



The Rationality Project

Across the Millennia

Lantz Miller

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Lantz Miller
Department of Philosophy
Ashoka University
Sonapat, India

ISBN 978-3-031-39919-0 ISBN 978-3-031-39920-6 (eBook)
<https://doi.org/10.1007/978-3-031-39920-6>

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Contents

1	What Kind of Approach This Study Takes and What It Does Not	1
1.1	What Kind of Approach This Study Takes and What It Does Not	5
1.2	What Kind of Argument This Study Makes and What It Does Not	5
1.3	Rationality and Morality: Normative, Prescriptive, and Descriptive Aspects	13
1.4	A Background Note	15
1.5	Suggested Reading for Those Who Would Like Substantial Histories of Rationality	22
	References	23
Part I	How a “Most-Explanatory Theory” of Rationality May Aid Understanding and Debates	27
2	Positioning the Argument: Goals, Terminologies, Assumptions, Directions	29
2.1	An Initial Assumption: Single Actions	30
2.2	Terms and Terminology: “Decision” Versus “Choice”	32

2.3	Further Assumptions: Human Reproduction, Rationality and Morality	39
2.4	Normative Concerns Now That the Five Assumptions Are Provided	41
2.5	Linking and Teasing Apart Rational* from Moral Decision-Making	44
2.6	Preview of Chapters to Come	50
	References	55
3	Tidying the Rational* Home	57
3.1	To Start the Search Criteria to Determine What Is Rational*?	58
3.2	Attempts to Systematize (and Define?) Rationality*: Rationality* Across the Disciplines	62
3.3	To Put These Differentiated Senses to Use	72
3.4	Ontological Priority in Rationality* and the Principle of Ordered “Order”?	77
3.5	“Phylogenetic” Priority?	80
	References	83
4	The Ontology of Rationality	87
4.1	Chapter Goals and Method	88
4.2	Overview of the Next Sections, and Referral to Optional Addendum	91
4.3	TR1 and TR2 in the Position of EP	93
4.4	TR8 in the Position of EP: The Cultural Sociopolitical Project	99
4.5	TR21 in the Position of EP	124
4.6	Summary of the Arguments’ Highlights and Chapter Conclusion	130
	References	137

5 Further Considerations of the Most Explanatory Theory of Rationality*: Does It Do Justice to Rationality and Humanity? 141

5.1 Fairness to Rationality* 143

5.2 Fairness to Humanity 148

5.3 On Rationality Beyond Humans’ 151

References 152

Part II Aspects of a Most Explanatory Theory of Rationality 153

6 Rationality’s Precepts and Cognates (Irrational, Nonrational, Arational, etc.) 155

6.1 Recap and Concerns 156

6.2 Rationality’s Cognate Terms: Inequality 169

6.3 Chapter Summary 179

References 180

7 [Rationality vs. Authority] Versus [Rationality + Authority] 183

References 188

8 Why Rationality? The Growth and Normativity of Rationality 189

8.1 Why Rationality? 190

8.2 Further Historical Considerations 191

8.3 An Outline of How the Developing Precepts Began Interweaving* 192

8.4 The Likely Jagged, Fits-and-Starts Development of Rationality 195

8.5 Why Be Rational 196

8.6 Exogenous Justifications for Rationality 200

8.7 Conditional Rationality 201

8.8 Moral Rationality 203

8.9 Aesthetic Rationality 205

8.10	Faith Rationality	206
8.11	Chapter Concluding Remarks	207
	References	208
9	Rationality Personal and Social	209
9.1	Human Beings Are Quite Emotional Beings, So How Can They Be Rational—?	211
9.2	Rationality’s Persuasive Appeal at the Level of Individual Will	213
9.3	Precept Observance	225
9.4	The Rational Society	226
	References	233
10	Extensive Example and Closing Remarks	235
10.1	Example: Human Reproduction	238
10.2	Candidate Rational Decisions to Reproduce and Possible Intersections with Moral Decisions	239
10.3	A Frank Opinion About Rationality	244
	References	248
	Index	249

