2018

Aporetic Rhetoric: The Use of Uncertainty in Healthcare Contexts

Adam S. Lerner
University of South Carolina

Aporetic Rhetoric: The Use of Uncertainty in Healthcare Contexts

by

Adam S. Lerner

Bachelor of Arts
Purdue University, 2011

Master of Arts
Purdue University, 2013

Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in

English

College of Arts and Sciences

University of South Carolina

2018

Accepted by:

Pat J. Gehrke, Major Professor

John Muckelbauer, Committee Member

Kevin Brock, Committee Member

Lisa Meloncon, Committee Member

Cheryl L. Addy, Vice Provost and Dean of the Graduate School

Dedication

To Anna

Acknowledgments

I am indebted to many who have helped and supported this project along the way. For starters, I wish to thank my dissertation chair Pat Gehrke for supporting this project, providing opportunities for me to grow and learn throughout graduate school, and for being an all-around amazing person. Next, I would like to thank my committee. John Muckelbauer, Kevin Brock, and Lisa Meloncon have all been incredible mentors along the way. I thank you all for your support and encouragement.

This dissertation would not have been possible without the help and support of family and friends. I want to first thank my fiancée Anna Barry, who is my everything. I would also like to thank Chris and Mike Barry, who are the most gracious and generous future in-laws I could ask for. I am also thankful to Mike Barry for acting as a liaison between myself and the veterans I interviewed for this project. I also want to thank my fellow rhetoric colleagues in no particular order: Trevor Meyer, Ben Harley, Amber Lee, Alana Hatley, Sebastian Ivy, Kimberly Overmier, Mary Fratini, Gerald Jackson, Mark Schaukowitch, and Anthony Stagliano. You have all been important sounding boards and interlocutors on this journey, and I am honored to have you as colleagues and friends. Finally, I wish to thank the Russell J. and Dorothy S. Bilinski foundation for their generous financial support.

Abstract

This project examines how uncertainty is rhetorically deployed in healthcare contexts. Investigating four major healthcare contexts, I study how different forms of uncertainty produce distinct rhetorical effects and consequences. In Chapter 1, I explore how the haphazard use of Agent Orange during the Vietnam war makes it difficult for veterans to prove their exposure to this deadly chemical. In Chapter 2, I examine the rhetorical strategies of mental illness skeptics and denialists, looking at how each deploys uncertainty in different and related ways. In Chapter 3, I investigate the intersection between design, emotion, and uncertainty as it appears in the patient experience process. Finally, in Chapter 4, I look at different methods of theory-building in addiction science, and argue that how theories wrangle with uncertainty lends them different virtues and vulnerabilities. Concluding, I suggest that the rhetorical use of uncertainty has "pharmaceutical" qualities, an argument that ups the stakes for both rhetoric and healthcare practice and theory.

Table of Contents

List of Figures

Introduction
Aporetic Rhetoric

1. A History of Aporia

What is uncertainty? Where does mere hesitancy end and real uncertainty begin? Is it problematic that the very question "What is uncertainty?" is predicated on an understanding of uncertainty, since all questions presuppose some relative uncertainty? One thing is certain: these philosophical problems have not stopped scholars, thinkers, and researchers from postulating and theorizing on what uncertainty is and how it affects human behaviors. This project is no exception. Specifically, this project examines the rhetorical use of uncertainty, or "*aporia*."

Aporia is a rhetorical device that refers to the use of uncertainty, either feigned or authentic, as a means of persuasion. For instance, the question "Is there enough evidence to prosecute?" has certain rhetorical effects. It could make an investigator reflect on the surety of their chances in court. It could place a modicum of doubt in the minds of a jury. It could even be straightforwardly interrogative, without the pretense of an explicitly rhetorical purpose. Aporia is the rhetorical use of uncertainty. Aporetic rhetorics are the tactics, strategies, and counter-measures that use or defuse the deployment of uncertainty for persuasive purposes.

To better understand aporia, we can look to its use in ancient Greek texts, where authors use it to describe places, things, people, and thoughts. In Xenophon's *Anabasis*, a Sinopean ambassador named Hecatonymus advises the Greek armies to avoid a trip through the lands of ancient Paphlagonia, located on the southern coast of the Black Sea. He uses the term "aporia" to describe the trip as "not merely difficult…but a thing

of utter impossibility."[1] In book 3 of Plato's *Laws*, the Athenian describes how a great flood wiped out civilization on the plains. Plato deploys the term "aporia" to describe how supplies of metal would be "virtually impossible" to recover until the art of mining was "rediscovered" by the remnants of civilization.[2] In Herodotus' *Histories*, he uses "aporia" when describing how Artabanus tries to dissuade Darius from making preparations against the Scythians by telling him how "hard that people were to deal with."[3] Finally, in the *Protagoras*, Plato uses the term "aporia" when describing Prometheus's creation of humankind, and what tools we were to be given. Aporia is used to describe Prometheus's "perplexity" when faced with deciding what gift to give humans. This perplexity that would lead to the pilfering of Athena's and Hephaestus's endowments of practical wisdom and fire.[4] Read together, these different applications of aporia are revealing.

Applied to a variety of situations, use of aporia in ancient Greek texts helps us distinguish uncertainty from the rhetorical *use* of uncertainty. For instance, Hecatonymus uses aporia as a stand-in for "impassable," but does so in the context of advisement of the Greeks. In Plato's *Laws*, the Athenian uses aporia to describe the difficulty of recovering the art of mining after an apocalyptic flood, but as with many Platonic dialogues, does so in the context of making a broader dialectical argument. In Herodotus, aporia gets deployed when describing the straightforwardly rhetorical attempts of Artabanus, who is trying to convince Darius not to move against the "difficult" Scythians. Finally, in Plato's *Protagoras*, aporia is used as a justificatory state of mind, a kind of mental perplexity that so affects Prometheus, he decides to pilfer the

gifts of Athena and Hephaestus. In each case, the concept of "impassibility," "difficulty," "obscurity," and "perplexity" is not used in an isolated instance, but instead, deployed for specific rhetorical purposes.

Furthermore, the diverse use of aporia, such as a stand-in for "impassibility" or "difficulty," removes us from the realm of epistemology. Aporia is a state of being, and not just a state of mind. When Hecatonymus describes the trip through Paphlagonia as being "impassable," aporia serves as both a description of the place and how the structure of that place produces certain cognitive states. If we describe a labyrinth as "aporetic," we mean that its structure is complex, confusing, or poses navigational difficulties. What underlies this complexity is nothing other than uncertainty, not just as a state of mind conjured by language, but as a type of environment as well. This project will address both the linguistic and lived dimensions of aporetic rhetoric. As a shorthand for either the linguistic or material rhetorical deployment of uncertainty, we can simply use the term "aporia."

Aporia takes on a communicative dimension that discussions of uncertainty sometimes miss. We do not have to travel far to find studies on how uncertainty affects decision-making, or how uncertainty about a specific subject can be mitigated through a variety of strategies. These perspectives are invaluable in understanding what uncertainty is, but they do not necessarily reveal much about what uncertainty does, and how it accomplishes its effects. In other words, it is important to know that conditions of uncertainty can distort our sense of value, perception of risk, or emotional state. However, knowing these facts about uncertainty does little to elucidate how

uncertainty is used. It is one thing to know that uncertainty can make us less willing to take risks, it is another to understand how different organizations, individuals, or objects can leverage this fact to achieve a goal or purpose.

This makes aporia sound manipulative, a tactic used to distort the truth for ignoble purposes. This is a fair critique. Aporia is "manipulative." An aporetic approach is a rhetorical strategy not known for straightforwardly convincing with "the facts." However, like all rhetorical techniques, the ethics of aporia are best assessed depending on the context of its use. If you are wrongly accused of a crime, you should hope that your legal representation uses an aporetic strategy against an expert witness, thus convincing the jury their testimony is not as persuasive as it seems. On the other hand, unjustifiably prolonging the use of a dangerous drug by suggesting that the risks "need further research" is the sort of rhetorical tactic that is likely unethical in many cases. This project seeks neither to laud nor to vilify aporia. Rather, we will examine cases where uncertainty is used for a variety of noble and contemptible purposes. The important point for our investigation is how it is used, not what ends it is used for. To learn more about aporia, including when and where it is used in healthcare situations, we need to first learn more about what uncertainty is.

2. A Typology of Uncertainty

To get to the heart of aporetic rhetoric, it is helpful to traverse how different academic disciplines approach the concept of uncertainty. For philosophers, uncertainty is a central question stretching back through the Western tradition, and appears in Platonic dialogues, Cartesian mediations, and modern analytical epistemology.

Psychologists have been increasingly focused on the topic in the twentieth and twenty-first century, especially in decision-making research and behavioral economics, where classical notions of self-interested rationality have been upturned. In the sociology of medicine, clinical uncertainty plays a vital role in contextualizing, understanding, and communicating healthcare information. Philosophy, psychology, and the sociology of medicine play a central role in this project, thus how these fields understand and deploy uncertainty will be important background for our continuing investigation.

Philosophy: Uncertainty as Skepticism

Philosophers in the western tradition have long been preoccupied with uncertainty. For example, the tried-and-true allegory of the cave is interpretable as a short treatise on uncertainty. The central punchline of Plato's famous story is simple: why are we so certain about what our senses tell us? Mystery (uncertainty) abounds. More generally, philosopher's long-standing devotion to knowledge is a misattribution. No doubt, knowledge in the philosophical tradition is seen as one of the highest virtues. However, in practice uncertainty is likely the more dominant value.

The Platonic dialogues are an instructive example. Socrates "pretends" to be uncertain of a basic notion, often infuriating his interlocutors through feigned ignorance. However, rather than come to a "better" version of knowledge by the end of each dialogue, many end in a standstill or state of uncertainty. For example, the *Apology* ends with a poetic flourish of uncertainty: "Now the hour to part has come. I go to die, you go to live. Which of us goes to the better lot is known to no one, except the god."[5]

After a lengthy discussion on the etymology of names, Plato concludes the *Cratylus* by having Socrates admit that "…whether I'm right about these things or whether the truth lies with Heraclitus and many others isn't an easy matter to investigate."[6] In the *Theaetetus*, Socrates spends a great deal of time providing a theory of knowledge, only to undercut his position at the end of the dialogue: "I do not know any of the things that other men know – the great and inspired men of today and yesterday."[7] At the end of the *Symposium*, Socrates and his companions become too intoxicated to finish their debate.[8] Plato's dialogues frequently deploy uncertain conclusions in these ways, or otherwise end abruptly without reaching any agreement.

For Plato, uncertainty functions on two levels. First, in the dialogues Socrates deploys uncertainty to complicate preconceived notions. Second, Plato deploys it against readers by reaching conspicuously few conclusions about the nature of virtue, justice, or reality. Plato's dialogues are thus thoroughly aporetic. They do little to bring knowledge to the reader. Instead, they offer a blueprint for a method of deploying uncertainty. If we accept Whitehead's notion that all of Western thought is a footnote to Plato, it is hard to avoid the conclusion that Western thought is less about thought and more about uncertainty. Additionally, this uncertainty is not only a topic of debate, it fuels debate itself.

Plato's dialogues are certainly interested in questions of uncertainty. However, stylistically, the structure and rhetorical features of the dialogues is part of an aporetic strategy. Those familiar with the Platonic dialogues know how questions raised during the course of debate between Socrates and his interlocutors rarely, if ever, end on solid

conclusions. In fact, one of Socrates' primary rhetorical strategy is substantially aporetic. Socrates frequently feigns uncertainty in the dialogues, like he does in 495b-c in the *Gorgias*:

> *Socrates:* Do you really assert these things, Callicles?
>
> *Callicles:* Yes, I do.
>
> *Socrates:* So we're to undertake the discussion on the assumption that you're in earnest?
>
> *Callicles:* Most certainly.
>
> *Socrates:* All right, since that's what you think, distinguish the following things for me: There is something you call knowledge, I take it?
>
> *Callicles*: Yes.
>
> *Socrates*: Weren't you also saying just now that there is such a thing as bravery with knowledge?
>
> *Callicles:* Yes, I was.
>
> *Socrates*: Was it just on the assumption that bravery is distinct from knowledge that you were speaking of them as two?
>
> *Callicles*: Yes, very much so.
>
> *Socrates*: Well now, do you say that pleasure and knowledge are the same or different?
>
> *Callicles*: Different of course, you wisest of men. [9]

Notice how Socrates feigns ignorance in this passage. In his first two questions above ("Do you really assert these things Callicles?" and "So we're to undertake the discussion on the assumption that you're in earnest?"), Socrates is not likely puzzled by Callicles' position. Instead, he is deploying uncertainty to lock Callicles into an argumentative position. He pretends to be uncertain about Callicles' earnesty not because he is uncertain, but because he wants to close down any future hedging or argumentative revisionism. In other words, Callicles cannot suddenly claim that he was "not serious" about his argument once Socrates has him cornered into admitting the earnesty of his position. This is a clear-cut example of an aporetic tactic. Socrates is using uncertainty to produce argumentative leverage.

Once he has Callicles cornered, Socrates launches into his characteristic argumentative style, a different but equally effective aporetic strategy. Socrates likely knows that Callicles believes in the existence of knowledge, and this question acts as a bridge to the next rhetorical tactic: getting Callicles to admit a distinction between knowledge and bravery. This move is subtle and cloaked in aporia. Socrates lures Callicles into agreeing on a distinction between bravery and knowledge by feigning his uncertainty. This is the very core of Socrates' aporetic strategy: he deploys feigned ignorance, luring arrogant interlocutors into agreeing on positions he can leverage against them. Does Callicles really believe that bravery is distinct from knowledge? If he had any sense of Socrates' aporetic method, he would not have so readily agreed to the distinction. Socratic aporia thus hinges on the arrogant certainty of an interlocutor. This illustrates the basic contours of aporia.

Philosophers may take on any number of topical challenges in their work, but the core of their continued relevance is aporetic in nature. The style of philosopher's aporetic strategy has certainly changed from the time of Plato's dialogues, but an intense need dominates the substance of philosopher's rhetorical lives. To persist as a profession, they must deploy uncertainty to further their own arguments. Aporetic rhetoric is not only encouraged in the philosophical tradition, it is constitutive of its continued practice. We can further investigate this claim by examining debates in modern analytical epistemology.

In contemporary analytical epistemology, knowledge acquisition is premised on having a *justified true belief*. To a classical epistemologist, someone possesses knowledge if they have a justified true belief. Any wrinkle in this equation accounts for a condition of uncertainty. Of the three conditions, justification is the most discussed, followed by the belief and truth condition. The justification condition is also where we can distinguish between traditional and non-traditional epistemologies. Traditional epistemological stances, like evidentialism, hold that a true belief is justified if there is evidence to justify the truth of that belief. A non-traditional epistemology, like reliabilism, holds that knowledge is only acquired when a belief is formed from reliable cognitive processes.

For our purposes, uncertainty in epistemology exists as a type of skepticism. Strangely preoccupied with placing their organs in aqueous containers, epistemologists have long debated the "Brains in Vats" (or BIV) argument, a thought experiment central to their understanding of skepticism. The BIV argument goes something like this:

1) I'm uncertain that I'm not a brain in a vat.

2) If I'm uncertain that I'm not a brain in a vat, then I'm uncertain that I have hands.

3) I'm uncertain that I have hands.

For epistemologists, the challenge of this thought experiment is that it is particularly difficult to refute premise 1) and 2), making the conclusion, 3), seem unacceptably sound. Why epistemologists have decided to center their skeptical preoccupations on the relative existence of their hands is a fascinating sociological question in its own regard. However curious their framing, the BIV problem is legitimate. If we assume our hypothetical brain vats are wired to sufficiently simulate the experience of possessing a body, then premise 1) and 2) seem highly plausible. We cannot be certain we are not in a hand-centric version of the *Matrix*. Furthermore, the sophistication of our brain vats precludes our awareness of the situation.

Epistemologists have considered many possibilities to resolve the apparently unacceptable state of being uncertain about the existence of their hands. Some have suggested "closure," essentially reframing the argument to say that if I know I have hands, and I know that having hands means I am not a BIV, therefore I know that I am not a BIV. This argument falls short, since in the original formulation we begin with the premise that we cannot know that we are not a BIV, thus defeating the second premise of closure ("I know that having hands means I'm not a BIV"). Another approach, deployed by epistemologists who employ a "contextualist" view of knowledge, preserves closure by suggesting that the standards for knowledge can be "low" or

"high." Premise 1) of the BIV argument is thus true only in cases where our standards for knowledge are preternaturally high. We can be sufficiently sure we are not in the Matrix, perhaps not completely sure, but sure enough to conclude that we know we are not a brain in a vat. This view has elicited many objections from other epistemologists, who remain convinced that they do not have hands.

The interesting point of this debate is not that epistemologists have a strange preoccupation with the relative existence of appendages. Rather, the fascinating dimension of this preoccupation is that it involves a significant amount of debate, discussion, and argument generated from deploying uncertainty about the existence of hands. The key takeaway is not that we are ignorant about our hands, it is how rhetorically efficacious the deployment of uncertainty has been in this debate. Hundreds of pages, years of thought, and piles of articles have been devoted to avoiding the conclusion that we cannot be certain we have hands, all by plausibly suggesting we are uncertain that our brains are not suspended in science fiction goop.

