, at the highest threshold, comprise [That Which Is]. This is the monistic point that Zeno was trying to make: time and space (and therefore, objects and motion) are inseparable from the whole of existence. To take language or measurements too literally is tantamount to ontological decontextualization.[9] Languages are always and only metaphorical and categorical. Similarly, logic relies upon general rules and cannot deal well with nuance or exceptions. When the linearity and homogeneity of logic is combined with the intrinsic vagueness of language, we can see that reductionism is impossible.

VIII.

Out of his love of "Logos," Plato imagined that somewhere things *had* to be as we say; language *has* to be true. For this reason, he posited his dual states of existence. And in a

profound sense, this dualism may be "true," although he had its dynamic reversed: there is not some "higher" Ideal world, of which the world we experience is a degradation. Rather, the "actual" world is the "base" or "lower" world *upon which* we have built the world of our experience— flavoring it with purpose, connection, and potential. *We live in the world of Ideals*, it is the same as the world of our experience. Our experiential reality supersedes and is built on top of the "real" world.

The nature of the connections between the world we perceive and "the world that is its base" is unknowable; but that Real world would necessarily be meaningless, and therefore, the pursuit of that world also.[10] This world of Ideals is all we have. But rather than merely *settling* for it, we can shape it. The "reality" we have constructed is one of passions, of depth, complexity, and purpose—framing our actions and our lives with meaning. Zeno's Paradoxes only pose a threat to this world insofar as we refuse to see it for what it is: a (re)interpretation.[11]

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[1]   The essence of Davidson's argument was the elimination of the literal/metaphorical distinction—for the reference, however, he emphasized the literal nature of language, to include metaphors. Here, I am accepting his basic premise while rejecting the supposed literalness of language.

[2]   This, in contrast with the Compositional argument which claims, essentially, that grammar and word-meaning are the only criteria required for understanding complex expressions.

[3]   It will become clear over the course of our investigation that while Zeno's paradoxical examples are varied, they all raise the same essential objection.

[4]   Using modifiers like, "*this* apple," or "*that* apple," may allow an audience to circumvent the problem of generality in nouns, but only if they are familiar with the context in which the utterance is made. If I pose the same example, but the speaker in the front of the room says, "this apple," instead of just "apple," we are provided with no additional information. Similarly, if he said, "This *is an* apple."
We can only understand what is being referred to with the word through a larger context. For instance, if we were actually present in the classroom where the speaker was talking, or if we were to read the word in a paragraph wherein it was eventually revealed that the item in question was actually a picture or a piece of fruit, etc.

[5]   In order to altogether eliminate the need for *interpretation* on the part of the audience, the hearer would need a complete understanding of the speaker's experience, perception, emotion, mastery of language, interpretation of the language, *ad infinitum*. In short, the hearer would also have to be the speaker instead of himself, or the simultaneously be the speaker and himself. Either way, it is impossible.

[6]   In his *Naming and Necessity* Saul Kripke offers a Causal Theory of Reference (fixing and borrowing) which aspires to explain how terms come to be used as referents, even for objects (or classes of objects) with which we are not acquainted (although the most significant aspect of the theory may be the severance of the long-held connection between necessary and *a priori* truths vs. contingent and *a posteriori* claims).

[7]   Translation is a difficult and nuanced project precisely because reductionism is false. Because words do not refer to items, but to socio-cultural constructs, and much is lost in any translation. One can translate "apple" from one language to another (assuming the concept of apple is also present in that language), but the significance and symbolism of "apples" may vary wildly from one context to another. A native of a given language and culture would instantly pick up on a number of facets which cannot be translated directly, and would often be difficult to meaningfully annotate.

[8]   The only recorded incident of authentically literal language (if the record is even to be believed) is in *Genesis*, when God proclaimed the universe's existence, and *it was*. By this account, Reality seems to be a mere speech-act of God—one which transcended language or social contexts and into the material realm.

[9]   For an alternative conception of time and space, see Henri Bergson's conception of "Duration," as described in his *Matter and Memory*.

10   Here, the most grievous flaw of Empiricism is also revealed: empiricists place, as the foundation of all knowledge, "the real world;" however, this world is not something we can experience objectively, if at all. And insofar as we experience Reality, it has no meaning apart from that which we ourselves ascribe to it. And finally, Reality, due to its infinite specificity and ever-changing nature, is completely ineffable (again, what we communicate via language is not Reality). In short, the foundation upon which empiricism is built is essentially a black-hole; empiricism, like rationalism, is self-defeating. Defeasible Coherentism presents an alternative, more viable, attitude to adopt towards knowledge.

11   M*utatis mutandis*, the relationship between the objective Reality and our personal experience may be analogous to that of the *Iliad* and the *Aeneid.*

Acknowledgements

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