List of Figures

Fig. 4.1	Schema for how the presumed rational faculty would work. (By this second method, the agent still has the option to compensate somehow for impermissible output to render it permissible)	95
Fig. 5.1	One possible tree to organize the TRs in order of explanatory priority, with TR8 at the top node, position EP. This tree is not offered as a final T_{ME} but with the understanding that other such trees are possible, ideally with one of them the strongest T_{ME}	144
Fig. 9.1	Comparison of emotions-based account, rationalist account, and rationality as cultural project account of the role of emotions and rationality in formulating beliefs and behaviors. The third account can contain and explain the other two	219
Fig. 9.2	Two simplified schema to indicate what may be involved in (a) realizing a rational society or (b) ending up with a society that is not rational. The main difference in Fig. 9.2b, compared with Fig. 9.2a is that Fig. 9.2b allows the option for both adopting rationality and forgoing it, which of course renders the society susceptible to whim and therefore its institutions cannot ensure rationality in society. But Fig. 9.2a disallows the prospect of forgoing rationality, thereby helping to ensure society stability	229

List of Tables

Table 3.1	Summary of rationality terms	71
Table 4.1	(Reprise): Summary of rationality terms	92
Table 4.2	Summary of the abbreviations for the terms and concepts used in subsequent sections hereinafter and Miller (2023) in the process of discovering the most explanatory theory T_{ME} for rationality*	93
Table 4.3	Summary of assessment of 21 theories of rationality*	131
Table 6.1	Summary of the precepts: perhaps these precepts can be succinctly combined in the phrase “Optimal belief, maximal openness”	160
Table 10.1	A list of candidate rational justifications for reproducing, some possible rationality precepts that they may concern, and how the justification may violate or cohere with the precepts	245



1

What Kind of Approach This Study Takes and What It Does Not

Physicist Edwin Schrödinger in his 1944 book *What Is Life?* warned that “[i]f a man never contradicts himself, the reason must be that he virtually never says anything at all.”

Schrödinger was struggling with what may be the hardest ontological problem, at least as hard as “Why is the universe?” While we may consider physics, along with mathematics, as purely rational inquiries, he sees the underlying paradox of discourse here. The paradox is that in discourse one seems to set out seeking sound results, but setting out in discourse means instantiating self-contradiction. Wisely, Schrödinger only hints at paradox without falling into the treacherous pit of declaring rationality infallible. Rather, he sees traps for self-contradiction lurking everywhere. Yet, implicitly, rationality is an inexorably human phenomenon. We can proceed with it with some success without having to worry about errors to the point of giving up. Just like the evolution of life, rationality proceeds via error.

If the mystery Schrödinger confronts is what are life and the universe, the underlying mystery for ontology and many disciplines is that of rationality itself. Supposedly rationality is the path to clarity and light. Unfortunately, whatever exactly the term “rationality” itself consists in remains obscure. In many a discussion, from economics and philosophy to psychology and other sciences, the term is tossed about freely. This

essay aims to minimize merely intuited usage and put the term and its underlying senses¹ on straighter tracks.

To start groping toward those tracks, consider a few telling instances in practical philosophy that use the concept of rationality. Rationality and morality often appear together in practical philosophy. Kant (1993) may offer the most renowned such connection. He conceives a rational being as one who can act morally or immorally. Rational knowledge is that which lends itself to the moral law and morality. If for the moment we assume that acting according to reason is acting rationally, then he finds that acting rationally is acting according to the moral law.

In turn, much practical philosophy holds that behaving morally is rational. Mill (1952) also connected rationality to morality, in that it is rational to abide by moral principles. Aristotle (1941) may be the most thorough among these three thinkers in connecting the rational and ethical: Education among the virtuous leads one both to apply reasoning and to behave ethically. Instead of abiding by principles, one learns by absorption among the virtuous. Wisdom and virtue are essentially the same.

Already, problems appear as to what rationality consists in. Is the rational that which applies the principles of reason? Is rationality an inner, mental capacity, or does it reside in external principles that one learns by rote? Is one born rational, or does one develop rationality?

This essay offers from the literature more examples—21 in all—of senses that the term “rationality” and its cognates may have.² Such examples only amplify the confusion as to just what people are talking about in using these terms. More often I speak of the senses that the term “rationality” has than which concepts the term refers to. One criterion by

¹I use “concept” and “sense” in different ways, reflecting a difference in these terms’ common usages. A term such as “rationality” may have different senses, whereas such a term may refer to any of one or more concepts. Generally, when one uses “rationality,” one commonly is homing in on a particular concept.