More importantly, the aporetic dimensions of epistemology are not of secondary importance to epistemologists. Uncertainty is the primary preoccupation of these philosophers. Epistemologists never convene to express their mutual agreement about the nature of knowledge. One can surmise that epistemology would no longer exist if this were the case. Rather, epistemology is not about knowledge at all, but *uncertainty*. Every argument and counter-argument, every treatise and response, is an aporetic perpetuation of doubt centered on which conditions need to be met to obtain knowledge. Even if there were to be some hypothetical essay in which the author

completely agrees with a colleague on every facet of their epistemological theory, it is a foregone conclusion they will cast doubt on an alternative theory to bolster the veracity of their position. In doing so, every epistemologist is essentially *casting doubt* on a theory of how humans come to know facts about the world, perpetually suggesting that no, we cannot actually be certain we have things like hands. It is this condition of uncertainty that drives continued debate, and "casting doubt," a thoroughly aporetic notion, is one of the central levers through which this debate (and conceivably, all debate) is sustained in the philosophical tradition. The aporetic preoccupations of epistemologists are not reserved to this philosophical subfield. The history of Western philosophy is predicated on how well philosophers cast doubt on one another. Western philosophy is stylistically aporetic, while epistemology is both substantially and stylistically aporetic.

This illustrates that aporetic rhetoric is not necessarily manipulative or unethical. Many academic fields are predicated on the practice of deploying uncertainty against already-existing theories, and through this process, assumptions are challenged and interesting questions are raised. Not only does aporetic rhetoric sustain the continued work of reflection and inquiry, it also underpins the value of humanistic thought and scholarship. We will encounter cases where aporetic rhetoric is used nefariously, but it is important to keep in mind that it is also used to liberate, question, and sustain critical thought.

Psychology: Uncertainty in Behavioral Economics

To get to how uncertainty has carved out its own increasingly important niche in psychology, we need to first tease out how the idea first appeared in economics, thus tracing out how these two fields have productively collided on the topic of uncertainty. Economist Frank Knight wrote his doctoral dissertation in 1916, during a time of relative economic instability following the first World War. Published as the book *Risk, Uncertainty, and Profit* in 1921, Knight's major contribution to economic theory is his distinction between risk and uncertainty. To Knight, the former is characterized by known probability distributions, the latter, by probability distributions that are unknown at the moment of decision-making. However, Knight is careful to distinguish between two kinds of uncertainty: measurable and unmeasurable.

Measurable uncertainty and risk are close cousins. In fact, Knight considers them so close that measurable uncertainty in his paradigm is not a type of uncertainty. "True" uncertainty is the incalculable unknown. This is the same conceptual breakdown that Donald Rumsfeld famously deployed in a 2002 news briefing on the existence of weapons of mass destruction in Iraq: "…there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know."[10] The first are risks, the second, measurable uncertainties, the third, unmeasurable uncertainties or what economists refer to as "Knightian" uncertainties.

Knight's novelty derives from seeing that the issues dogging economic theory can only be unraveled by addressing the nature and function of consciousness. Knight spends a great deal of his 1921 work delving into the particularities of profits, utility, supply and demand, and other economic preoccupations. In the last third of his remarkable work, however, Knight casually treads into murky philosophical questions about the nature and function of knowledge and uncertainty, including their relation: "We live only by knowing *something* about the future; while the problems of life, or of conduct at least, arise from the fact that we know so little. This is as true of business as of other spheres of activity."[11] For Knight, conscious behavior is nothing other than "action designed to change a future situation inferred from a present one."[12] The novelty of Knight is not his theory of action, however, but his insistence that the notion of stable inference from the present is not as stable as it seems.

For Knight, the question is not whether the world is obscured from human rationality (it is), but *to what extent* the world is obscured from rationality. As he explains: "We have, then, our dogma which is the presupposition of knowledge, in this form; that the world is made up of *things*, which, *under the same circumstances*, always *behave in the same way*."[13] The "chief logical problem" with this formulation, in Knight's mind, is the conception of a "thing." Knight's central inquiry is "how far and in what sense the universe is really made up of such 'things' which preserve an unvarying identity (mode of behavior)."[14] In sum, things are more complicated than philosophers and economists seem to believe in the early twentieth century. Compounding this complication, Knight believes that people inconsistently react to these amorphous

conditions: “It probably occasions surprise to most persons the first time they consider seriously what a small portion of our conduct makes any pretense to a foundation in accurate and exhaustive knowledge of the things we are dealing with.”[15] To Knight, the seeming irrationality at the heart of human consciousness is “very liable to be misunderstood.”[16] Knight’s continuum of uncertainty, from risk, to measurable and then immeasurable uncertainty, is a reasonable way to pin down the problem. Thus, poor economic forecasting is a result of a confusion between risk, the known unknown, and the unknown unknown. To Knight, we fail to predict future events not because the future is impenetrable (a belief very much in-vogue in early twentieth century philosophy), but because we misidentify whether and to what extent a situation is predictable in the first place.

At the time, Knight’s insights into these simple cognitive processes were of little interest to psychologists. However, nearly fifty years after Knight’s influential work, psychologists Amos Tversky and Daniel Kahneman began to rigorously investigate the types of questions that Knight had in mind in 1921. Their work on heuristics and biases tested research participants on simple probability questions, revealing consistent biases that emerged from the use of decision-making heuristics. In other words, Kahneman and Tversky were interested in how people make decisions under conditions of uncertainty. They found that otherwise intelligent college students would make simple probabilistic errors. Take, for instance, this question from Tversky and Kahneman’s 1974 essay, “Judgment Under Uncertainty: Heuristics and Biases”:

A certain town is served by two hospitals. In the larger hospital about 45 babies are born each day, and in the smaller hospital about 15 babies are born each day. As you know, about 50% of all babies are boys. The exact percentage of baby boys, however, varies from day to day. Sometimes it may be higher than 50%, sometimes lower.

For a period of one year, each hospital recorded the days on which more than 60% of the babies born were boys. Which hospital do you think recorded more such days?

-The larger hospital?

-The smaller hospital?

-About the same (i.e., within 5% of each other)? [17]

Most respondents selected "about the same." As Kahneman and Tversky speculate, "presumably because these events are described by the same statistic and are therefore equally representative of the general population."[18] However, sampling theory dictates that the expected number of days in which more than 60% of the babies born are boys is more likely in the smaller hospital than the larger one, because the larger sample is less likely to stray from the 50% average. Because the question established predictive expectations (50% of all babies are boys), the resulting answer to the question becomes biased, based on these expectations.

Another example taken from Tversky and Kahneman shows how framing can affect prediction-making processes:

> Imagine the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the program are as follows:
>
> (Problem 1)
>
> If Program A is adopted, 200 people will be saved.
>
> If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.
>
> Which of the two programs would you favor? [19]

The majority (72%) of respondents chose Program A, demonstrating risk aversion. Being certain that 200 people would be saved is more attractive than a 1/3 probability of saving 600 lives. A second group of respondents were given two different options:

> (Problem 2)
>
> 1. If Program C is adopted, 400 people will die.
>
> 2. If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.[20]

Although Problem 1 is essentially identical to Problem 2, the majority (78%) in the second group of respondents chose program D in Problem 2. Tversky and Kahneman explain: "Choices involving gains are often risk averse and choices involving losses are often risk taking. However, it is easy to see that the two problems are effectively

identical. The only difference between them is… a pronounced shift from risk aversion to risk taking."[21] In Problem 1, the choice is framed by lives saved, in Problem 2, by lives lost. Framing makes all the difference.

Tversky and Kahneman's work held important implications for economists. If our perceptions of risk could be altered, or if our ability to determine whether something is measurably or immeasurably uncertain, then economic decision-making based on a purely self-interested rational model would need revision. Kahneman and Tversky's article "Prospect Theory: An Analysis of Decision under Risk," puts these rational economic preconceptions to the test. For instance, economic decision-making under conditions of risk can be viewed as a choice between gambles. A gamble is simply a contract that yields a probabilistic outcome. Expected utility theory, a long-standing explanation of how rational actors make choices between gambles, is based on three tenets. First, a gamble's utility is based on the expected utility of its outcomes, or the relationship between the gamble's "payoff" and its probability. Second, a gamble is acceptable if the utility resulting from the gamble exceeds the utility of a person's already-existing assets. Or, a gamble's utility is based on a person's final asset position rather than gains or losses. Third, a person can be risk averse, risk neutral, or risk seeking, which will affect the perceived utility of a gamble either concavely, linearly, or convexly.

Using French economist Maurice Allais's criticism of expected utility theory, Kahneman and Tversky put together a series of psychological tests that cast doubt on this theory. They found that people generally tend to overweight outcomes that are

considered certain, relative to outcomes that are probable, a phenomenon they call the "certainty effect." Here are two modified examples from their 1979 study:

Question 1:

Which gamble do you take?

A: An 80% chance of winning $4,000

B: A 100% chance of winning $3,000

Question 2:

Which gamble do you take?

C: A 20% chance of winning $4,000

D: A 25% chance of winning $3,000[22]

In question 1 (*N*=95), 20% of respondents chose option A and 80% chose option B. In question 2 (*N*=95), 65% chose option C and 35% chose option D. The respondents' answers to these two questions violate expected utility theory. According to the substitution axiom of utility theory, if option B is preferred to option A, then any probability mixture with B must be preferred to a mixture of A. In other words, expected utility theory states that because respondents chose option B in Question 1, they will choose option D in Question 2. This did not occur, leading Kahneman and Tversky to conclude that people tend to be biased towards certain outcomes in a way incompatible with classical expected utility theory. In particular, being certain of an outcome (or feeling certain of an outcome) tends to be overvalued when weighed against other bets (even bets with minimal risk) that present larger rewards.

Knight's, Kahneman's, and Tversky's work on behavioral economics, an extension of psychological research on biases and heuristics, are important pieces of the aporetic puzzle. On its surface, aporetic rhetoric is no more than the claim that uncertainty can be used rhetorically. This claim should not strike us as particularly earth-shaking. Rather, what Knight, Kahneman, and Tversky reveal is that aporetic strategies are neither homogenous nor unclassifiable. There are measurable, observable, and discrete aporetic strategies that produce equally distinct results. Knight's contribution to this thesis is his insistence that psychology is a critical dimension of decision-making under conditions of uncertainty. In addition, Kahneman and Tversky's research further suggests that uncertainty is not solely the purview of rationality, as some decision theorists and economists have suggested. Thus, the psychological ramifications of uncertainty begin to align with our rhetorical intuitions. Uncertainty can be used, altered, and modified to produce specific psychological (and by extension, rhetorical) effects that demonstrate the full range of logos, ethos, and pathos.

Take, for instance, the two above examples drawn from Kahneman and Tversky. In the disease outbreak example, the *exact* same amount of uncertainty is present in both Problem 1 and Problem 2. Yet, by framing one decision as a matter of saving lives and the other as a matter of losing lives, Kahneman and Tversky were able to show a powerful and measurable rhetorical manipulation of uncertainty, an aporetic strategy all the way down. In the gambling example we see a similar phenomenon. Based on expected utility theory, respondents *should* have selected choice D if they selected choice B. Yet they did not. Instead, Kahneman and Tversky are able to isolate what they

call the certainty effect, which biases decision-making towards options that are (or seem) certain. Convincing someone that a result is completely certain thus has powerful rhetorical effects. Let's put this concretely.

Imagine a physician provides two treatment options for a loved one's illness. Treatment A is framed as certain to succeed, but the process will be somewhat painful, lengthy, and reasonably expensive. Treatment B is framed as extremely likely to succeed, but the process is almost painless, fairly quick, and cost-effective. Based on Kahneman and Tversky's research, many will be swayed to select Treatment A, because the result of this choice has been framed as certain. Let's imagine a second scenario: Treatment A is 90% likely to succeed, but the process will be somewhat painful, lengthy, and reasonably expensive. Treatment B is 85% likely to succeed, but the process is almost painless, fairly quick, and cost-effective. Which do you choose? Framed in this way, Treatment B appears as a much more viable option than in our first scenario, even though in our first scenario, the likelihood of both Treatment A and Treatment B might be quite close to 90% and 85%, respectively. Thus, how a physician frames the likelihood of success for Treatment A or Treatment B is deeply influential on the patient decision-making process. When we begin to take into consideration physician conflicts of interests, personal commitments, overconfidence in particular research programs, or other confounding factors that influence how physicians frame treatment options, the impact and prevalence of these subtle framing problems are intensified. Aporetic rhetoric is thus a critical dimension of understanding healthcare.

Medicine: Clinical Uncertainty

Largely the purview of sociologists, the term "clinical uncertainty" describes the different facets of uncertainty in medical practice. The medical community understands the stakes of mismanaging uncertainty in the clinical setting. For instance, medical authority is largely premised on the superior knowledge of physicians and medical science, creating incentives to obscure or distort the extent of clinical uncertainty expressed between doctors and patients. Clinical uncertainty can also exist between the physician and their diagnostic tools, like laboratory tests and therapeutic research results. Finally, clinical uncertainty rests directly between the patient and physician. Being unaware of patient needs – both physical and psychological – is detrimental to the therapeutic process. For example, if physicians tend to communicate more poorly with certain racial or ethnic groups, this "uncertainty gap" will have measurable impacts on the quality of care these communities receive.

Sociologists became increasingly interested in questions of medical authority in the 1970s, when they began to collect information on doctors' perceptions of what accounts for a "good" patient and a "bad" one. As Michael Calnan summarizes this work, "the best patients, in terms of patient behavior, were those who seldom consulted, those who are able to judge when a consultation is needed, those who trust the doctor and do not expect too much and those who accept the doctors' judgment and comply."[23] Alternatively, "bad" patients were those who were critical of diagnosis or questioned a physician's judgment. From the perspective of clinical authority, patients who put physician expertise into question were a threat and burden to clinical

autonomy. Pediatrician Richard Hayward has explored what contributes to this defensiveness.[24] As Hayward postulates, physicians frequently have perceptions of themselves that relate to their accomplishments, and this perception is shaded by "the assumption that whatever they do has been done for the good of the patient and, as such, requires no further justification."[25] Uncompromising in his assessment, Hayward notes how "doctors require particular mental strategies if they are to cope with what could be perceived as regular personal defeats," the two most tempting of which are "assumptions of authority and infallibility…linked to each other in a mutually supportive relationship."[26] From the perspective of uncertainty, there is a strong psychological incentive for physicians to manage uncertainty amongst themselves and their patients. Their very professional identity, in some respects, hinges upon the authority we commonly associate with certainty.

These sociological factors also interact with the important shift in medicine to an "evidence-based" model. Evidence-based medicine (EBM) refers to the "conscientious, explicit, and judicious use of the best available evidence in health-care decision-making."[27] Transparently rhetorical (after all, even alternative medicine practitioners will say they make decisions based on the best evidence), in practice, EBM refers to mainstream medicine's reliance on modern testing practices and technologies, as well as an emphasis on examining scientific studies before providing a diagnosis. This reliance impacts medical specialties differently. For instance, Amit Ghosh notes that primary-care physicians are more tolerant of clinical uncertainty that orthopedists, urologists, and anesthetists.[28] Thus, primary-care physicians were less likely to deploy

extensive medical testing. As Ghosh explains, high levels of uncertainty have very real economic impacts: close to 17% of needless cost in medical management is the result of anxious physicians who order tests because they are uncertain of a diagnosis.[29] Ironically, technological advances "will not eliminate uncertainty and may actually increase it."[30] This finding resonates with Stefan Timmermans and Alison Angell's sociological examination of uncertainty, which argues that EBM does not necessarily reduce uncertainty, as much as it provides a new form of uncertainty in the diagnostic process.[31] Interviewing over a dozen medical residents, Timmermans and Angell found that these inexperienced physicians doubted their ability to find appropriate evidence in existing literature, to distinguish between a good and bad epidemiological sample, or to determine what was an appropriate level of statistical significance.[32] Complicating matters, many residents questioned the interests behind the studies, noting that economic incentives can affect the quality of medical knowledge.[33] Clinical uncertainty is thus a thorny problem for the EBM paradigm. It also has consequences for ethnic and racial minorities.

Uncertainty is also a primary cause of racial and ethnic minorities receiving inferior medical care. When insurance status and other measures of access are controlled using statistical methods, racial and ethnic disparities remain.[34] When researchers control for patients' clinical characteristics, racial and ethnic disparities remain.[35] In attempt to discover why, Ana Balsa and her fellow researchers found that the diagnostic implications of symptoms and tests, lack of information about the effectiveness of particular interventions, and debate over what counts as a valuable

clinical outcome all functioned as central contributors to clinical uncertainty. When these types of clinical uncertainty are prevalent, they create a wide berth for physicians to use "clinical discretion" towards the treatments and tests they use. As Balsa et al. argue, this clinical discretion becomes colored by subjective influences, including "unfavorable stereotypes and attitudes about social groups," which shapes "the exercise of this discretion."[36] Essentially, Balsa et al. argue that clinical uncertainty creates conditions where biases and stereotypes can influence physician decision-making. Physician and patient communication is a second problem located at the intersection of ethnicity, race, and clinical uncertainty.

Two types of experiments show that clinicians respond differently to patients of different races. One type of experiment is based on priming effects,[37] where clinicians were "primed" with words relating to Black American stereotypes or "neutral" words. Clinicians were then asked to group rate hypothetical Black American patients on multiple hostility-related attributes. Groups of clinicians who viewed the Black American stereotypes rated hypothetical patients of this ethnicity as significantly more negative than clinicians who viewed neutral words.[38] In a second kind of experiment, a group of medical students viewed a video of either a Black American woman or a white man with the same symptoms. Minority and female medical students perceived both groups of patients as possessing similar qualities of life, but male and white medical students perceived the Black American woman's quality of life as lower than their white male counterparts.[39] Both experiments show, at least preliminarily, that in conditions of

clinical uncertainty prejudice and bias are plausible explanations for healthcare disparities.