²I choose to examine 21 arbitrarily although not entirely so. More examples of different senses could easily be added, although after extensive noting of how the term is used in the literature. On the one hand, I feel that too much more than 21, say 30 or 40, would start to have repetitions. Among the 21 are still some that are quite close to one another. On the other hand, I did not want to diminish the amount of example senses. The number I offer can only be a matter of art, as no solid science of rationality has yet developed to inform us what all in the cognitive realm encompasses rationality. Overall, this effort to examine some amount *X* of senses of rationality is an approximation and suggestion to kick the process of rigorizing rationality into action.

which these different senses are distinguished is by the field or discipline of the person using the term. Economists, psychologists, artificial-intelligence researchers, and epistemologists all seem to use the term in their own way. Apparently, they are content with their group's mutual understanding of the term or of their seemingly assumed sense or senses of it. But one can only wonder, does any particular sense underlie all its senses? That is, are the senses all somehow united and not just scatter-shot? One of this essay's goals is to determine whether, for all senses of "rationality," one underlies or best accounts for them all.

Now, some readers may believe it is superfluous to reflect in any detail on what rationality consists in. For those readers "rationality" is considered merely to refer to different capacities and aspects of behavior that different subdisciplines and practitioners lump under one term. For convenience these disciplines need not bother to distinguish these facets of rationality, and doing so seems superfluous. By this outlook, we users of the term and underlying senses know what we speak of in using the term. Whether you are in economics, psychology, philosophy, or other disciplines that speak of rationality you know what you mean when you use the term. After all, Newton did not need to define force beyond stating it is mass times acceleration. As Popper points out (in Magee, 1973), natural scientists do not need to waste time arguing over definitions. They know what they talk about in using a term because that term fits a precise place within a complex network of theories and explanations: That much is what delineates or delimits (*defines*, strictly) a term. Certainly, some readers may hold that a similar understanding and use of a term should also be appropriate for the "softer" disciplines.

I question whether the term and senses of "rationality" in these disciplines are so sharply, if tacitly, delineated and delimited. Can the context of all the technical terms that each discipline uses so well locate and mark what rationality is in that discipline? Mentally related terms beyond rationality have been so widely used as to trigger strong doubt as to whether the practitioners are speaking of the same thing. The terms "consciousness," "mind," and "intelligence" are three cases in point. It is not clear whether, when speakers talk of consciousness, they are indeed speaking of the same phenomenon, especially when they set forth definitions. They may intend that activation of the five senses is consciousness. Or

consciousness is general awareness, or it is a state that has nothing to do with the senses' activation. Consider *g*-intelligence, the multiple intelligences offered by Howard Gardner (1993), and the "intelligence" in AI. These are only a few among the prominent proposers of intelligence's nature. It is a tough matter to crack as to whether these various users of the term do speak of the same thing, whether within or among disciplines. If something does underlie all these usages, it could be worthwhile to uncover just what, say, the intelligence in all the term's senses consist in.

I presume and maintain that a similar exercise could benefit disciplines that depend upon use of "rationality." It could help sharpen their endeavors to find out what they all share and, hence, what the term "rationality" ultimately consists in.

There is a further danger in automatically throwing out tout court such an investigation into the term "rationality." Other philosophical terms merit similar investigation via the fairly recent subdiscipline of conceptual engineering (Cappelen, 2018), which I discuss in a section below. Practitioners in this area have examined key philosophical terms of many kinds, such as "know," "freedom," "marriage," and many others. It is not a mere whim to subject "rationality" as a term to the critical analysis this essay proposes. Rather, such subjection of terms is part of what appears at this point to be a productive and informative philosophical endeavor. If one desires to maintain such a method as an option for a recourse for philosophical terms, to be fair one must adduce reasons why not reserve such a recourse for "rationality."

For readers entirely skeptical of this book's topic, I ask them to assume the worthwhileness of the subject for the time being. The concern here is not a semantic quibble but rather how a more clarified and unified concept of rationality may be for those disciplines that use the term extensively.

To look ahead briefly: One way to group these theories is by rationality as a universal (e.g., Aristotle, 1941; Kant, 1993) or as somehow socially defined (Barrett, 1958; Gramajo, 2001; Cabantous et al., 2010; Abulof, 2015; Bouwmeester, 2017). The non-universalist perspective includes social constructivism: Rationality was constructed by various parties deliberately to sustain control over less powerful members of society. Another non-universalist sense of "rationality" is as a sociocultural practice and

belief. The latter, like many cultural practices and beliefs, is not *deliberately* constructed per se. Rather, it develops over time, as though organically. Versions of the former, social constructivism, are salient today. But my ultimate aim is not to insist whether universalist or non-universalist senses of rationality have the final say. Instead, I suggest that both categories of senses are not so distant and, in fact, can be unified. In sum, the hope is that these different senses of rationality can indeed be unified.

1.1 What Kind of Approach This Study Takes and What It Does Not

I first describe some approaches to rationality that may seem at first to be much like that I take in this essay: namely, attempting to analyze the term for clarifying its use in the various disciplines. I hope that this section's brief exercise will help put into relief the approach I do take. In such context with these other theories, it should emerge as more distinct than it was before the analysis.

1.2 What Kind of Argument This Study Makes and What It Does Not

American poet Robert Frost (1915) is well known for his poem of existential perplexity, if not angst, "The Road Not Taken." As he states, "Two roads diverged in a yellow wood ... long I stood/And looked down one as far as I could/To where it bent in the undergrowth." If such irremediable divergences do bound our lives, they may bear on this subsection in analyzing a possible ontology of rationality.

Frost's forest path had merely two options. Besides the one I offer presently, I see *several* before they bend into the undergrowth: (1) Nozick's evolutionary ontology of rationality; (2) Audi's melding rationality of action and belief into a kind of virtue; (3) Wheeler's seven definitions; (4) bounded rationality; and (5) instrumental rationality. Certainly, there may be more hidden in the undergrowth, as Frost conjectured.

A few authors, notably Nozick (1993) and Audi (2001), have each suggested a theory of rationality that should be consistent with the different disciplines' senses of the term. But do these theories unify those senses? Do they allow any interwoven hierarchy of explanatory power among these senses? I briefly mention here what both offer in this domain and how my approach differs. Nozick holds that rationality is a certain evolutionary adaptation. By a number of means it has the potential to influence positively—adaptively—and enhance decision-making, beliefs, and ethics. Rationality of belief, as accounted for by evolutionary adaptation, does not suppose *a priori* absolute truth as rationality's end goal. Rather, rational belief is that which works as an adaptation enhancing fitness. Similarly for rational action: "Natural selection works on ... believing *p* is the rational thing to do. ... Natural selection will work first on ... action *A* [as] the most fitness-enhancing thing to do" (Nozick, 1993, p. 113). Most important, "*Enhancement of inclusive fitness yields selection for approximate truth rather than strict truth ... truth is what underlies a subclass of serviceability. Once we become self-conscious about it, we can improve the accuracy of our given procedures*" (p. 113; emphasis added). Even if evolution selects for rationality of belief and action, we can turn around and use it for our own purposes, such as making our ersatz if workable truths more accurate, in turn enhancing fitness.

If evolution selects belief-forming mechanisms that are reliable, and if believing for reasons is a component of some such reliable mechanisms, then the organisms that result may care about and focus on reasons rather than reliability. This focus is the way they are guided to reliability, but reliability is not their focus ... rationality is taking account of (and acting upon) reasons. (Nozick, 1993, pp. 113, 120)

In brief, by Nozick's account, what rationality consists in is a naturally selected, fitness-enhancing mechanism. Once we recognize it for what it is, we can employ it to our own purposes, via "explicit" rationality (120). A "capacity for rationality ... might well serve an organism in its life tasks and increase its inclusive fitness. This would give to explicit rationality the task of coping with changing facts and needs" (120).

This picture of rationality may be useful for describing how evolution originated and nurtured it. Still, it shies from unifying the various senses of “rationality” available to enhance explanation of what rationality consists in. Indeed, Nozick’s suggestion for rationality’s meaning offers a viable sense of “rationality.” And given its capacity as a sense of the term, I examine it later.