Uncertainty, and by extension aporetic rhetoric, is a critical problem for healthcare. Part of this criticality derives from the sheer stakes: not knowing whether a treatment option will work can literally mean the difference between crippling pain and total recovery, or even between life or death. Complicating these stakes, there will always be a non-negligible level of uncertainty when it comes to diagnosis and prognosis. Unlike other scientific endeavors, however, where uncertainty can be managed or somewhat ignored (no one will perish by being uncertain of string theory), in medical science these uncertainties are rightfully taken seriously. So seriously, in fact, that there are strong sociological incentives to obscure or mitigate the communication of uncertainty to maintain professional authority. Admittedly, physicians have gone to great lengths to realistically manage these uncertainties (for example, by using EBM), but the more that physicians have fought back against uncertainty, the more new types of uncertainty appear. Finally, clinical uncertainty has observable systemic effects on the quality of care. Because subjectivity is amplified in conditions of uncertainty, biases and stereotypes can influence diagnostic decisions, leading to potentially poorer outcomes for minorities. From the perspective of aporetic rhetoric, the practice and theory of healthcare is an indispensable site for understanding both how uncertainty performs rhetorical work, and how this rhetorical work of uncertainty is a constant and constitutive dimension of medical treatment.

3. Aporetic Rhetoric

My central claim in this project is that medicine and health are implicated in aporetic rhetoric, and vice versa. Healthcare contexts tend to amplify the use and management of aporetic rhetoric, and aporetic rhetoric has a "pharmaceutical" quality that mimics the functions of medicine. Because the stakes of communication in healthcare settings are so high, aporetic rhetoric is both widespread and potent in healthcare contexts. The widespread appearance and importance of aporetic rhetoric in healthcare contexts is due to a fundamental tension between humankind's desire to eliminate the uncertainty of illness and death, and the limits of our intellectual, technological, and physical ability to do so. In other words, aporetic rhetoric is deeply entwined in practice, research, and communication in healthcare settings because humans possess an instinctual and deep desire for continued life, vitality, and health, coupled with an equally fundamental inability to determine how to prevent death, incapacity, and illness. Despite our species' best efforts, Spinoza's claim in 1677 that "nobody as yet knows the structure of the body so accurately as to explain all its functions" holds true today.[40] These epistemological limits, coupled with our desire to overcome the pains and failures of bodies, enables the theory and practice of healthcare to be inundated by aporetic rhetoric.

Flipping this claim on its head, aporetic rhetoric is also a pharmaceutical. Deriving from the Greek term "pharmakon," which broadly refers to drugs, the term "pharmaceutical" is an apt way to describe the function and form of aporetic rhetoric.

The connection between pharmakon and language is made in section 14 of Gorgias' *Encomium of Helen*, where he describes *logos* as a *pharmakon*:

> The power of speech has the same relation to the disposition of the soul as the application of drugs on the disposition of the body. For just as different drugs draw different juices out of the body, and some end disease but others end life, so also some speeches produce pain, some enjoyment, some fear; some instill courage in hearers; some drug and beguile the soul with a kind of evil persuasion.[41]

Gorgias' connection between communication (logos) and pharmakon is not simply one of healing, but of displacement. In the above passage, it is not that drugs and speech change the soul or the body, rather, they alter the *disposition* of the soul or the body. Aporetic rhetoric functions as a pharmaceutical by altering the state of our "souls," or cognition, through an act of displacement. When a medicine helps alleviate the symptoms of a cold, the cold remains, but the symptoms are displaced. The cold is "beguiled," to flip Gorgias' analogy. Alternatively, when a drug intoxicates our minds, our ability to think and perceive remain, but are displaced by the effects of the drug. Drugs are "mind-altering," not "mind-changing."

Aporetic rhetoric functions in debate in the same way that medicine displaces symptoms or drugs alter minds. Deploying aporetic rhetoric does not close down, eliminate, or settle disputes, it displaces them. For example, the claim that "more research needs to be done" on a drug does not imply the drug is dangerous or not, rather, it displaces questions of value. Thus, each chapter of this project will investigate

how aporetic rhetoric is deployed in different healthcare settings. In these settings, aporetic rhetoric is functioning pharmaceutically.

In Chapter 1, I use actor-network theory to examine how different organizations and individuals leverage and resist uncertainty surrounding Agent Orange. Many Vietnam Veterans were exposed to one of the most dangerous chemicals ever crafted by human hands during the occupation of Vietnam. Furthermore, how, where, and to what extent Agent Orange was used in Vietnam is largely uncertain. In this chapter, I argue that the CDC and other governmental research agencies deploy spatial uncertainty to cover their inability to determine the dangers of Agent Orange. In addition, I explore how veterans who were exposed to Agent Orange have managed to overcome these uncertainties and receive remuneration for their injuries.

In Chapter 2, I examine different forms of the anti-psychiatric movement. Differentiating between mental illness skepticism and denialism, I suggest that what separates these two rhetorical positions is their deployment of uncertainty. Mental illness skeptics tends to undermine concepts of diagnostic objectivity, positivism, and the stability of mental health categories, but denialists often avoid concrete evidence and argument, instead opting to circumvent traditional argumentative strategies by conflating hypotheticals with realities. Walking through different modes of mental illness skepticism and denialism, I identify how different types of uncertainty lend different characteristics to aporetic rhetoric.

Chapter 3 argues that the connection between design, affect, and uncertainty impairs patient outcomes. Often eliciting negative emotional affects from patients, I

suggest that the systems, structures, and designs that dominate patients' experiences with medical professionals alter their decision-making processes, leading them to overestimate either risks or rewards in clinical settings. Using psychological research, I make two central connections between uncertainty and patient experience design. First is the "uncertainty intensification hypothesis," which states that uncertainty during an emotional experience makes unpleasant experiences more unpleasant, and pleasant experiences more pleasant. Second is the "affect heuristic," which posits that in situations where someone possesses a positive emotional affect, it is much easier for them to overlook high risks and low benefits. The opposite is also true. If someone has a negative emotional affect, they are more likely to infer high risks and low benefits. Thus, positive affects tend to push people to overlook the risks of uncertainty, while negative affects tend to accentuate the risks of uncertainty. Both the uncertainty intensification hypothesis and affect heuristic illustrate conditions in which aporetic rhetoric is amplified. Since most healthcare experiences are neither positive nor pleasant, and since many healthcare designs lead to patient uncertainty, the average patient experience design prevents patients and physicians from maximizing the effectiveness of healthcare decision-making.

Chapter 4 unpacks the debate over what counts as an addiction. Here, I argue that the gap between theory and reality, especially as it pertains to human behaviors, is a persistent form of uncertainty that haunts addiction science. Furthermore, how addiction researchers engage with this uncertainty will alter the rhetorical efficacy of their addiction theories. Expeditious addiction theories tend to manage, constrain, or

"wrangle with" uncertainty. These theories are rhetorically functional because they are comprehensible, easily tested, and allow quick categorization and rapid comparison. Expeditious theories also tend to fall victim to counter-examples, tend to gloss over specifics in their search for rigid categories, and tend to produce representations of reality that are more intuitive than realistic. On the other hand, fastidious addiction theories tend to embrace, precisely describe, or otherwise account for uncertainty. These theories are rhetorically efficacious because they are exhaustive, applicable with high levels of accuracy, and tend to draw on the strengths of multiple perspectives. Fastidious theories are also unwieldy and difficult to explain. My central claim in this chapter is that both theory-building strategies are rhetorically workable means of managing uncertainty, but their efficacy is context-dependent.

Reaching the final conclusion of this project, I expand and elaborate on my claim that aporetic rhetoric is a pharmaceutical. First, I turn the central argumentative thrust of this project upside down, and instead of examining how aporetic rhetoric is prominent in healthcare settings, unravel how healthcare is implicated in aporetic rhetoric. Exploring rhetorical scholarship on the concept of pharmakon, I synthesize the concept of pharmaceutical with each chapter, explaining how aporetic rhetoric's effects can be seen in a pharmaceutical light, since uncertainty displaces rather than settles argument and debate. By way of conclusion, I argue that the implications of this claim are two-fold. First, given the potency and efficaciousness of pharmaceutical rhetorics, rhetorical scholarship should begin to examine sites besides aporetic rhetoric. Second, healthcare theorists and practitioners need to assess the implications of viewing

language and communication as indistinguishable from other drugs they administer. In both cases, aporetic rhetoric becomes one example of a much wider universe of pharmaceutical rhetorics, imbuing rhetoric and medicine with new and higher stakes.

Chapter 1
Agent Orange and Aporetic Resistance

1. The Deadliest Chemical on Earth

Its full name is 2,3,5,8-tetrachlorodibenzoparadioxin, or TCDD for short. The 55-gallon shipping containers that contained TCDD had an orange ring painted around the top edge, lending it the notorious moniker, "Agent Orange." Of the 75 known forms of dioxin, TCDD is the most toxic.[1] Few chemicals on Earth are deadlier.

Continuing scientific research has demonstrated a range of diseases and disorders connected with exposure to TCDD. Exposure increases risks of birth defects[2] and has been conclusively linked to non-Hodgkins lymphoma,[3] soft tissue sarcoma,[4] chloracne,[5] and other acneform diseases.[6] Although the research is still preliminary, exposure has also been linked to diabetes,[7] prostate cancer,[8] and endocrine disorders, even at very low concentrations.[9] TCDD was one of many "rainbow" herbicides liberally sprayed over the jungles of Southeast Asia during the 1960s and 1970s, each deriving their names from the colored ring around the edge of their containers. Over 6 years of the Vietnam war, 45 million liters of the substance was sprayed, and some estimates suggest that roughly 10% of Vietnam was directly hit.[10]

Herbicide use in Vietnam was a military decision. The dense vegetation of Southeast Asian jungles provided strategic cover for the revolutionary forces in Vietnam, and the elimination of this tactical advantage benefited the more conventional warfare used by the United States military. When herbicides did not work, the United States used other chemical agents to modify the landscape, even igniting large areas of jungle to make it easier to locate, track, and attack guerrilla forces. These operations were ubiquitous failures. The dense canopy of the jungle refused to be destroyed. As Edwin

Martini suggests, military commanders "treated the natural environment less as a combatant to be destroyed than as an object to be pacified and, ultimately, controlled."[11] However, even using most advanced military technologies the United States could not control nature.

It is difficult to tell just how many individuals were exposed to TCDD. Personnel in large bases located in cities received very little exposure, while those in defoliated areas were exposed through a combination of direct and indirect methods, such as soil contact, drinking water, or bathing. Importantly, there is a lack of understanding when it comes to how defoliants traverse the environment. This makes determining how personnel were exposed to TCDD almost impossible. Those who were most exposed to TCDD were in direct contact with herbicides through the mixing, loading, spraying, or clean-up activities associated with the chemical. This variety of dangerous encounters with TCDD complicates scientific, medical, and legal questions pertaining to exposure.

The science behind Agent Orange remains unsettled, and this uncertainty poses challenges for veterans suffering from the effects of exposure. In 1979 Public Law 96-15t directed the Unites States Department of Veterans Affairs (VA) to conduct epidemiological studies of Agent Orange health effects, but was a massive failure.[12] Researchers at the VA had to announce they were unable to perform the study because of inadequate data. Congress then told the VA to turn over control of the study to the Centers for Disease Control (CDC). Tens of millions of dollars and several years later, the CDC reported that the military records available could not provide useful exposure data. They determined that an epidemiological study of Agent Orange was simply infeasible.[13]

A 1987 CDC study of dioxin levels in Vietnam veterans who served in heavily sprayed regions, compared to those who did not serve in Vietnam, was unable to distinguish between the two groups. However, veterans who were directly involved in Operation Ranch Hand (the name of the defoliation operation) had negative health effects that were proportionally distinguishable from other groups of veterans. By 1991, scientific evidence conclusively linking a range of illnesses with Agent Orange exposure began to emerge, thus prompting the creation of the Agent Orange Act, which has been the basis for disability compensation for veterans. Nonetheless, many veterans succumbed to the effects of Agent Orange exposure long before the Agent Orange Act, in part because of the uncertainty surrounding its effects.

Following the institution of the Agent Orange Act, the VA began accepting claims for disability based on exposure. Current VA regulations have a "reasonable doubt" doctrine, meaning that the VA adjudicates each veteran's claim individually and determines if any illness or injury is more likely than not to be caused by the exposure. In this system, a veteran's claim must meet the following four criteria: 1) There is credible evidence that the exposure involved is scientifically accepted as being associated with their specific injury/illness, 2) there is evidence that the relevant exposure happened during active military duty, 3) the illness or injury was initiated or exacerbated during active duty, and 4) there is evidence of an unusually large or prolonged exposure, demonstrating that it was at least as likely not to be the cause of the illness or injury.[14]

Veterans face significant problems trying to satisfy these four conditions. It can be difficult or impossible for a veteran to marshal the evidence needed for exposure occurring decades earlier, especially if the military misplaced their service records. Before the widespread implementation of computer record-keeping, this posed a serious problem. One veteran I spoke to for this chapter explained how easily his records had been misplaced:

> I had to go to Washington to talk to our legislators and congressmen and everybody. I hand you the paper. You're the clerk, you give it to the second in charge, then he gets it to the ladies, whoever's in charge. That's four people handling it. In case the clerk misplaces it, it's in a file somewhere else. It's not computerized…I go down there now, she just gets my name in right on the computer, pops up. Don't have to look at no files. But before, I know they lost my file the first time.

Before computerized record-keeping, document hand-off posed a problem for many veterans applying for disability compensation from injuries sustained from Agent Orange exposure. Even if their records made it through this complex system unharmed, these veterans still faced other evidentiary hurdles. For example, evidence demonstrating minimal exposure might be enough to argue that exposure relates to an associated health problem, but not enough to clear the threshold of being *at least as likely as not* to have been the cause, compared to all other possible causes (Brown, 2011).[15] Mark Brown provides a useful example: A veteran who served for 2 years is diagnosed with leukemia at age 50, and could have had as much as 30 years of exposure

to benzene as a civilian.[16] Because benzene is only a single and minor cause of leukemia and because leukemia is not an uncommon disease, to prove that exposure to benzene during military service was more likely than not to be the cause of their leukemia, this veteran would need to prove an unusually large or prolonged period of benzene exposure during military service. How this veteran would substantiate this claim is unclear, nor is it clear what the threshold for "unusually large" exposure is. A veteran can only bypass these criteria if they suffer from a "presumptive" service connection, giving them the benefit of the doubt if they have a specific set of illnesses.

This network is rife with uncertainty. First, it is almost impossible to tell where the US military sprayed Agent Orange, although researchers have made some noble attempts at using geographic information systems to determine exposure opportunities.[17] Therefore, it is difficult to run experiments to determine exposure effects when it is unclear how much exposure occurred, how long this exposure occurred, or the way exposure occurred. Unlike other wartime injuries, many military personnel are unaware of how their exposure took place, making first-hand accounts highly speculative. This was the case for one veteran I talked with for this chapter:

> It's hard to say [how often I was exposed]. I'd say in 13 months, I'm guessing they probably sprayed a couple, three times in the tour of duty I did. And now whether they sprayed while we were on patrol or not, that I don't know. That I don't remember.

Another veteran expressed the same uncertainty during our conversation for this chapter:

At the time, I didn't even know what it was and you would think, as the information officer, I would have had a clue, but they didn't even tell me.

Veterans who were exposed to Agent Orange can usually piece together a rough estimate of when and how they were exposed, but few are able to thoroughly document the extent of their exposure.

In addition to these difficulties, because even basic information like flight patterns for the planes that sprayed TCDD are spotty and slim at best, a strong scientific basis for determining how much exposure produces negative health effects is difficult to determine. Researchers continue to make progress on this front, but it remains problematic to make credible determinations as to whether exposure or other factors cause Agent Orange veterans' health problems. Many exposed veterans are in their 50s or 60s. Thus, it can be difficult to for researchers to ascertain whether health problems like certain kinds of cancer are related to exposure or not, since this population is more likely to face health problems in general. In other words, there are innumerable confounding factors that make attempts to prove direct exposure difficult for many veterans, especially faced with the intricate system in place for VA disability compensation.

2. Aporetic Rhetoric and Spatial Uncertainty

This interconnected system of problems and uncertainties lends communicating uncertainty as a rhetorical strategy a great deal of persuasive power. Both the VA and the CDC use this strategy in the late 1970s through the 1980s when they argued that

epidemiological studies were impossible to perform based on poor records, delaying and further confounding researcher's ability to draw sound conclusions. It was not until research on veterans who were directly and frequently exposed to Agent Orange that those affected were able to make any viable claims for damages. Those who were indirectly exposed find themselves face-to-face with the presumption of doubt, a policy that begins with the premise of uncertainty. Uncertainty with respect to exposure is codified, systematized, and leveraged against the reality of veterans' illnesses; the only way to prove a causal link is through proving that their disease is "at least as likely as not" to have been caused by exposure. Persistent delays, hang-ups, and outright failures of exposure research have only raised hurdles to proving a connection between service and sickness.

Uncertainty can help or hinder the ability for an individual, organization, or community to make both make arguments and be persuasive. Importantly, I do not wish to suggest that uncertainty is "bad" for rhetorical capacity in every case. On the contrary, uncertainty's role in shaping rhetoric is highly situational. Someone falsely accused of a crime, for example, is *relying* on evidentiary uncertainty to persuade a jury of reasonable doubt. Alternatively, prosecutors and police officers do everything in their power to minimize uncertainty to maximize their rhetorical efficacy. The insight I wish to draw out in this chapter is that uncertainty and rhetoric are intimately bound together, that to better understand both uncertainty and rhetoric, we need to examine them side by side. The vehicle for this argument is the spraying of Agent Orange in Vietnam, because this situation is so deeply entrenched in unusual and complex dimensions of

spatial uncertainty, or uncertainty about where an event occurred. This is also a good case study for better understanding how subjects can specifically *resist* the rhetorically limiting capacity of uncertainty in medical situations. I wish to illustrate how uncertainty plays a major role in shaping rhetorical capacity by tapping into second generation activity theory.

To achieve this goal, I interviewed veterans who were exposed to Agent Orange, or as I refer to them in this chapter, "Agent Orange veterans." The interviews used in this chapter were conducted at a Veterans of Foreign Wars (VFW) post, and participants were asked a series of questions about their service, when they believe they were exposed to Agent Orange, what their experience with the VA has been like, and how they generally view their service in the United States military. I interviewed five veterans, and their interviews ranged in length from ten minutes to thirty minutes. Of the veterans interviewed, the majority reported negative health consequences from exposure, but not all interviewed veterans experienced health problems related to exposure to Agent Orange. However, all the research participants could recall when they first saw Agent Orange being sprayed, or when they first learned of the dangers associated with exposure, even if they faced no personal negative health repercussions. In other words, every veteran interviewed had experience with Agent Orange and its effects. The relationship between these veterans and Agent Orange is a complex set of uncertain circumstances.

From an aporetic perspective, this chapter probes how Agent Oranges veterans contend with a series of increasingly uncertain circumstances and aporetic tactics on the

part of the VA. Barriers to filing a disability claim with the VA stem from the sheer unpredictability of Agent Orange use during Vietnam. Because there is so much uncertainty surrounding its use, it is difficult to tell how much exposure produces negative health consequences. Because it is difficult to tell how much exposure leads to negative health consequences, it was difficult for government researchers to make any determination about Agent Orange exposure. Because it took these researchers so long to discover they could not make any determination, Agent Orange veterans began to age and succumb to illnesses, injecting the situation with more uncertainty. This was the case with one veteran I spoke to, who felt the effects of Agent Orange at a young age despite being otherwise healthy:

> I started having heart problems in my late 20s, and I'm going, 'This isn't right.' And then I had a heart attack when I was 34, and I knew that wasn't right then. I was a very fit young man playing competitive tennis… and I did a lot of white watering, but I was always having these pains that I wasn't sure what they were. And then finally I was at my parent's place, it was a couple of days after Christmas in 1979, when I just felt like someone parked a Chevy Nova on my chest or something like that and I'm lying on the couch… they ran blood tests and found the blood enzymes and said, 'You had a coronary.' From then on, it's been downhill.

Unlike this veteran, who has survived multiple serious health consequences from exposure, many Agent Orange veterans have passed away. One after another, more levels of uncertainty compound this situation, stifling the rhetorical capacity of Agent

Orange veterans while providing governmental agencies an aporetic basis for denying remuneration for damages.

Uncertainty derived from the haphazard spraying of herbicide over Southeast Asia has affected rhetorical capacity more than any discursive element of this situation. This is a situation defined by a haphazard activity, using what was a poorly understood chemical at the time, on a population who had no idea what they were encountering. Once we learned what TCDD was capable of it opened the door for Agent Orange veterans to seek a corrective for their exposure. However, *spatial uncertainty* – who was sprayed, how much they were sprayed, when they were sprayed – haunts this endeavor. As I will argue, only the community of fellow Agent Orange veterans, enabled by their communities as well as the advocacy and high-rapport characteristics of the VFW, offers a means of countering these aporetic difficulties.

3. Mapping Agent Orange Veterans Using Activity Theory

Activity theory centers analysis on activity as opposed to subjects or objects, making it a useful tool for unraveling complex situations. As Victor Kaptelinin and Bonnie Nardi define it, activity theory is "an approach in psychology and other social sciences to understand individual human beings, as well as the social entities they compose, in their natural everyday life circumstances, through an analysis of the genesis, structure, and processes of their activities."[18] In other words, activity theory is an approach that centers on how subjects purposefully interact with the world around them. Rather than center analysis on individual beliefs, ideas, or feelings, or on how an individual directs these psychological features towards an objective, activity theory

works around the subject-object dichotomy by placing activity as the most basic category. In fact, activity theory posits that no properties of subjects or objects exist outside of activities.[19] Using this framework, activities are always the first point of reference used to analyze a situation.

Approaching uncertainty from the perspective of activity theory provides a view of how uncertainty works, as opposed to simply what it is and how much of it an individual has. It is tempting to suggest that uncertainty is merely epistemological, a matter of pure cognition. It would be relatively straightforward to assess how much veterans exposed to Agent Orange know about their condition, or when and how they were exposed. A trickier task is ascertaining the necessary preconditions for that uncertainty to flourish in the first place. By understanding how these conditions flourish and how people or organizations use or resist these conditions, we stand to gain a much deeper understanding of uncertainty than measuring it as a static, binary yes/no proposition. Thankfully, Yrjö Engström's activity systems model is available to address the complex ways in which activities unfold, and is an invaluable resource for capturing a relatively unexplored dimension of uncertainty.[20] Engström's activity system model is a useful point of departure for beginning to unravel how uncertainty influences multiple dimensions of activity, in our case, veterans exposed to Agent Orange and their

subsequent search for a corrective for themselves, their friends, and their comrades. I have recreated the basic elements of Engström's activity system model in Figure 1.1.

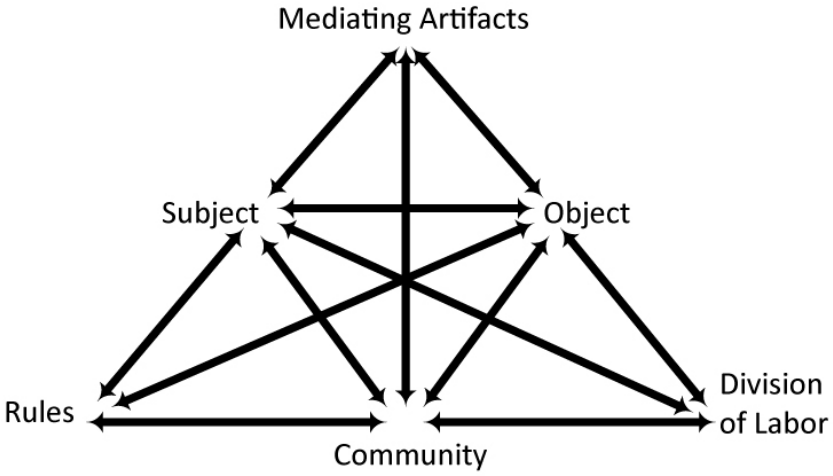


Figure 1.1 – Activity Systems Model

The "subject" refers to the person or people involved in an activity. Since I am analyzing how Agent Orange veterans manage uncertainty with respect to exposure, my subject in this model would be veterans who were exposed, construed broadly, to the chemical. We could just as easily fill the "subject" area in with the doctors who diagnose these veterans, the nurses who treat them at the VA, or any other subjects implicated in this situation. Doing so would dramatically change the structure of our activity system model. Importantly, how we select the subject in this model is an influential aspect of using activity theory, and is as important as selecting how we begin filling in the above model. For example, doctors and nurses participate in different communities, different divisions of labor, and have different objectives and goals than veterans. Hence, as I fill in the components of this model it is important to know that Agent Orange veterans are

both the central foci and the starting point from which all other dimensions of the model derive. They were the primary focus of my interviews.

The "object" refers to what connects individual actions to a wider activity, but is perhaps best interpreted as the "objective."[21] The objective is essentially the motive behind the activity under investigation. In our case, the objective that drives veterans exposed to Agent Orange varies from person to person. Some of the interviewed veterans expressed a desire to receive disability compensation for their injuries, since they can no longer work due to the health effects of exposure. Others expressed concerns about how their exposure would affect their childrens' health:

> I think it's unconscionable that they exposed us to that, and then for years, denied that it was a problem. In fact, it was a big problem. I think some poor people, genetically, are even passing some of that stuff on to their offspring, the problems they had with Agent Orange. I think, like I said, it's unconscionable the way the government treated us as far as that goes.

One veteran who had no negative health repercussions from exposure expressed the same sentiment:

> As you start to get older, you start to think, 'Is this really something?' Because you have children and it can affect children. And it doesn't have to be first generation. It's second generation is also affected. And now, you think about it and you think, 'Will any my grandchildren be affected?' And I think, you know what? It plays on your mind…

This group of veterans do not necessarily engage with the same end-goal as those who suffered directly from exposure, but their community involvement lends them similar broad desires, mainly, that Vietnam veterans are treated with fairness and justice by the United States government. The objective of their activity is seeking a corrective for the government's wrongdoing. One Veteran I interviewed expressed his views of this wrongdoing explicitly:

> I'm a bit upset about all the readings that I've done, that have shown that there was some knowledge at the very beginning before they even sprayed that shit, that it could be harmful to people coming in contact with it. And that's tough to swallow, that they knew. If they thought that there was no damage after it dried up and defoliated, then you can understand that, maybe they didn't know. But to shove people like me and others into a jungle hours after they sprayed, I don't think that was right.

This Agent Orange veteran suffered from the health effects of Agent Orange exposure, and sought remuneration because he was unable to work. In other cases, seeking a corrective for wrongdoing simply takes the form of encouraging fellow veterans to apply for disability compensation. Therefore, the outcome of this corrective will vary from case to case, but based on my interviews with these veterans, the notion that the Unites States government should "right their wrong" was a common theme.

We can characterize "mediating artifacts" as "tools," or the means that people use to address the objective of an activity. In this case, the tools used to achieve the objective are modes of communication and argumentation. Some veterans became

aware of exposure through friends who also served. One veteran I talked to heard about Agent Orange from his next-door neighbor, who in turn had read about disability compensation through a newsletter:

> My next-door neighbor here, he was with an infantry unit, but he was also a company clerk. We were there at the same time, relatively close in area where we were in country. He says, 'Have you gotten anything from the VA about Agent Orange?' I said 'No?' I said, 'Why?' He says, 'I get a newsletter every once in a while.' And so, he showed me what it was and I said, 'That's interesting.'

Others performed their own independent research, examining documents that describe the health effects of Agent Orange. Some simply read the VA newsletter, which provided updated information for veterans. Additionally, we can consider the systems in place for processing disability to be "mediating artifacts" in some respects, since the VA requires veterans to use specific mediums and tools to make their claim or appeal a denial for remuneration. The specific artifacts within this system include written statements, photographs, service records, and oral testimony. Agent Orange veterans use a wide variety of formal and informal written and oral communication techniques to achieve their objectives.

Rules, which we can characterize as the formal and informal guidelines or norms that guide activities, severely complicate how Agent Orange veterans try to seek a corrective. For instance, the Agent Orange Act only applies to veterans who were in a "combat zone," which includes Vietnam, Laos, Cambodia, and surrounding coastal waters. Thailand, where bases in Korat, Ubon, and U-Tapao experienced ground attacks

and were involved in Operation Ranch Hand, is curiously absent from this list. Thus, veterans stationed in Thailand who were exposed to Agent Orange were only able to apply for disability for their exposure after the declassification of the Contemporary Historical Examination of Current Operations (CHECO) report for Southeast Asia in 2010. The CHECO report was the first admittance by the government that defoliation chemicals had been sprayed outside of the designated combat zone. Other regulations include specified "levels" of disabilities based on a labyrinthian set of criteria. For example, chloracne (a presumptive condition of exposure to Agent Orange) disability compensation is less if the skin disease is not prevalent on the face and neck. Regulations are a critical dimension of this activity system, and complicate the relationship between Agent Orange veterans and their pursuit of justice.

We can characterize the division of labor as the different roles or jobs that compartmentalize and fragment the activity system. In this case, veterans who were exposed to Agent Orange occupied different roles during their service, which we might initially assume would significantly change their likelihood of exposure. However, based on my interviews of Agent Orange veterans it is difficult to suggest that any one position, role, or duty exempted a veteran from exposure. From officers to "grunts," exposure to Agent Orange seems to have affected a wide variety of veterans. However, those who directly handled the substance were most likely to have deleterious health consequences because of their exposure. Additionally, veterans who assumed responsibilities in dense vegetation or on base perimeters were far more likely to be exposed as well, because troop movement would be significantly hindered or bases

would be more vulnerable to covert operations by the Viet Cong unless these areas were defoliated. In any case, specific military roles are not causally linked to mere exposure, but there does seem to be an association between the type of job one held and the extent of exposure. Hence, the division of labor in the military is an important dimension for better understanding this activity network.

The final component of the activity theory model is community. Communities are one of the most important dimensions of this activity network, an argument we will return to later in this chapter. The most notable characteristic of community in an activity model is that it is emic as opposed to etic. A distinction first made by anthropologist Kenneth Pike in the 1960s, an etic community is defined by qualities that are outside the cultural or social activity of that group. Demographic criteria, for instance, are etic because most communities do not organize themselves into behavioral units that match these characteristics. In contrast, emic criteria are based on social interactions in cultural contexts. Since activity theory is all about purposeful activity, we can better understand the communities implicated in an activity network if we take an emic as opposed to etic approach. The veterans interviewed for this chapter belong to a community not merely defined by their status as veterans, but by their participation in the local VFW post, where they exchange information, discuss current affairs, and self-organize for geographic, cultural, and social reasons. An alternative method of gathering data on Agent Orange veterans could consist of sending out a survey to assess what Agent Orange veterans think about their exposure. However, the

data gathered from this method will not be able to capture the emic dimensions of community that are invaluable for understanding actual activity.

Now that we have a grasp on this activity network, we can assess how uncertainty is rhetorically implicated in various dimensions of the activity model. To do so, I have modified Engström's original model slightly, while overlaying a way of visually representing the aspects of the activity system that both stymy or amplify rhetorical capacity. I call this a "rhetorical" activity model not only because this chapter is about rhetoric, but also because rhetoric always already implicates activity. Since activity theory is all about purposeful activity, and we would be hard-pressed to come up with an example of purposeful activity not driven by some form of rhetorical activity, emphasizing the rhetorical dimension of activity is a logical extension of Engström's original model. Uncertainty is also an essential component of rhetorical situations, so mapping how uncertainty shapes rhetorical activity is an appropriate way to assess the conditions of rhetorical capacity in an activity. In addition to these changes, one major addition I have made is the inclusion of connections between rules, division of labor, and mediating artifacts. The lack of these connections is one major drawback in Engström's original model. Visually, this revised model looks like the circumscribed triangle in Figure 1.2. Finally, I have plugged in rough descriptions of the components of the activity system described above. The best way to read Figure 1.2 is to begin with the Agent Orange veterans and trace out different paths to the outcome. To ameliorate the sheer complexity of this model, we will examine each of the three uncertainty valences,

synthesizing interview data and other modes of research to better explain which factors increase, decrease, or do not affect the aporetic dimensions of this activity system.

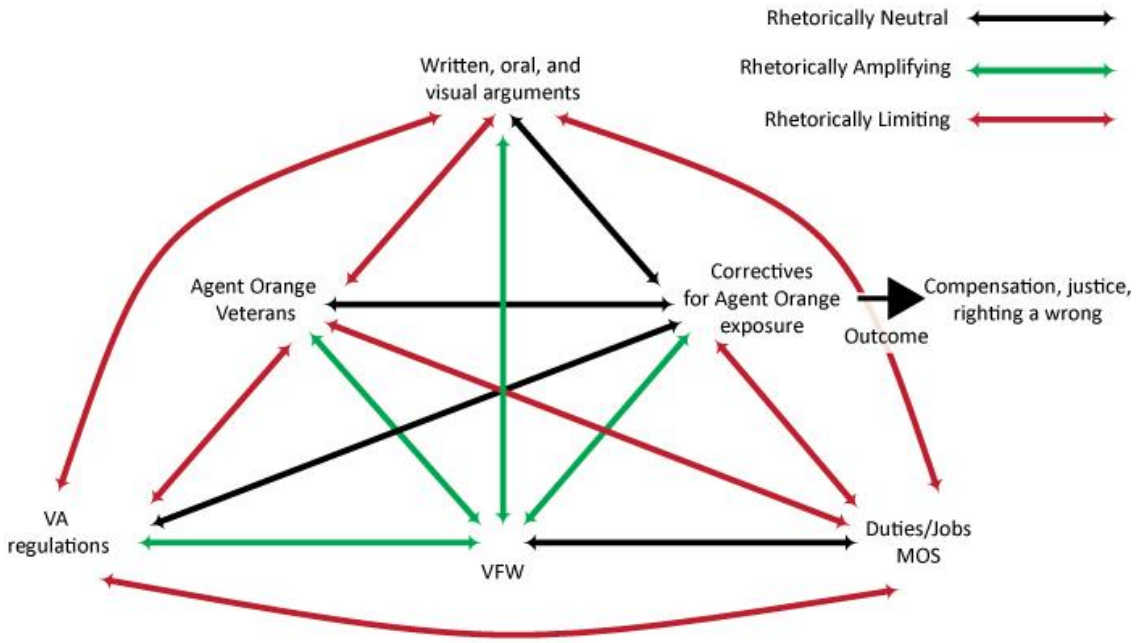


Figure 1.2 – Rhetorical Activity Network

4. Rhetorically Limiting Activity Network

Figure 1.3 highlights areas of this activity network that limit Agent Orange veterans' rhetorical capacity. Or, these are the areas that increase the capacity for organizations or individuals to use aporetic rhetoric. However, if we began with a different subject (such as the CDC or VA), we could completely invert these pathways. Uncertainty can be a problematic feature of any activity system, but organizations or individuals can also use uncertainty to help achieve an objective, depending on what that objective is. For instance, if the goal of the United States military is to minimize the

amount of compensation dispensed to veterans affected by Agent Orange, complicated regulations, highly technical filing procedures, or even how aging confounds associations between exposure and health difficulties all present aporetically useful uncertainties for adjudicating individual veteran's cases. As mentioned above, how we position the elements of an activity network profoundly affect its composition. We will now examine the rhetorically limiting model in greater detail, beginning with the connection between Agent Orange veterans and the division of labor.