Audi (2001) attempts, with much success, a way to wed rationality of belief (epistemology) with that of action (ethics), especially with an eye on agents improving their application of reasoning. His approach involves developing a type of virtue—in the very vicinity where this essay itself arrives, toward the end of Part II. At the same time, he maintains that a call for such a “virtue” has been ongoing and intensifying, if less explicitly than recently, for centuries. I speak further to both these authors’ approaches in later sections and chapters. For now, I continue with the other approaches that contrast with this essay’s.

Wheeler (2018) provides seven definitions of rationality, which, being definitions, may seem much like my upcoming approach of analyzing 21 senses of the term.³ Given that much of this essay is about terms, I aim to take care in using the key ones. I believe that what Wheeler offers is in fact usages of the term “rationality,” as if there is already a mutual understanding of what rationality is, and here is how various authors use the term. The result of the seven in toto, though, is a miscellany result. By contrast, what this essay seeks is a unity, a coherence underlying all senses of the term. That is, it seeks that understanding of what rationality consists in (which these seven usages apparently assume), so as to render their respective usages *coherent and communicative among one another*.

³Just for the information I sum his seven definitions: Rationality is (1) Bayesian coherence; (2) assumptions we use in interpreting others’ action; (3) Hume’s idea that we should calibrate beliefs and desires with our experiences; (4) Weber’s substantive rationality in evaluating one’s aims of inquiry; (5) Peirce’s notion that rationality comes into play not in beliefs but during belief crisis when we change them; (6) Bennett’s effective-behavior rationality pertaining to an agent’s capacity to use complex information and revise it when it is no longer suitable to the task; and (7) as absence of defect, as in the Bayesian notion that sure loss is the height of *irrationality* and coherence is simply irrationality’s absence. I do not take a stand on whether Wheeler’s proposal is more felicitous than this essay’s but offer it to contrast the different way that people are taking in trying to analyze the term in question here.

Instrumental rationality is one of the classic usages of the term. It refers to an agent's cohering beliefs and actions so as best to achieve one's ends. Those ends need not be selfish, and they may change over time. While most people may concur that it is rational to so cohere beliefs and actions, this fact need not mean this usage of "rationality" exhausts the term's extension in the literature. For example, "rationality" is often used to refer to a certain capacity, or to a distinctive trait of humans, as in "*Homo sapiens* is a rational creature." This essay will treat this understanding of "rationality" as one sense of the term among others.

Bounded rationality (Gigerenzer & Selten, 2002) stands as an alternative to economic and perfection-oriented instrumental rationality. To put it briefly, bounded rationality allows for the errors and shortcomings, the blood and flesh, of the species. It recognizes that decisions often must be made with whatever information is available, satisfying rather than optimizing the outcome. Choice-making agents need not be considered as part of a single population mass but accorded to natural kinds, as in the case of adults and children. Without going into further detail, the point is merely that, much as with instrumental rationality, what we face with "bounded rationality" is one usage of the term, without clarifying what are the senses of the term that the usage employs.

All of these approaches to rationality, then, help delineate the routes that this essay does not take and thereby clarify which road it does take.

* * *

And the Road This Essay Takes?

Frost's poem concludes, "I took the one less traveled by/and that has made all the difference."

This essay's approach to investigating rationality diverges from these other routes. It asks what, if anything, underlies all the current senses of the term. In what, exactly, does rationality consist in regard to each and all its senses? There seems to be a common thread running through them all. I realize that at this early point in the essay, this goal cannot yet be clear. Ideally, the chapters to come will help settle the murk and leave something more limpid.

One influence on this essay's method is that of "conceptual engineering," prominently espoused by Cappelen (2018). I must confess that I first developed this essay's method before discovering Cappelen's. But he states his more clearly than I had first formulated mine. I hope that his in turn helps clarify and communicate mine. There are some differences between the two approaches, to which I come.

Cappelen describes his own as inspired by Nietzsche's call for philosophy's overhaul. Philosophy is so burdened by its faulty conceptual past as to demand us practically to start all over from basic concepts. Cappelen quotes Nietzsche (which I abbreviate) in summing this overhaul:

Philosophers ... have trusted in concepts as completely as they have mistrusted the senses: they have not stopped to consider that concepts and words are our inheritance from ages in which thinking was very modest and unclear ... philosophers ... must no longer accept concepts as a gift ... but first make and create them. [Concepts] are, after all, the inheritance from our most remote, most foolish as well as most intelligent ancestors. ... What is needed above all is an absolute skepticism toward all inherited concepts. (Nietzsche, 1901, p. 68, section 409)

Strawson (1959) developed a notion of descriptive and revisionist metaphysics that Cappelen borrowed to apply to conceptual engineering. The former, of course, is for describing concepts as they stand; the latter is revision for amelioration. Revisionism insists "that metaphysics is ... essentially an instrument of conceptual change, a means of furthering or registering new directions or styles of thought" (Strawson, 1959, p. 10). Revisionism and descriptivism are swathed as a greensward across Western philosophy. Descriptivists argue for centuries over just what does "know" or "freedom" mean, by surveying how the concept is used. Revisionists, numerous today, challenge the accepted meanings of "race" and "gender." In Cappelen's view, success for a descriptivist "is measured by descriptive adequacy—not by answering the question *what should those words mean?* and *what should the relevant concepts be?*" (Cappelen, 2018, p. 4). These last two questions are at the core of his "Master Argument" for conceptual engineering. He suggests it can help clarify our arguments involving key philosophical terms. For brevity, I abbreviate his argument as follows:

1. If W is a word that has a meaning M , W may have many similar meanings, M_1, M_2, \dots, M_n .
2. We have no good reason to think that the meaning that W ended up with is W 's best meaning....
3. It's important to make sure our words have as good meanings as possible.
4. When doing philosophy, we should try to find good meanings for core philosophical terms and they will typically not be the meanings those words as a matter of fact have.
5. So no matter what topic a philosopher is concerned with, she should assess and ameliorate the meanings of central terms. (5)

I do not quibble over what exactly a “good meaning” is. The next two chapters herein will define a “most explanatory theory” of a term, a notion falling somewhere within the vicinity of “good meaning,” and I hope a bit clearer. Also, Cappelen’s idea that a “good” term typically is not “the meaning those words as a matter of fact have,” I believe, corresponds to one of this essay’s core ideas. Namely, the process of finding the “most explanatory theory” of a philosophical term such as “rationality” may result in an understanding of the term atypical for what users of specific senses of the term may expect. In sum, I project that the method in this essay will require a great deal of “descriptive conceptual engineering” while yielding a revisionist version of the term.

Some concerns arise in attempts to revise the meaning of a term by ordering its various senses (which ordering I describe later). If you revise a term’s senses, are you not changing the word itself? So, how can you say it’s the same term? Take an example from natural language. Thousands of years ago, “music,” let’s call it, consisted in a person or group drumming and chanting. Much later, “music” could designate the results of dozens of people on a stage with a wide range of colorful instruments playing for hundreds of people in an auditorium. Later, a computer loaded with code playing on a CD was “music.” Throughout these changes of senses of the term, how could we securely and plausibly call the phenomenon “music”?

Such is the problem that Cappelen deems that of “same-saying.” He avows that “same-saying can be preserved across semantic difference” (Cappelen, 2018, p. 15). Without this understood factor, “The

connection to previous discourse would disappear. Continuity of lexical item is an important marker of topic continuity” (20).

Contrasting with what I, with Cappelen, suggest for this “engineering” of terms, Chalmers (2011) says we should comb through the “conceptual neighborhood” of the term. Such terms as “freedom” and “liberty” and maybe “autonomy” cluster. We can differentiate these through subscripts. For example, as Cappelen provides from Chalmers, “‘freedom₁’, ‘freedom₂’, ..., ‘freedom_n’” (17). “Chalmers thinks philosophers have spent too much time (thinking they are) fighting over what freedom *really* is by asking the question ‘Which one of freedom₁, freedom₂, ..., freedom_n is *really* freedom?’” (Cappelen, 2018, p. 17). Cappelen considers this approach that of “always expand”—a practice that undermines lexical continuity and thereby ongoing discourse. It retains discourse at a level that humans, at least, can handle. (As we are not gods or supremely cognitively enhanced, we would be unable to maintain the barrage of such ongoing changes. In this way, Cappelen’s project assumes a level of practicality in carrying out the conceptual engineering.)⁴ Moreover, “I think meaning assignments are in large part incomprehensible and outside human control” (Cappelen, 2018, p. 25).