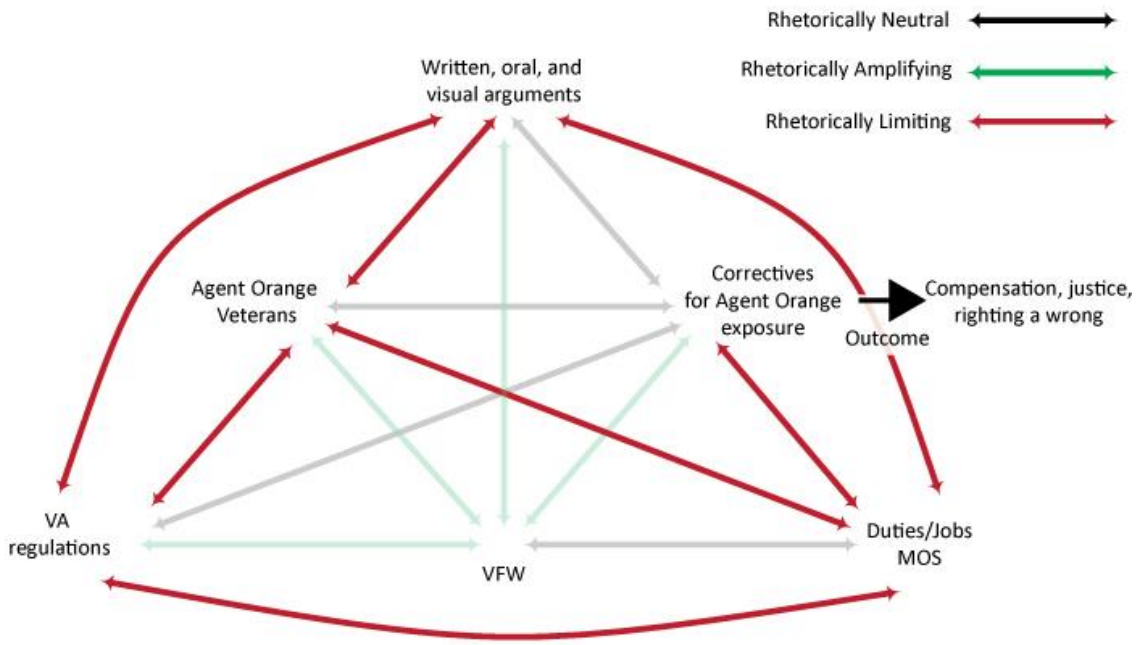


Figure 1.3 – Rhetorical Activity Network (limiting)

Today, the division of labor in the United States military is largely based on educational performance, both at the enlisted and officer level. However, because of the draft the makeup and division of labor during the Vietnam war took on a different

pattern of organization. Aptitudes were as much a part of the process as informal knowledge or chance. For instance, one interviewed veteran originally intended to work on a tank crew, but decided to switch to a job more suitable for long-term enlistment: "I'm gonna make a career of this," he explained, "I gotta last 10 years… I can't be in the boondocks." He followed the advice of a friend who worked in personnel, who suggested he go to school for medical supply. A second veteran with some college education became an information officer due to a specialization in intelligence. Another veteran was fresh out of high school and taking data processing classes when he was drafted. On his aptitude test he scored unusually high on the aviation portion of the exam after recalling a comic book from his childhood about World War II fighter planes:

> When I was a kid back in the 50s, I read a comic book about a World War II British fighter that was shot to hell and back over France. Each little frame in that comic book showed his instrument panel. So when I saw them in front of me at that aptitude test, that was it, I knew what it was saying. When I came out of the room, the guy said 'How many hours you got flying?' And I said, 'Well does it count that my grandfather put me on an airplane from Cleveland to Pittsburgh when I was seven years old?'

This veteran went on to become a helicopter pilot.

The first and third veteran had little higher education experience, while the second had some college. The first veteran suffered a stroke, the second, a heart attack in his early thirties, and the third was relatively healthy. Exposure to Agent Orange affected a range of military personnel, from those in seemingly "safe" jobs like being a

medical supply officer, or those in positions of rank like the information officer, to those who simply did well on an aptitude exam or those with perimeter defense jobs. Despite the difference in education, aptitude, or job duty, all the interviewed veterans had some experience with Agent Orange. For instance, the pilot who was unaffected by exposure explained his first encounter with the substance:

> I was an aircraft commander, and they stuck some booms on the side of my aircraft. I didn't know what it was all about, and I asked them, I said, 'What's in that big barrel?' Or whatever they used. And they said, 'Agent Orange.' And I didn't know a damn thing about Agent Orange… And my gunner and crew chief would've gotten the bulk of it on them, because we didn't fly with the doors on the cargo bays… And so the wind stream would blow right in on them. I know they had to be coated with that shit.

Because of his physical positioning in the helicopter, this veteran was relatively unexposed to Agent Orange. His fellow comrades on the helicopter fared worse due to the design of the aircraft, which allowed Agent Orange to enter the fuselage. Despite their proximity, both in station and duty, the mere design of the aircraft played a larger than expected role in terms of exposure.

The information officer describes a different scene from the ground, where he first encountered Agent Orange:

> I went in and we were let off the helicopters. They didn't have any landing zones because of the canopies, so we repelled in off the sides of choppers and got down there and were walking around and all this stuff is dripping down off the

> leaves, and so at first, I just thought it was rain or whatever and, until you started feeling it, it was oily. It was Agent Orange. They had sprayed it there before we got there, and then dropped us in on it…

In contrast to the pilot, this veteran was exposed because of the environmental features of Southeast Asia, which did not lend themselves to landing zones. Regardless of his rank, this veteran was exposed to vast quantities of Agent Orange, literally "dripping down off the leaves" so heavily that he mistook it for jungle rainwater. Because of the widespread and somewhat unpredictable nature of how Agent Orange was sprayed, this veteran was exposed despite his relative rank. Stationed on a river patrol boat, another interviewed veteran describes his run-in with the notorious chemical:

> Our job was to stop and search sand pans, moving contraband down the rivers, part of the Ho Chi Minh Trail. But most of the problems we had with combat were from the villages along the river. So what they did, is they did a lot of spraying along the river banks. They could spray one day and you could come by about three days later and everything was dead.

This veteran also suffered from the negative health effects of exposure, although these health problems had only appeared recently. Of the veterans mentioned in this section, only the pilot had no negative health repercussions. The sheer uncertainty and haphazard nature of spraying Agent Orange therefore complicates and obscures any correlation we might draw between rank or duty and exposure.

However, the jobs that Agent Orange veterans hold also interact in impactful ways with rules and regulations. The VA classifies veterans who were directly in contact

with Agent Orange, such as those who handled the barrels, sprayed the chemical, or were perimeter guards, as having jobs that increase the likelihood of health effects from exposure. My father, who was exposed to Agent Orange in Thailand, was an aircraft mechanic and therefore had no clear direct interaction with the substance. However, he believes that his exposure came from Agent Orange runoff in the river near his base. Often, soldiers would pay local villagers to wash their clothes in the rivers, as it was cheaper than having them washed on base. Planes spraying the substance contaminated these rivers. The location of his chloracne would support this conclusion. However, because of his job and his placement in Thailand, his exposure to Agent Orange was difficult to substantiate based on VA regulations.

Randomness is inevitably involved in the association between job duty and chance of exposure, but the VA regulations in place complicate and exacerbate uncertainty in this activity network. By delineating that certain jobs are more likely to receive exposure than others, VA regulations successfully ignore the randomness of exposure, aporetically deploying this uncertainty to make it more difficult for veterans to file a disability claim. In some respects, this is an understandable way to limit "false positives," or veterans who have illnesses associated with exposure to Agent Orange but little evidence directly connecting their illness to exposure. In fact, one interviewee noted how he believed these regulations were justified:

> I think now, they make you go through hoops as far as applying for [disability], but I'm not really upset about that 'cause I don't think that they should just start throwing money around just 'cause someone said they did something.

Although the goal of Agent Orange veterans may be to seek a corrective for exposure, the notion that the United States government should more liberally remunerate veterans was not evident. At least in the case of the veteran quoted above, regulations were more useful than a hindrance. Deservedness plays a vital role in the relationship between subject and object in this activity network.

In fact, despite the hurdles that VA regulations pose, all the interviewees who discussed the VA expressed positive sentiments. One veteran expressed his appreciation for several recent changes to the VA:

> The one that really stands out to me is, if you go to the VA for whatever, eyes, ears, throat, some kind of illness, and you can't get an appointment for 30 days, you can go to another doctor, a civilian doctor, and the VA will pay for that claim. That was good… And then, another one that was good was, if you live 40 miles from a medical facility, A VA, you can go to a civilian which is closer in your town.

Based on this Agent Orange veteran's experience, the VA's increasing attention to flexibility and convenience was viewed very positively. Another veteran was overall satisfied with the VA process:

> The VA's been, for the most part, pretty good to me, and in all instances. They're a little slow in some things and you run into some people that just go through the motions, but for the most part, I think 95% of them are good people and mean well."

A third veteran, despite a series of unfortunate experiences with the VA unrelated to exposure to Agent Orange, thought highly of them:

> The [local] VA I think is a pretty good facility. I don't know that anybody has any real complaints about it… My wife has a bigger reservation about me going there than myself. Her feeling is that there's better medical care than the VA and I said, "I don't know about that."

Despite how VA regulations may complicate the ability for Agent Orange veterans, views expressed on local VA facilities, doctors, and treatments were overwhelmingly positive.

The final component of this rhetorical activity network affected by uncertainty are mediating artifacts, in this case, the written and oral arguments that veterans use to achieve their objectives. Looking carefully at Figure 1.3, notice the line between written, oral, and visual arguments and seeking a corrective for Agent Orange exposure remains rhetorically neutral, even though the activity in this location is marked as "limiting." This seeming contradiction is a result of the difference between formal and informal modes of communication. Formal means of applying for disability often require evidence that is hard to acquire, appeals processes that are long and complex, and rules that make self-representation or non-technical appeals difficult. On the other hand, many of the interviewees explained how they sought remuneration because of informal arguments made by their family members or fellow veterans, which we will revisit later. Rules and regulations diminish the effectiveness of Agent Orange veterans' appeals using written, oral, and visual arguments. However, with respect to wider community, these same modes of arguments increase the likelihood that a veteran follows through on the objective. Like other nodes in this activity network, the uncertainty that underlies

written, oral, and visual arguments has mixed effects on the capacity for Agent Orange veterans to seek a corrective for Agent Orange exposure.

Overall, the factors that most impact Agent Orange veterans' rhetorical capacity are VA regulations and job duties. Combined, these two factors significantly impact uncertainty in this rhetorical activity network. Because VA regulations and disability compensation are dependent on the different jobs that Agent Orange veterans held, Agent Orange veterans who do not fit the pre-conceived connections drawn between their jobs and their exposure face rhetorical difficulties. Despite the uncertainty surrounding who was exposed, how much exposure is detrimental, or which health effects are caused by Agent Orange, VA regulations nonetheless impose certain restrictions that overlook this fundamental uncertainty. Overlooking uncertainty in this way is a powerful aporetic strategy. The VA can effectively respond to veterans who do not fit their preconceived notion of the relationship between job duty and exposure likelihood with the aporetic claim: "You did not have a job where you were likely exposed to Agent Orange, therefore your illness is not related to exposure."

This is the argument my father received when I helped him file his VA claim for disability. He received compensation for one of his conditions, chloracne, because it was presumptive. However, he was denied compensation for his diabetes, another condition associated with exposure. In the VA's determination, because his job was not one likely to be exposed, his diabetes was not caused by exposure, even though his chloracne was already determined to be associated with exposure. You can imagine the frustration that he and many others who contend with the VA's rhetorical strategy must feel

towards these aporetic tactics. Perhaps most interestingly, however, is how little these regulations seemed to bother the veterans I interviewed. Despite knowing that adhering to VA regulations was like "jumping through hoops," no veteran complained about the process. The lesson we can draw from this reaction is intriguing. The perception of limited rhetorical capacity is not necessarily negative. Given the right conditions, individuals can view the impositions of rhetorical limitations as completely justified. Hence, no veterans that I interviewed called for changes in VA regulations in any way, despite the rhetorical challenges these regulations pose.

5. Rhetorically Amplifying/Neutral Activity Network

Before examining the rhetorically amplifying effects found in this activity network, I would like to briefly explain the rationale behind rhetorically neutral connections. There were two major reasons I opted to label an interaction in my model "neutral." First, if there were conflicting forces at play, like the example of mediating artifacts discussed above, then the resulting activity is rhetorically "neutral" because there are both limiting and amplifying effects at work. This is the case between the rules and the objectives in this activity system. VA regulations confound the ability for Agent Orange veterans to seek a corrective for their exposure, but there is evidence that fellow veterans served as a "check" on one another. In nearly half of my interviews, Agent Orange veterans became aware of official filing announcements or were encouraged to file from other Vietnam veterans. One Agent Orange veteran filed after discussing it with a fellow veteran:

> I was telling [about filing] to another veteran friend of mine. He was a classmate of mine in high school…We were over there at the same time, actually. And he was telling me that he was gonna file for it too, 'cause he was having problems, and he was really fit. We couldn't figure out what the hell was wrong with us, but he filed and I said 'I'll file too,' and then I went through the process. You apply, they deny you, you appeal it.

This Agent Orange veteran's friend did not mitigate the uncertainty involved in filing for a claim. However, both veterans were uncertain what had caused their health problems, and after hearing that his old friend was filing, this Agent Orange veteran decided to follow through with the filing process. Thus, the community amplified his rhetorical capacity by encouraging him to file in the first place.

The second reason behind a "neutral" designation is that some connections lacked any identifiable underlying uncertainty. There was no detectable uncertainty around whether Agent Orange was sprayed during Vietnam, no question that exposure to Agent Orange has demonstrable negative health outcomes, and no debate over whether exposing thousands of veterans to a highly toxic chemical is wrong.[22] The uncertainty in this activity network pertains to identifying which veterans have health problems because of exposure, what duration or quantity of exposure causes health problems, or which health problems are caused by exposure. Consequently, uncertainty does not directly affect the rhetorical relationship between the subject and objective. The government has admitted fault, and the danger of Agent Orange is indisputable.

With these clarifications in mind, we can now turn to examining how different components of this activity system amplify Agent Orange veterans' rhetorical capacity. Figure 1.4 below highlights those areas of this activity network where amplification of rhetorical capacity or rhetorically neutral connections exist. The first noticeable feature of Figure 1.4 is how much community affects Agent Orange veterans' rhetorical capacity. In the interviews I conducted, one of the central and overarching themes was how much support and information flowed through local interactions with other veterans. Cross-generational interactions reinforce this effect.

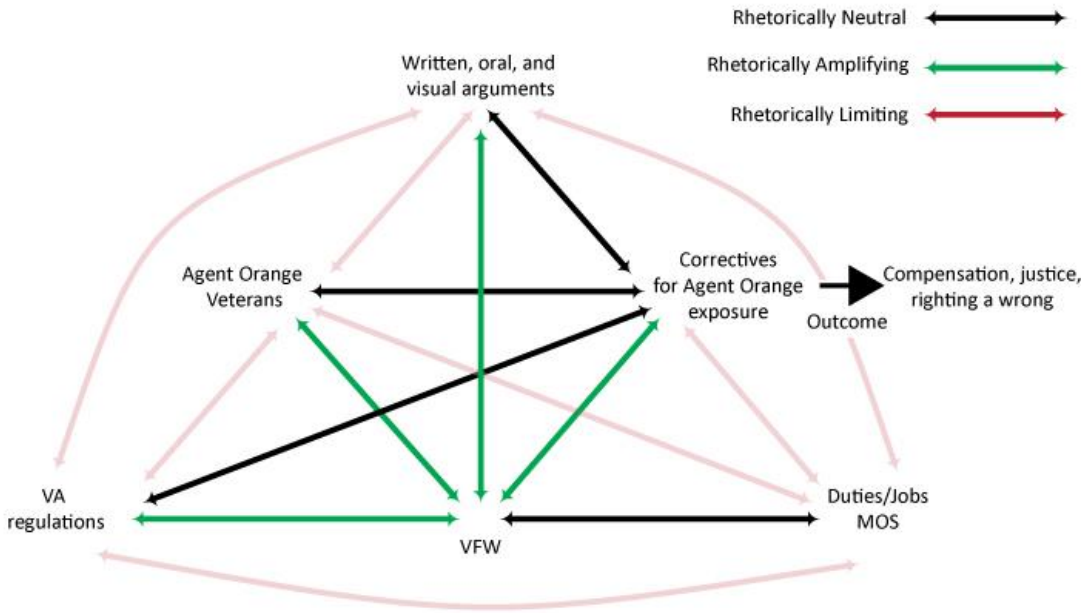


Figure 1.4 – Rhetorical Activity Network (amplifying)

At the time, the public disparaged, physically insulted, or otherwise criticized Vietnam veterans for their service. Few of the veterans I interviewed openly discussed their treatment by the public, except for one, who did broach the subject:

> It's funny because my son, he'll tell me they were going some place and someone bought them their meal. I said, 'Really? You're kidding.' I feel that what people are doing now [for veterans], they're either Vietnam vets doing it because they know what it is or it's the people that know that they were wrong in how they treated the Vietnam vets. It wasn't our choice at the time. At the time, everybody was all wrapped up into one ball and we were all bad. Didn't matter what you did, you could have been a medic, you could have saved lives, it didn't matter…I know that in talking to friends that were there, they don't even wanna talk about how they were treated. It brings up bad feelings.