Where I differ from Cappelen is primarily in terminology and result. I do not set out to fix concepts. Rather I aim to clarify a philosophical term by means of investigating its many senses. In its success, or in its attraction as a dynamic term, it has exploded from its philosophical origins to be employed by a number of disciplines. The point of the revision is not so much to improve any concepts that the term has been made to represent. Rather, the point is to fit the term’s many senses together in such a way as to show how they all contribute to the term. Thus, the engineering in this essay is not as normative as Cappelen’s. Its investigatory method, rather, is descriptive in order to ameliorate its potential usages. If we understand how these senses fit together, we should be better informed,

⁴ Chapter 3 will develop a way of ordering and classing the many senses of the term “rationality” as theories about what rationality consists in, and these will be ordered by subscripts, viz., rationality theory t_j , as in t_1, t_2, \dots, t_n . In Chap. 3, this notation is replaced by “rationality1, rationality2, ..., rationality21.” However, this notion’s similarity to Chalmers’ suggestion is only superficial. He is speaking of a way to open a term to indefinite degrees of expansion. By contrast, I am assuming a description of senses of “rationality” with the aim of cohering them under a single “bast explanatory” theory of “rationality.”

in order to take more care in using it, no matter our discipline and its particular usages.

Presently, to help illumine my plan, I attempt an analogy to altogether different types of inquiry. The first analogy is to biology and its taxonomies. In rationality theory, we may devise a taxonomy of each discipline's type of assumed rationality. These types may include rationality in psychology, economics, artificial intelligence, epistemology, or practical philosophy. Similarly, in biology, from Aristotle to Linnaeus and onward, one encounters a rich taxonomy of organisms, distinguishing each species with notable success. However, another approach to biology concerns: In what does life consist? This question has spurred a tremendous volume of research over the past millennia, searching for characteristics underlying all life forms. (See Dupre, 2012 and Noble, 2006 for criticisms of the traditional account of what life is.) Thus, we can say that life consists in organisms that are cellular, metabolize, reproduce, and so forth. To risk another analogy from a slightly different angle, in psychology there have been many theories about intelligence. One type of theory assumes that in human intelligence there is a general intelligence. Gardner (1993), among others, has argued for an expanded taxonomy of intelligences in the context of wider human varieties than was previously supposed. Is there some characteristic that underlies all the types of intelligence in the taxonomy, even if no individual exhibits all these types?

Similarly, in rationality theory, in asking in what does rationality consist, is there a taxonomy of rationality, or types of rationality? Is rationality intelligence or other cognitive capacity? Is it a prescription for how best to make decisions? If there is a taxonomy of types of rationality, is there a singular basis underlying all of them? Does rationality consist in principles which one may learn and evoke as needed? In exactly what, then, to sum the analogy, does intelligence (in psychology), does life (in biology), does rationality (in rationality theory), consist? I attempt some preliminary responses in chapters to come. As examples already mentioned, Audi's (2001) theory of rationality tends toward the normative. It points to how one can reconcile one's beliefs and actions through a unified approach to reasoning. Nozick's (1993) outlook, emphasizing evolutionary adaptation in the operation of rationality, is more descriptive, if with some normative, practical undertones. These two example theories

could use further clarification such as whether rationality per se is a faculty in the brain, as language may be (Chomsky, 1965). The various common notions of rationality, which the next chapters list and assess, warrant further precision.

1.3 Rationality and Morality: Normative, Prescriptive, and Descriptive Aspects

As with morality, inquiry into these practical philosophies can be considered as descriptive, normative, or prescriptive. As Wheeler well summarizes these different types of inquiry:

Briefly, a *descriptive theory* aims to explain or predict what judgments or decisions people in fact make; a *prescriptive theory* aims to explain or recommend what judgments or decisions people ought to make; a *normative theory* aims to specify a normative standard to use in evaluating a judgment or decision. (2018; §1.4)