Several of the veterans I interview were also relatively uninvolved in the VFW until their children, often veterans of Desert Storm, the Iraq war, or the Afghanistan war, encouraged them to become more involved. This was the case for one veteran I spoke to, whose son encouraged him to go to the VA and file for disability very recently:

> Everyone [at the VFW] urged me and people urged me, so I finally about eight months ago registered and got in the VA system and got my card. I didn't even have a card. My Son who's an Iraqi veteran just kept hammering at me, saying, 'Come on Dad. What are you nuts?' And he's probably right because I think… I always think that veterans that were exposed to Agent Orange, I think we're all just ticking time bombs.

These veterans' connections to their fellow soldiers were weakened by public sentiment immediately following the conflict, but their re-involvement in the community seems to have shifted in part because of the change in public attitudes

towards veterans, and in part because of their interactions with younger veterans. The dispute over United States involvement in Vietnam was inseparable from the soldiers who participated in the conflict, they were "all wrapped up into one ball," very unlike post- 9/11 opinions towards military service, when service and soldier became conceptually separable. The Agent Orange act was passed in the early 1990s, which coincides with when some of these veterans were beginning to "rediscover" their community of fellow veterans, often motivated by their children's involvement in overseas conflicts. It is not altogether shocking that the VFW would serve this sort of purpose, as historically, it has functioned as both a formal and informal site for veteran community, advocacy, and policy-making.

Formally, the VFW and other veterans' services organizations like the American Legion, the Disabled American Veterans, and the American Veterans have long served as advocates for legislative activities and health policies, although their influence has waned in recent years.[23] As Jahnke et al. explain, there is current concern over the lack of leadership among veterans service organizations. They cite four primary reasons for this lack of leadership: 1) a decrease in the number of World War II veterans, who were very active in policy-making, 2) limited involvement of recently discharged veterans because of lack of interest, resources, or leadership, 3) limited definitions of veterans' status or disagreement over who "counts" has having served in a war or conflict, and 4), the increasing push for privatization of veterans' benefits programs.[24] Despite these challenges, many veterans service organizations remain nonetheless legislatively active on health issues. Performing a meta-analysis of legislative priorities across all the major

veterans services organizations, Jahnke et al. found that 65% of these organizations address the topic of disability benefits and pay for veterans.[25]

The VFW where I conducted my interviews was actively involved in these goals, like all VFWs. With over 1.7 million members, the VFW is one of the largest veterans services organization active in the United States. Through their legislative efforts, $7 billion have been recouped from the VA in earned benefits, and efforts on the part of the VFW helped 116,791 veterans submit new VA claims in 2016 alone.[26] In other words, the VFW is an invaluable formal asset for Agent Orange veterans seeking a corrective for their exposure, especially if they suffer from negative health consequences.

Informally, based on my experience conducting interviews within a VFW and from what the interviews revealed, spaces like the VFW offer a unique opportunity for veterans to share health information and support one another. The VFW I attended was quite active, based on the number of people at the bar and those who had decided to eat dinner in the surrounding booths. Walking in, the first visible space you encounter is for drinking, smoking, and eating, in order of how likely each activity was, based on my observations. As I briefly discuss in chapter 4, throughout history, alcohol and tobacco have helped create and sustain shared spaces of community interaction. The VFW is no exception. Additionally, the room where I conducted the interviews served a very different, yet parallel purpose. In it, historical maps and images crowded almost every inch of the walls, each depicting or honoring veterans who have served overseas. In this space, there was a large meeting table with upholstered leather chairs all around it,

probably used for small meetings. The table was located near the front of the room, and the rest of the room was crammed with old chairs, all facing the large table. Part archive, part meeting room, part forum, this space could have easily served multiple communicative functions for Agent Orange veterans. From a purely environmental standpoint, the VFW I observed seemed to maximize the conditions of communication and community for veterans. Therefore, Figure 1.4 illustrates rhetorically amplifying connections between community and almost every other aspect of the rhetorical activity network.

The VFW acts as reinforcement for rapport, encouraging veterans who may have no direct experience with Agent Orange to nonetheless act as conduits for the flow of important health information. Examined closely in criminal justice and medical settings, rapport is a type of communication that emerges from conditions of empathy and mutual understanding. Revealing information about oneself, making jokes, using active listening, and demonstrating general interest in the speaker are all techniques used to build rapport.

Psychological research on rapport-building between investigators and witnesses has been fruitful in helping to better unpack rapport's effects. For example, Jonathan Vallano and Nadja Schreiber Compo found that rapport-building improved the quality of cooperative adult witness's recollection of events, reduced the percentage of incorrect details reported, and mitigated the susceptibility to post-event misinformation.[27] Additionally, intelligence operatives and law enforcement both use rapport for interrogation purposes. In the U.S. Intelligence Interrogation Field Manual, rapport-

building is one of three common features of all interrogation approaches, alongside establishing and maintaining control over the interrogation and manipulating the source's emotions and weaknesses to gain cooperation.[28] In law enforcement, the Reid Technique is one of the most widely used set of interrogation approaches, and encourages law enforcement to use rapport-building as a component of the "non-accusatory question and answer section," or the Behavioral Analysis Interview.[29] Military and law enforcement officials use the rhetorical effects of rapport to elicit information from both cooperative and resistant individuals.

In health settings, researchers have studied how rapport can alter the relationship between healthcare providers and patients. Judith Hall et al. found a correlation between rapport and better scores on patient-centered interviewing, a more fluent speech style, less anxiety, more dominance, and more self-confidence for physicians in training.[30] Jonathan Tandos and Arthur Stukas found that psychotherapists who used rapport and were "primed" for an expected diagnosis of depression, led clients to act significantly more depressed than when a depression expectation was absent.[31] In the no-expectation condition, Tandos and Stukas hypothesize that therapists told to use rapport-building somewhat abandoned attempts to diagnose their clients, thus eliciting more typical, undepressed behavior. In the expectation condition, Tandows and Stukas suggest that efforts to build rapport might focus on the expectation, "perhaps in an attempt to show clients that they do understand them, which may constrain and influence client responses in an expectation-confirming direction."[32] Tandos and Stukas's study shows that rapport is affected by, and affects

according to, expectations held by those engaging in rapport. In both the research of Hall et al. and Tandos and Stukas, rapport-building shows profoundly rhetorical effects. Thus, environments that support, encourage, or lend themselves to rapport-building will alter the rhetorical capacity of people who are in these environments. The VFW is one such "high-rapport space."

The VFW I visited functions as a high-rapport space because it amplifies the conditions of communication. Alcohol has mixed effects on social interaction, therefore, drinking alcohol is not solely responsible for high-rapport spaces.[33] However, drinking is a socially-inflected activity with a strong association to shared spaces, thus lending the VFW a meaningful function outside of communication. Eating food, also a socially-inflected activity laden with communitarian undercurrents, lends the VFW a dimension that encourages the community to enter this space. Because the VFW is a private club, state laws on smoking tobacco indoors do not apply, thus providing those who smoke an opportunity they would otherwise not receive in similar spaces. Combined with the deep respect that veterans hold towards one another, the veneration that veterans now hold in the collective imagination of the average United States citizen, and the commiseration very clearly on display at the VFW I visited, this space encourages rapport, "chit-chat," and other "vernacular" modes of communication, thus amplifying the rhetorical capacity of Agent Orange veterans.

In addition, health concerns are exactly the kind of information that will be more easily communicated in high-rapport spaces as opposed to more formal settings, especially given this conglomeration of factors, both formal and informal, that

characterize the VFW. Several of the veterans I interviewed realized they could file for disability from casual "chit chat" with other veterans, sometimes in the VFW itself. In addition, some interviewees who had no health repercussions from exposure demonstrated discrete knowledge of other veterans' health issues. Generally, the spread of this type of knowledge through formal mechanisms seems unlikely in this community, given the details of the information they held. Rather, veterans likely communicated this health information during rapport, "chit-chat," or other informal means of community-building.

The rhetorical effects of a high-rapport space, when considered alongside the social and cultural connectivity specific to this community, can help us better understand how maintaining a shared meeting place can mitigate aporetic rhetoric. A high-rapport space will encourage discussion of shared communal issues and concerns, based on my observations and interviews. Thus, if there is information circulating about Agent Orange, it is likely to pass through this space directly or indirectly, in the form of official information and advocacy on the part of the VFW, or informally, through rapport. The rhetorically amplifying features of the VFW can help dispel uncertainty surrounding VA rules and regulations by providing informal and formal assistance. The VFW does not directly help Agent Orange veterans use mediating artifacts to reach their objective, but the community supports and encourages filing claims. As excerpts from my interviews have already demonstrated, several of the veterans I spoke with would not have filed a claim with the VA without other veterans encouraging them. The VFW functions as a critical component of Agent Orange veterans' rhetorical activity network.

Beyond the walls of the VFW, the community at large is likely a vital dimension of this activity network as well, but it is also difficult to capture within the boundaries of a discrete activity system model. Because community could be very broadly construed to mean almost any interaction between Agent Orange veterans, and these interactions could occur in unpredictable spaces at unpredictable times, I was unable to fully capture the scope of community activities. One way to maximize the reach of future studies grounded in activity theory, like I have done here, would be to visit multiple sites where community members are likely to meet. In addition, performing more interviews than I completed for this chapter is ideal for producing a more robust picture of Agent Orange veterans' involvement in their communities. Further complicating this study, Agent Orange veterans are very quickly succumbing to the effects of their exposure. More than once, interviewees expressed disappointment that I could not conduct this study earlier, as many of their Agent Orange veteran comrades have already passed from health complications. This limiting factor presented a significant research challenge. Nonetheless, as a preliminary investigation into this community, the results of the interviews were invaluable in ascertaining how these men, bound by an injustice, have helped one another overcome the uncertainty of Agent Orange.

6. Aporetic Tensions

Governmental agencies and organizations like the VA and the CDC create systems to balance the management of uncertainty with the costs of correcting past mistakes, but these entities are not artificially inflating or exaggerating the level of

uncertainty associated with Agent Orange exposure. Instead, these organizations, veterans, and systems do not create or eliminate uncertainty. Rather, they deploy it, resist it, or manage it. We can point to other situations in which this is not the case, for contrast. For instance, cigarette companies are well-known for manufacturing uncertainty, as are many climate-change deniers. In the former case, cigarette companies obfuscate by undermining the science behind studies linking smoking and cancer. In the latter case, climate-change deniers amplify the inherent uncertainty at the core of every scientific prediction, ignoring the risks of a rising sea level and the benefits of transitioning to cleaner energy sources. In both cases, uncertainty itself is the target of rhetorical efforts. For both tobacco lobbyists and climate-change deniers these efforts are rewarded when good evidence becomes undermined, probabilities become plausibly questionable, and quality research appears flawed. When it comes to Agent Orange, however, the situation is different. The legitimacy of Agent Orange research is rarely questioned, downplayed, or distorted. Instead, uncertainty is a matter of who, where, when, and how much, not a matter of if. Unlike climate change denial and tobacco research, the uncertainty that surrounds Agent Orange has less to do with what Agent Orange is and does, and more to do with how Agent Orange moves and affects those exposed to it.

This has a profound aporetic effect on the rhetorical capacity of veterans who were exposed to Agent Orange during the Vietnam war. The VA lacks either the motivation or capacity to cast doubt on Agent Orange studies, however, they more than make up for this lack by centering disability adjudication on service duties and by using a

policy of presumed doubt. Because Agent Orange affected soldiers with a wide variety of jobs and positions, centering the disability claims process on specific duties makes it much easier for the VA to circumvent the high levels of uncertainty found in Agent Orange dispersal patterns. For those veterans who had jobs most likely to be exposed and suffer negative health repercussions from their exposure, VA regulations pose few problems. For veterans who had jobs not likely to have been exposed, yet still have negative health problems from exposure, receiving disability compensation is more challenging. The rhetorical activity network used to analyze the veterans interviewed for this chapter shows how, when factoring in job duty, the capacity for Agent Orange veterans to make their case for exposure becomes mired in uncertainty. In a sense, by circumventing the uncertainty of Agent Orange dispersal, the VA has placed the burden of this uncertainty on the veterans themselves. If a veteran's former job duty does not place them in areas where they were likely sprayed, the burden of proof rests on the veteran.

Complicating matters, the fact that filing for disability often requires veterans to navigate a somewhat technical, often sluggish bureaucratic system poses additional problems. Because many Agent Orange veterans pass away from health complications at an earlier than average age, the time delay between filing for a claim and receiving remuneration is problematic. No doubt, many veterans have passed from complications of exposure without receiving any compensation. Additionally, because the CDC and VA failed to find a conclusive link between Agent Orange and negative health repercussions in a timely manner, many veterans who were exposed passed away at a young age, their

families and friends unaware their loss was due to a grievous error on the part of the United States military. Recall how the veteran I quoted near the beginning of this chapter was a semi-professional athlete in his youth, yet he suffered from a heart attack in his early thirties. Even this well-conditioned and physically active veteran succumbed to the effects of this chemical. Many others were not lucky enough to have survived these types of devastating health repercussions. There is no evidence that the CDC and VA purposefully delayed research, or that the Agent Orange Act was purposefully delayed until decades after veterans were exposed to the chemical, but there is no doubt these factors have reduced the number of claims (and thus compensation) for Agent Orange veterans.

As I have argued in this chapter, there are systems in place that help combat this aporetic activity. Veterans organization like the VFW have done a great deal to assist in filing for disability and advocating for the needs of veterans. The fact that organizations like the VFW have seen a marked decrease in participation does not bode well for the rhetorical capacity of Agent Orange veterans and many other veterans, such as those who suffer from "Gulf War Syndrome" or those who inhaled numerous toxins from "burn pits" during the Iraq and Afghanistan wars. The VFW not only formally assists and legislatively represents these veterans, it provides an informal, high-rapport space where relevant information, encouragement, and general comradery are shared. The physical space of the VFW I visited, including the various functions it served, functioned to increase community-building and communication. When it comes to combatting the uncertainty of Agent Orange exposure, these functions provide multifaceted benefits.

As I discovered during my interviews, the community that grows around shared spaces like the VFW were the primary mode in which veterans were made aware of disability filing procedures, in addition to the peer support networks that these spaces encourage. Supporting these organizations is vital for helping Agent Orange veterans seek their objective.

My interpretation of activity theory in this chapter helps us better understand how uncertainty affects rhetorical capacity. Activity theory is a particularly useful tool for analyzing situations, especially rhetorical situations, since it is so heavily invested in purposeful activity. Because rhetoric, and by extension persuasion, is primarily concerned with activity (physical and cognitive), this makes activity theory a natural fit for performing rhetorical analyses. By tweaking second-generation activity theory, more specifically the activity theory model created by Engström, I have tried to push this model into new frontiers, extending the basic principles of activity theory to account for the way uncertainty shapes rhetorical activity. Hopefully, this modification helps us better grasp the complicated network of factors that shape rhetorical activity in this situation.

Chapter 2
Aporetic Strategies and Mental Illness

1. Doubting Mental Illness

In September of 2017, former reality show "Big Brother" contestant Andrew Tate tweeted the following: "Depression isn't real. You feel sad, you move on. You will always be depressed if your life is depressing. Change it. Thread."[1] His subsequent Tweets are a master class in anti-psychiatric argumentation. For instance, suspicion towards the pharmaceutical industry: "Modern think (sic) bullshit has made trillions giving anti depressant (sic) pills when all they need is a better diet, exercise and a life purpose."[2] What-about-ism: "How can you be too depressed to work when people in war zones arnt (sic)? With dead family all around them?"[3] Denialism: "Depression as it's diagnosed doesn't exist."[4] The reactions to Tate's Tweet storm were swift and unrelenting. His comments drew criticism from a wide range of respondents, including celebrities like J.K Rowling. This critical response was justified. His claims are based on little to no evidence. Few mainstream or respectable psychiatrists or psychologists would lend his position any credence. Actual sufferers of depression would no doubt recriminate Tate's poorly-informed position. Anyone with hands-on experience with mental illness is aware that conditions like depression, anxiety, or Post Traumatic Stress Disorder (PTSD) are real, impactful, and often devastating. Yet, his views are not isolated.

There is a vibrant anti-psychiatric community, both inside and outside of academic circles, who maintain the position that many mental illnesses are conquerable by sheer will, are conspiracies cooked up by massive pharmaceutical companies who seek to sell a wide range of psychiatric drugs, or are simply made up, a fiction used to explain away "personal shortcomings." These are the most extreme positions found in

the anti-psychiatric community, but there are less critical positions. For instance, there is some debate over the effectiveness, applicability, and usefulness of popular drugs like Selective Serotonin Reuptake Inhibitors (SSRI) for treating depression, or the use of Cognitive Behavioral Therapy (CBT) to address PTSD. This chapter seeks to answer the following questions: What motivates skepticism or denialism towards mental illnesses and treatments for mental illnesses, and what divides these two positions? How do the aporetic strategies of skepticism and denialism differ? How do these strategies affect one another?

I am interested in which factors allow arguments against both the existence or severity of mental illnesses and the usefulness of drugs to treat these conditions, despite scientific agreement that mental illnesses exist as brain disorders and that these drugs work to help those who suffer from mental illnesses. I am neither a trained psychologist nor a psychiatrist, so my analysis of mental illness and psychopharmaceutical drugs is not meant to be an in-depth investigation of the causes of mental illness or the medical legitimacy of pharmaceutical interventions. I defer to experts on these important topics. Instead, my interest in this chapter centers on those who, despite large amounts of evidence, still deny the existence of mental illness or the efficacy of psychopharmaceuticals. It is rather easy to dismiss interlocutors like Tate as being ignorant, doltish, or obtuse. However, doing so risks glossing over a potentially valuable site for understanding how and why persuasion works. The unreasonably skeptical, in other words, are vital for better understanding rhetoric and persuasion, since despite near ubiquitous and constant messaging about the realities of mental

illness and the effectiveness of treatments, they are nonetheless unpersuaded. Their stubbornness can reveal much about how uncertainty can be leveraged to maintain extreme positions.

This chapter provides an overview of the strategies various individuals, movements, or organizations use to criticize psychology and psychiatry. Towards this end, I make a sharp distinction between skepticism and denialism of mental illnesses. This division is not always clear cut, like the work of famed psychiatric skeptic Thomas Szasz, whose cooperation with Scientologists helped formed the straightforwardly denialist Citizens Commission on Human Rights (CCHR). On the other hand, constructing this division is also a valuable theoretical and practical distinction, since the aporetic strategies and goals of skepticism and denialism are often antithetical, or at least distinguishable.

Starting with mental illness skepticism, I will trace out the major positions that cast doubt on psychological and psychiatric practices, including criticisms of the Diagnostic Statistical Manual (DSM), neuroscientific views on abnormal brain functioning, and the solidity of mental illness as a conceptual category. Having examined how these various positions deploy aporetic strategies to critique mental health practices, I will then look closely at the rise of Scientology and the CCHR. Here, very different aporetic strategies are used to undermine the usefulness and efficacy of mental health practices. Finally, I turn towards psychopharmaceutical skepticism and denialism, and examine how strategies that seek to undermine mental health diagnosis are used to criticize the widespread use of drugs to treat mental illness.

2. Skepticism Vs. Denialism

It is both possible and valuable to distinguish between mental illness skepticism and denialism. Mental illness skepticism does not deny that atypical thoughts and behaviors exist. Instead, supporters of this position often suggest that the concept of mental illness is itself a shaky, abusable set of arbitrary characteristics used to oversimplify the actual experience of mental illness. Critiques from this position usually deploy a rather narrow range of aporetic strategies. One tactic is to take issue with the introduction, implementation, and scientific aspirations of the Diagnostic Statistical Manual (DSM). A second approach is to cast doubt on the increased use of neuroscientific explanations for psychiatric conditions, a dominant concept in mental health professions. A third tactic is to use an interpretation of postmodern or poststructuralist philosophy to undermine the concept of mental illness by criticizing the increasing tendency to medicalize abnormal thought patterns. Rhetors combine these tactics as part of a wider argumentative strategy towards mental illness, or isolated expressions of broader worldviews, like Andrew Tate's brief Twitter tirade. Additionally, the line between skepticism and denialism is not always clear. Multiple lines of argumentation that are skeptical are deployed to promote denialism.

Often conflating mental illness with a "personal weakness," mental illness denialism tends to rely on a myth of "personal responsibility" and "mental fortitude," and often demonstrates a contempt towards those who live with atypical thought patterns. Mental illness denialism is much like Andrew Tate's position: mental illnesses do not "actually" exist, or they are an artificial diagnosis imposed by those seeking to

take advantage of the mentally "weak." Although rarer, this position undermines the experiences of those who suffer from mental illnesses. Ignoring vast amounts of evidence for the lived reality of mental illness, denialism poses a problem for skeptics who use their arguments to critique problematic institutional beliefs and practices. In other words, while the goal of the mental illness skepticism is often thoughtful reflection and consideration of those mistreated by mental health practices and institutions, skeptical critiques can be used by denialists to undermine the experiences of those who manage mental illnesses. Denialists can use perspectives like social constructivism to attack persons with a diagnosed mental illness, questioning the "reality" of their mental states. Believing that artifice is the same thing as illusion, that the "creation" of something therefore means it is not "real," denialists often stretch the logic of poststructuralism and postmodernism to the detriment of persons with atypical cognitive or affective functioning.

We can differentiate between mental illness skepticism and denialism by examining their distinct aporetic strategies. Indeed, what seems to separate these two positions is how they respectively tap into uncertainty in unique ways, and this novelty holds amongst other forms of skepticism and denialism. Mental illness skepticism generally undermines concepts of diagnostic objectivity, positivism, and the stability of mental health characterizations and categories. Skepticism critiques overconfidence. In contrast, denialism avoids directly addressing concrete evidence and arguments, and instead circumvents traditional argumentative routes by engaging in conspiratorial thinking (what I call "what-if-ism"), heterogenium (also called "red herrings," or "what-

about-ism"), or pure modes of denialism, where emotionally-charged assertions are made with little support or recognition of evidence. Mental illness skepticism deploys aporetic rhetoric by critiquing the stability, and thus confidence, in how we view mental illness. Mental illness denialism deploys aporetic rhetoric by amplifying uncertainty, intensifying it in situations through the use of fear appeals or rhetorical misdirection. As we turn to criticisms of pharmaceutical use in treating mental illness, these strategies hold.

Mental illness denialism is not overwhelmingly common, but it is a potent aporetic strategy in an economy of attention, which poses a problem for more nuanced skeptical takes on mental illness. Tate's tweets, which drew the ire of a vast audience, rhetorically polarized the debate over mental illness by tapping into the power of the spectacle. Because little evidence, nuance, or basic facts about mental illness are necessary to deploy raw uncertainty against it, denialism is amplified because of its audaciousness. Because of its sheer brazenness, denialism also tends to draw out copious amounts of criticism. In turn, because denialism tends to subvert more evidence-based rhetorical strategies, there is little reason or means for denialists to seriously engage with substantive criticisms of their positions. Hence, denialism subtly shifts the goalposts of debate while providing few substantive argumentative positions.

We could realistically debate how those with mental illnesses should be served by institutions, organizations, and communities, but instead, the sheer intensity of denialism creates an argumentative vacuum, where any criticism of mental illness becomes pulled into the gravitational force of denialism. Debate begins to center on

binary, existential propositions: You either believe in mental illness, or you do not. Legitimate criticisms of mental health practices become viewed as "aiding" mental illness denialism, and dismissed as at best unproductive, and at worst aiding and abetting a harmful argumentative position. Denialism polarizes and reinforces binary logics. From the perspective of aporetic rhetoric, denialism thus subsumes the aporetic strategies of skepticism. Certain aporetic strategies have the effect of occluding others.

The same phenomenon is visible in debates over other technical topics as well, including vaccinations and climate change. Any criticism of vaccination practices or climate change science can become framed as antithetical to the pursuit of truth, scientific certitude, or good sense. It is perfectly good and reasonable to assert that vaccinations work and that climate change is real, but the rhetorical field where these assertions exist becomes distorted and magnetized by the aporetic strategies of attention-grabbing positions, or potent and pathos-laden aporetic appeals construct a space in which legitimate and often vital criticisms are engulfed by their more extreme cousins. Hence, mental illness denialism poses a problem for skeptics. Realistic, important, and legitimate criticisms of how we treat those with mental illnesses are occluded by the shadow of denialists' rhetorical strategies. Skeptics' aporetic techniques thus need to be differentiated from the aporetic gravity of denialism.

3. DSM Skepticism

Because modern mental illness diagnoses rely heavily on the Diagnostic Statistical Manual (DSM), undermining its validity is a common rhetorical strategy of

mental illness skeptics. In the early 1980s, the psychiatric profession implemented the DSM-III. This was a tectonic shift in how psychiatrists and other mental health professionals conceptualized mental illness. The previous DSM-I and DSM-II relegated diagnosis to a secondary role, and popular psychiatric theorists between 1900 and 1970 focused instead on maladaptive patterns, personal problems, and character, frequently drawing blurry lines between normal and abnormal mental processes.[5] Scholars subsequently criticized the DSM-I and DSM-II for being too "subjective," "unscientific," and "overly ambitious in terms of its ability to explain and cure mental illness."[6] During the 1960s and 1970s, insurance plans began partially covering mental health services, and they began complaining of psychiatry's inability to demonstrate effectiveness.

In addition, popular culture had pilloried mental health practices in the 1970s, most notably in the film *One Flew Over the Cuckoo's Nest*, which portrays the dehumanization of the likable renegade, Randle P. McMurphy, at the hands of a coercive mental health institution. Winning the top five Oscars in 1975, the popularity of this film reflected a deep-set public suspicion towards psychiatric practices. The DSM-III was a response to both academic complaints and broader cultural attitudes towards mental health practices, and implemented a diagnostic paradigm that introduced discrete categories of mental illness, importing a diagnostic model from other medical fields. The DSM-III was lauded by some as an unparalleled scientific achievement in the field of psychiatry. A vocal and diverse group of DSM skeptics, however, made their case heard.

In the mid-to-late 1980s, scholars in social work expressed doubts about the reliability and validity of the DSM-III. Only seven years after the DSM-III was introduced, Herb Kutchins and Stuart Kirk noted that the DSM-III had rapidly taken over as the primary reference for mental health facilities and other programs.[7] Public programs began requiring DSM-III diagnosis before providing services, and perhaps more importantly, insurance providers began limiting coverage unless the patient was diagnosed using the DSM-III (and even then, only certain types of mental illness would be covered). As Kutchins and Kirk recount, overreporting of mental illnesses increased in an effort for clients to afford services, affecting a wide range of processes like civil and criminal trials, where a misdiagnosis may have unforeseen and meaningful consequences.[8] Kirk and Kutchin's 1992 book, *The Selling of DSM: The Rhetoric of Science in Psychiatry* stands as a landmark work in the rhetoric of science and medicine and a vital example of mental illness skepticism.[9] Rather than claim that the diagnostic dimensions of the DSM were flawed, Kirk and Kutchins instead focus on the extra-diagnostic factors (like the quick and ubiquitous adoption of the text for financial reasons) of the DSM-III as a target for critique. Mental illness is quite real for Kirk and Kutchins, but the system mental health practitioners used to diagnose mental health problems were too hastily accepted as uniformly valid, incentivizing misdiagnosis.

Another social work scholar, Jerome Wakefield, criticized the conceptual validity (as opposed to construct or predictive validity) of the DSM-III in 1992.[10] Wakefield's argument centers on two primary claims: 1) the DSM-III assumes that "a disorder is a condition that has negative consequences for the person," and 2) "that a disorder is a

dysfunction," or a state in which an internal function is not operating naturally.[11] To support the first claim, Wakefield explains how the DSM-III differentiates between function and malfunction by using the tendency to seek help as a metric. For instance, two influential authors of the DSM-III explain how caffeine withdrawal causes distress similar to caffeine intoxication, but because people generally only seek professional help for the latter, the former is therefore not clinically significant.[12] As Wakefield notes, a "correct definition of disorder must classify every pathological condition as a disorder whether or not the condition is currently an object of professional attention."[13] Otherwise, obstacles to treatment like social stigmas come to influence the existence and classification of mental disorders as true disorders.

Addressing the claim that a disorder is a dysfunction, Wakefield cites the definition of disorder in the DSM-III:

> …a clinically significant behavioral or psychological syndrome or pattern that occurs in a person and that is associated with present distress (a painful symptom), or disability (impairment in on or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom.[14]

A few lines after this definition, the DSM-III provides the additional addendum: "Whatever its original cause, it must be currently considered a manifestation of a behavioral, psychological, or biological dysfunction in the person."[15] Wakefield's question is simple: what is the purpose of this addendum? As he argues, the dysfunction addendum counteracts the conceptual broadness of the definition of disorder.[16] Grief

over the death of a parent is a completely normal response. However, it can also be a "present distress." It can produce conditions of disability and it can significantly increase the risk of pain or produce a loss of freedom. The dysfunction clause frames disorders as statistically unlikely distress or disability.

Wakefield notes the problem with this characterization: "there are many statistically deviant conditions that causes distress and other harms but that are not dysfunctions."[17] Selfishness, cowardice, avarice, gullibility, and laziness can all be "statistically deviant either in the nature of the response or in the response's intensity," yet not be classified as disorders.[18] Thus, the definition for disorder in the DSM-III is too broad. However, it is also too narrow in certain cases. For instance, PTSD is not listed as a dysfunction in the DSM-III despite fitting the criteria for a disorder (it is now classified as a "Trauma and Stressor-related Disorder" in the DSM-5). This type of claim is indicative of Wakefield's broader argumentative approach, which like Kirk and Kutchins, deploys an aporetic strategy.

The difference between these two skeptics rests in their aporetic strategies. Kirk and Kutchins's aporetic strategy deploys prudential uncertainty while Wakefield uses conceptual uncertainty. Importantly, Kirk, Kutchins, and Wakefield are not skeptical of mental illnesses, but instead critique the instrument used to apply the labels like "depression" or "addiction" to a discrete set of thoughts and behaviors. Thus, it is not that mental illness does not exist or is not "real" for these critics. Rather, Kirk and Kutchins's criticism is that the process of diagnosis, not the diagnosis itself, is distorted by the DSM's tunnel vision. For Kirk and Kutchins, the speed and width of the DSM-III's

influence was simply excessive, and did not leave room for alternative approaches or time to assess the consequences of the widespread adoption of the DSM-III. Prudence is always a combination of both what and when.

To rhetorically deploy prudential uncertainty means tapping into humankind's limited ability to predict future value combined with our limited ability to determine how timing affects that value. The commonplace phrase "in the right place at the wrong time," or the inverse, "in the wrong place at the right time," captures this shortcoming for rhetorical effect, and when deployed, either ameliorates the pain of failure or the hubris of success by tapping into our innate inability to know how to do the right thing at the right time. Thus, Kirk and Kutchins's aporetic strategy is to critique the DSM-III as a literal "hasty generalization." The DSM-III is hasty because of the speed of its spread, and a generalization because of how wide it spread in this timeframe.

Wakefield, on the other hand, uses an aporetic approach analogous to poststructuralist criticisms of mental illness institutions, like Foucualt's approach that we will discuss shortly. However, while the Foucauldian approach undermines the historical stability of concepts, Wakefield's approach undermines the value proposition and definitional stability of concepts. Wakefield uses counterexamples as a primary means to accomplish this task, which draw attention to potential sites of uncertainty.

In terms of value proposition, or whether mental illnesses are harmful or not, Wakefield deploys the counterexample of caffeine withdrawal and intoxication to tease out the potential short-sidedness of using treatment-seeking as a determining factor in harmfulness. For Wakefield, the value propositions in this instance are not valid. Since

there is not a one-to-one overlap between those needing help and those seeking help, this makes treatment-seeking an inappropriate metric to determine how detrimental a mental state might be. In other words, since not everyone who needs intervention by a mental health professional seeks that intervention, we cannot say that seeking intervention should be the only criteria for needing intervention, which the authors of the DSM-III suggest by using the caffeine withdrawal/intoxication example.

Similarly, Wakefield's criticism of the "dysfunctional clause" in the DSM-III works by suggesting that many statistically deviant conditions are not currently considered dysfunctional, so calling a mental state harmful because it is not a "normal" response is too broad of an application of the definition of "disorder." In either case, Wakefield uses counterexamples to draw attention to uncertainty surrounding how a concept applies value, and how a concept applies functional definitions. Counterexamples effectively draw attention to these sites of uncertainty when used as criticisms of broadly applicable theories or concepts, because the more a concept or theory attempts to succinctly capture reality, the more the uncertainty between individual cases and cases in general becomes available for rhetorical use.

4. Neuroscientific Skepticism

Critiques of neuroscience are a second aporetic tactic of mental illness skeptics. These critiques usually take on one of two forms. One tactic is to undermine the reliability or "objectivity" of neuroscientific imaging practices, which lays the groundwork for the second tactic, a full criticism of the distinction between normal and

abnormal brain functioning. Both approaches are indirect ways of casting skepticism on mental illness, because they do not deny its existence. Instead, this aporetic strategy works by criticizing the modern reliance on an empirical and scientific understanding of mental illness. Rather than say mental illnesses do not exist, interlocutors who deploy criticisms of neuroscience do so to question the sole reliance on empirical scientific inquiry to understand atypical thought patterns.

This aporetic strategy emphasizes the technological limitations and complexity of interpreting empirical neuroscientific data. Thus, it questions the basis of "abnormal" brain functioning. Neuroscientific research relies on statistical analyses of data created through fMRI technologies or positron emission tomography (PET). In an fMRI scan, researchers present a subject with a stimulus or task while a subject is scanned in an fMRI machine, which measures brain activity by monitoring blood flow. PET scans work by introducing a positron-emitting radionuclide (or "tracer") into a subject, and then measuring the gamma rays indirectly emitted from the tracer in the subject's body. In both cases, neuroscientists isolate the resulting data gathered from these tests to make claims about specific cognitive functions. Then, researchers take the resulting data and generalize their findings, and given enough raw data, provide insight into brain functions.

Like most interpretative tasks, linking data and psychological functions is "shaped by a series of methodological and conceptual choices made by scientists."[19] As Jordynn Jack and L. Gregory Applebaum explain, "neuroscientists have not yet established consensus on these underlying assumptions."[20] These assumptions are the

ground from which neuroscientific criticisms grow. Perhaps one of the best examples of this rhetorical strategy is Nikolas Rose and Joelle Abi-Rached's recent book *Neuro*, a powerful model for neuroscientific critique.[21] Their approach hinges on three different sites of dispute: localization, lab practices, and interpretation.