To jump ahead briefly again, it seems that in many of the 21 cases I will describe, rationality is normative; whatever else it is assumed to be in a given context. Like morality, rationality appears to assume a standard, by which one can assess an action's or belief's rationality. Yet, these standards concern different modes of action. Consider standards in morality. Off the cuff—and I mean quite informally—one may plausibly suggest that morality involves standards or other program for guiding actions affecting oneself or others. Whatever one's beliefs in general, standards or other program for behavior may help assess those actions as they affect the moral patients. Similarly, off the cuff, rationality plausibly concerns actions, one's beliefs that may inform these actions, and how one conforms these beliefs to actions. Yet, doesn't morality also somehow concern how one conforms actions to beliefs about what is good? Morality and

rationality then seem to blend into one another as two facets of practical philosophy.⁵

However, many writers, including Hume (1739), care ethicists such as Held (2006), and virtue ethicists such as Nussbaum (2013), would object. They find that, contrary to rationality-oriented ethicists such as Kant and Mill, emotions play an important, perhaps inextricable, role in ethics.⁶ Rationality is considered somehow more about reasoning, possibly without emotional input at all. It enjoins us to conform our actions to beliefs that are presumably derived from reasoning. Some ethicists also enjoin us to similar conformity. More broadly, rationality commonly enjoins us to shape our beliefs about the world. Morality may enjoin us to shape our beliefs that pertain to how we should treat individuals. It may not prompt us so much to shape our general beliefs about the universe, as rationality may. The study of astronomy is a rational action, which can shape our beliefs about the universe, which in turn may shape that action (the study) in new ways. Yet, one is hard put to say such belief-shaping action and action-shaping beliefs form a domain of morality.

These worries are not readily assuaged. I bring them up, without solutions, to anticipate the problems ahead in inquiring what rationality consists in, distinct from morality. The point to such inquiry would be to aid our judgments in situations that presumably concern rationality. We may thereby determine whether they are indeed a matter for rationality. The ideal, too, would be to enhance our assessing the degree of rationality (if any) involved, and whether such situation is a matter of morality.

One illustration this essay uses for practical philosophy, both moral and rational, is that of human reproduction. It is a potent example of a

⁵ A viable objection to placing rationality within the domain of practical philosophy is that senses of rationality hold that it has both a practical and an epistemological component—*viz.*, rationality of action is practical, whereas rationality of belief is epistemological. I have two responses to this objection: (1) One may concede that rationality is simply a two-pronged concept; or (2) I make an arbitrary assumption for this essay, and that is that the two prongs are illusionary, because the concern for rational belief is about the formation of beliefs, and belief-formation is a type of act, albeit a mental act. A later chapter discusses this matter further. In brief, whether rationality is only partly about action, or whether its belief-formation aspect is indeed about action, it is at least partly practical, or at most entirely practical.

⁶ Mill does refer to outrage as a sign of injustice. But it seems this emotion does not tell us what to do but acts as a signal that something should be done.

situation that is in the borderlands of morality and rationality, and possibly neither. Whether one should reproduce has, for most of written history, not been considered a question for morality (Anscombe, 1989). At best, perhaps the act may be a matter for rationality: Is it rational for an agent to choose to reproduce, given a number of factors in one's life or in lives closely involved? Furthermore, over the past decade or two, moral philosophers have come to see human reproduction as, indeed, in the scope of morality. The distinctions between situations that pertain to morality versus those pertaining to rationality may, upon investigation, at least become sharper. These distinctions may clarify understanding of these two facets of practical philosophy individually—especially rationality.

1.4 A Background Note

Trying to provide a nutshell of what rationality is, in a book which aims to describe what rationality is, obviously poses a challenge. For readers not well acquainted with the various senses of the term “rationality,” I add this brief section, along with references to some recent works on the history of rationality. Readers already conversant with the term and its history may well proceed to the next section. Or, they may prefer to look more critically at my handling this onerous task of condensing a complex term's background into a page or two.

I emphasize, this section must *not* be assessed for its depth or lack thereof in providing such background. It is offered *only* to give readers not specialized in rationality just enough background to get a feel for how the arguments to come arose and grew in the first place. It is this current condition, with its many senses of the term “rationality,” that concerns this essay. A reader need not know all the steps that the concept of rationality took over millennia to reach its current complex richness—and its baffling quality. Since the essay is directed at a rather broad audience, this brief background should be enough for most readers.

First, I must confess that I and this essay do not intend to conflate rationality and reasoning. In the end, though, I concede that rationality in its many senses involves reasoning to some degree. Reasoning as a