Rose and Abi-Rached's first aporetic criticism of neuroscience targets localization, or the belief that brain functions are the result of hard-wired connections of neurons, often clustered in one area of the brain. This belief is accompanied by the notion that one-to-one "mapping" of mental processes in particular regions of the brain is possible, thus building up a picture of what a "normal" brain is. The problem with this approach, as Rose and Abi-Rached note, is "despite all its increases in acuity, fMRI can only measure mass action."[22] Because neurological activity occurs on such a small scale, it is difficult to assess which scale is appropriate for examining mental processes. For example, it is unclear how researchers should address which proportion of neurons are responsible for task completion in a specific region of the brain. If they examine the brain too "closely," they risk missing how different neural clusters work in tandem, almost like zooming in on individual pixels on a screen, completely missing how these pixels make up an image. Alternatively, if researchers examine the brain too "broadly," they risk losing the ability to distinguish between isolated functions of the brain, thus conflicting with their belief in localized processes.

Rose and Abi-Rached also note that the location of scans can make a difference in their interpretation. Brain scans do not occur in a vacuum. Subjects perform tasks in artificially constructed environments, often beset by persons, sounds, smells, and other

unfamiliar and confounding environmental factors. If researchers are testing whether or not subjects demonstrate fear towards a certain class of stimuli, it may not be clear whether these participants are responding to the given stimulus, or whether they are responding to a foreign environment. Brain scans are incapable of distinguishing these kinds of confounding responses in test subjects. Performing tests in isolated environments is vital to collecting valid and generalizable data. However, because these tests take place outside of "natural" settings and elicit responses potentially foreign from everyday circumstances, environmental factors provide a foothold for aporetic criticisms of neuroscience.

Rose and Abi-Rached's final neuroscientific critique concerns the act of interpreting the results of neuroscientific experiments. They cite David McCabe and Alan Castel's research on how brain scan images affect scientific reasoning. McCabe and Castel found that the presentation of a brain scan in a scientific article can positively influence how a reader views the authors' scientific reasoning.[23] Rose and Abi-Rached describe this as the "objectivity effect," because the mere presence of brain scans lends persuasive power to an argument, even though images do not speak for themselves. Alone, brain scans are no more or less "objective" than any other kind of image. Consequently, the "objectivity effect" of brain scans implies that the surety of neuroscientific research, its "objectivity," is disputable. If the persuasive force of neuroscientific arguments that use imaging are overblown, then neuroscientific claims about abnormal brain functioning are overblown. At least, this is one potential

argument made possible by aporetically critiquing the interpretive task of reading brain scans.

Rose and Abi-Rached's critiques all interact with uncertainty, rhetorically, in similar ways. Targeting localization, they use scope uncertainty to critique neuroscientific findings. Kenneth Burke's examination of "circumference" and its corollaries, scope and reduction, capture the heart of this aporetic strategy.[24] For instance, Burke deploys the example of behaviorists using animal experiments to explain human behavior. As he suggests, such experiments are persuasive only insofar as they can reduce ("control") the situation under investigation, thus reducing bias only if researchers choose a representative act for the animals to complete. Even under these conditions, however, the gap between animal behavior and human behavior might be too wide. By reducing the scope of our analytical circumferences to atomistic notions like "behaviors," the hope is that these findings, unimpeded by confounding effects or interferences, will be generalizable. The hope is that by maintaining empirical purity research findings will infinitely scale.

This faith in empirical purity is observable in neuroscientific research, which focuses on minute scales of reference. These small scales of reference are used to infer much larger, more complex brain behaviors by assuming the purity of tiny, astronomically small observations of brain activity. Between the element and the compound, between the individual and the community, between the single and many, lurks uncertainty. It is difficult to determine when a sample is "representative" of a more general population, because we are uncertain about the scope of what constitutes

both a sample and a population. This uncertainty, almost innate to every kind of argument where individual cases are framed as generalizable, is what Rose and Abi-Rached (amongst others) use as an aporetic strategy. Burke, somewhat sardonically, draws on the implication of this strategy when he suggests that animal research only teaches us that "physical sadists who have mastered the scientific method like to torture animals methodically…ostensibly to prove over and over again that it can be done (though this has already been amply proved to everybody's satisfaction but that of the experimenters)."[25] If localized findings are not sufficiently robust to explain larger phenomena, the work of neuroscientists who subscribe to this belief offers few answers about the brain itself. This is how mental illness skeptics can leverage scope uncertainty for aporetic purposes.

4. Poststructuralist Skepticism

Another skeptical aporetic strategy is to undermine the concept of mental illness by critiquing the historical systems, institutions, and practices that contribute to our notions of the "mad." This approach relies heavily on Michel Foucault's work. In his canonical book, *Madness and Civilization*, he elaborates on a theory of the historical development of madness, beginning in the middle ages and stretching onward to the birth of the asylum in the nineteenth century.[26] Foucault's work does not deny the existence of mental illness, but it does attempt to show how our view of the "mad" has throughout history been inextricably tied to concepts alien to modern constructs of mental illness. For example, Foucault invokes the wisdom of the "fool" in Medieval

literature, a time when local towns and magistrates managed the "mad" through forced itineration, their abnormality shipped from one port to the next, often run out of the towns and cities in which they landed. According to Foucault, the dawn of medicalization would produce a profound paradigm shift. Instead of forced itineration, institutions kept the "mad" contained in prisons and eventually hospitals and asylums. This shift, from one paradigm to another, is the aporetic fulcrum that mental illness skeptics use to leverage their doubts.

Foucault's rhetorical approach, what he calls an "archaeology," can be a powerful tool of poststructuralist critique. Part of its power stems from its open-endedness, since Foucault makes very few direct criticisms of psychology or psychiatry. Instead, his historical overview of "madness" shows how our sensibility towards mental illness, and not mental illness itself, is a social construction birthed from a long chain of historical coincidences. A Foucauldian aporetic maneuver is more likely to be a critique of our stereotypes of the "depressed" (or, the "melancholic" to borrow an old term), than a full-blown denial that depression exists.

However, we do not usually associate Foucauldian critique with a concrete ethical maxim or argument, as we might expect with a more clear-cut criticism of stereotypes. Instead, Foucauldian critique functions by undermining the conceptual stability of mental illness. For instance, Foucault notes how in the classical period the "melancholy" of the English was "easily explained by the influence of a maritime climate, cold, humidity, the instability of weather," in stark contrast to our modern notion of what causes depression.[27] For a Foucauldian mental illness skeptic, if

depression was thought to be once caused by the weather, then it follows that our modern conception of what causes depression could very well be as "far-fetched" as historical accounts of melancholy. The Foucauldian aporetic strategy functions by undermining the certainty of modern psychological characterizations.

Perhaps no single mental illness skeptic takes Foucault's premises further than Thomas Szasz, whose 1961 book *The Myth of Mental Illness* relies heavily on the notion that mental illness is a system of purely constructed categories.[28] It may seem that Szasz argues for mental illness denialism, but his argument skirts the notion that abnormal and deleterious thought patterns do not exist. Rather, Szasz takes the "illness" in mental illness to task. Szasz argues that thinking of mental illnesses as medical illnesses is problematic, since this perspective flattens all personal troubles into "physiochemical processes which in due time will be discovered by medical research."[29] In other words, Szasz believes that the disease model of mental illness makes a "symmetrical dualism between mental and physical (or bodily) symptoms, a dualism which is merely a habit of speech and to which no known observations can be found to correspond."[30] In addition, Szasz took issue with the sheer power psychiatrists wielded, at least at the time of his writing in the early 1960s.

Rhetorician Richard E. Vatz wrote on Szasz in the early 1990s, and translated his basic criticisms into a rhetorical framework. Although more well-known for his piece "The Myth of the Rhetorical Situation," Vatz's foray into the rhetoric of psychiatry is a notable translation and reimagining of Foucault's central claims about mental illness. Writing with Lee Weinberg in a collected volume on the history of psychiatry, Vatz uses

Thomas Kuhn to describe Szasz's work as ushering in a paradigm shift in mental illness.[31] For Vatz and Szasz, the psychiatrist is a skilled rhetorician, convincing patients of their mental conditions based on a shaky premise: mental illness is a byproduct of a biological cause locatable in the brain. Both Szasz's and Vatz's positions were highly scrutinized. Despite their conceptual proximity to arguments like Wakefield's, the style of their approach (admittedly uncompromising) detracted from their argument. In Szasz's case, the mere title of his first book, "*The Myth of Mental Illness*," does not conjure a picture of healthy skepticism and nuanced criticism. Despite their seeming proximity to mental illness denialism, neither Szasz nor Vatz qualify as pure denialists. They are simply poorly-branded skeptics.

Thus, the aporetic strategy of poststructuralism rests in criticizing mental illness using the uncertainty associated with the historical mutability of concepts. The Foucauldian approach, visible in the work of Szasz and Vatz, is a condemnation of overconfidence in conceptual stability, or the extent to which we believe our current concepts of mental illness will be perpetually valid. The uncertainty inherent in how a process will unfold, why it unfolds, or how fast it unfolds is a vital aporetic resource, a concept we will return to when we examine addiction science. For now, we can simply note that the Foucauldian approach to critiquing mental illness is centered on leveraging process-related uncertainty to undermine confidence in modern mental health categories. It is not that depression does not exist for the Foucauldian. Rather, what we mean when we say "depression" is not historically stable. If this category is not stable, then describing somehow as having "depression" is not a stable characterization. Thus,

"lumping together" everyone with symptoms of depression as being a certain kind of person, who will respond to situations in a certain way that aligns with their mental state, is through the Foucauldian lens a flawed approach that ignores the historical instability of mental illness categories and characterizations.

We can better understand this poststructuralist logic by looking more closely at how the social constructionist argument works. One of the better explanations of social constructionism in general, and a useful bridge for understanding how mental illness skepticism can drift into mental illness denialism, comes from the work of Ian Hacking. Hacking provides the following useful breakdown of the social constructionist argument:

Social constructionists about *X* tend to hold that:

(1) *X* need not have existed, or need not be at all as it is. *X*, or *X* as it is at present, is not determined by the nature of things; it is not inevitable.

Very often they go further, and urge that:

(2) *X* is quite bad as it is.

(3) We would be much better off if *X* were done away with, or at least radically transformed. [32]

Hacking suggests that while many social constructionists advance to premise (2) and (3), they do not necessarily have to do so. The core of social constructionist arguments is rather (1), instead of (2) and (3). Mental illness skepticism and denialism exist

somewhere between premise (1) and (2), yet each perspective has notably different motivations. The aporetic strategies we have covered in this section could be used to improve the quality of care for people who suffer from mental illnesses.

For instance, Kirk's, Kutchins's, and Wakefield's criticisms of the DSM-III could function as important points of reflection for improvement of the DSM. Recall that Kirk and Kutchin's central problem with the DSM is its monolithic status. Based on their claims, one practical suggestion would be to encourage the use of alternative methods of diagnosis alongside the criteria of the DSM, so that mental health practitioners can better address complicated situations that the DSM might not be equipped to handle. Additionally, some of Wakefield's critiques have already been addressed by newer versions of the DSM. In the DSM-5, for instance, PTSD now counts as a legitimate diagnosis. The criticisms of Kirk, Kutchins, and Wakefield can be positive contributions to improving conditions for those with mental illnesses. Criticisms of neuroscientific approaches to understanding the mind, as well as poststructuralist takes on the concept of mental illness, work towards the same goal of improving conditions for neuro-atypical persons.

In addition, criticisms of neuroscience, especially as they relate to mental illness, work as a "safeguard" against false positives or negatives. The risk in relying too heavily on empirical neuroscientific imaging is twofold: either identifying abnormal brain functioning and associating it with a mental illness when a person exhibits no harmful behaviors, or not identifying abnormal brain function even when a person exhibits plenty of harmful behaviors. I call the first the "McMurphy problem," the second, the

"Nash problem." Just like Randal P. McMurphy in Kesey's *One Flew Over the Cuckoo's Nest*, extreme measures taken on someone who exhibits no extraordinarily dangerous behaviors is a legitimate problem. And, just like in the film *A Beautiful Mind* (a very liberal interpretation of mathematician John Nash's experience with mental illness), failing to properly and quickly identify and treat someone with mental illness because their behaviors are not exceptionally dangerous is also a legitimate problem. Using brain scans as the sole arbiter of detecting mental illness is particularly susceptible to both the McMurphy and Nash problems. As a result, aporetic criticisms of neuroscientific practices help keep a check on the supposed objectivity of brain scans. Assuming the validity of these scans, much like assuming the validity of the DSM, will always encounter both the McMurphy and Nash problems. Diversifying the way in which we assess mental illness is a legitimate solution, often emerging from skeptical critiques of mental illness.

The poststructuralist approach of arguing for the non-essentiality of conceptual categories reinforces humankind's intense responsibility for the categories and definitions we create, and that to act in the full interest of those who manage and cope with mental illnesses, we need to reflect on the weaknesses and drawback to the categories we construct. Foucault's legacy has been used to make Hacking's claim (2) and (3), but Foucault rarely directly advocates for (2) or (3) in his work. A generous reading of Foucault could consider his later work in his *History of Sexuality* series, specifically *The Use of Pleasure* and *The Care of the Self* as a brief foray into (3), leaving (2) as an unstated assumption. However, the last two volumes of his *History of Sexuality*

series do very little to put forth a sustained critique or offer a radical rethinking of mental health institutions. Foucault was a historian. He was a unique historian, but a historian nonetheless. Criticisms of poststructuralists like Foucault often neglect this fact, or more frequently dismiss poststructuralist critiques as defending "relativism." There is little evidence this is the case. Arguing for the non-essentiality of conceptual categories is not to say that conceptual categories do not matter, or do not exist "in reality." Just the opposite is true. These criticisms are intended to promote self-determination and empower those seeking alternatives to pre-constructed categories. Like critiques of the DSM or neuroscience, poststructuralist philosophy acts as a bulwark against both the McMurphy and Nash problems, against both false positives and negatives. To do so, scholars in diverse camps deploy aporetic strategies as a defense against overconfidence and surety. This is not the case for mental illness denialists.

5. Mental Illness Denialism

Mental illness denialism uses multiple aporetic strategies to cast doubt on the existence of mental illnesses. First, mental illness denialists rely on conspiratorial thinking, or "what-if-ism," in order to criticize mental health institutions. Combined with fear appeals, this strategy can be a highly effective rhetorical technique for casting doubt on mainstream mental health practices. Second, denialists sometimes engage in "what-about-ism," a rhetorical technique like heterogenium ("red herrings"), which diverts criticisms of a practice, institution, or person by accusing the rhetor of "ignoring" similar cases. For instance, what-about-ism is a common technique for deflecting

condemnations of serial sexual harassers or abusers, especially in a highly politically polarized environment when criticisms of abusive men are sometimes framed as ideologically motivated. This strategy is easily identified, since it usually begins with some variation on the phrase, "Well what about…" It is also an effective maneuver, since what-about-ism very closely imitates the structure of counterarguments. Mental illness denialists deploy what-if-ism and what-about-ism as if the McMurphy problem is the norm instead of the exception. Hence, mental illness denialists distort the rhetorical field surrounding mental illness criticism by deploying these powerful aporetic techniques. There are two identifiable movements that engage in these techniques: Scientology and the Citizens Commission on Human Rights (CCHR)

As Stephen Kent and Terra Manca have argued, Scientology's founder L Ron Hubbard's war against psychiatry was born from a desire to prop up *Dianetics*, a novel which he intended to be an alternative to 1950s health therapies.[33] As Kent and Manca explain, during the 1950s and 1960s, psychiatric practice was at its weakest point of professional legitimacy. The use of insulin shock treatments and electro-convulsive shocks to treat severe and chronic depression were common, although psychiatrists could not explain why these treatments worked. A more controversial practice, 5,000 lobotomies were performed a year in the United States, reaching a peak between 1949 and 1952.[34] Hubbard's *Dianetics* came during this peak period, and as Kent and Manca speculate, was a direct response to a 1949 *Newsweek* article that described how groups within the psychiatric community were increasingly opposed to lobotomies.[35] Because psychoanalysis was both common and widely considered to be pseudo-scientific,

Scientology (also a pseudo-science) was a legitimate alternative to the psychiatric practices of the 1950s and 1960s. To this end, Hubbard deployed a "professional-looking system replete with journals and doctoral titles," thus spurring his followers to consider themselves as being on equal footing with psychiatric and medical practitioners.[36] The technique of "auditing," in which a partner directs a patient to revisit traumatic experiences until they are erased (called "clearing"), is probably the best-known psychiatric alternative offered by Scientology. In 1952, Hubbard incorporated "E-meters" into the diagnostic program of Scientology, which were intended to measure emotional responses through small tin cans held in the hands of patients (called "auditors").

There has been a significant effort to sort out Scientologist's core beliefs over the years, but one central pillar of their platform is their aggressive opposition to psychiatry. Expanding the premises of *Dianetics*, Hubbard further developed his quasi-religious following of Scientologists over the next few decades. Even though the practice of electroconvulsive therapy and lobotomies had largely died out by the 1980s, Hubbard nonetheless began his crusade during this period. As Laura Hirshbein has suggested, Hubbard's sentiment towards psychiatry is most on display in his science fiction novel, *Battlefield Earth*, published in 1980.[37] *Battlefield Earth* is set on Earth in the year 3000, an apocalyptic world where humans have been enslaved by the "Psychlos," a cruel and sophisticated race of beings who see humans as animals. Hubbard reveals that Psychlos are descendants of corrupt mental health experts who used psychosurgery and hypnotism to gain power over society. In other words, in this novel Hubbard expresses a

deep-seated fear that psychiatry would overtake the Earth, and possibly even destroy humankind. This may seem like a belief only suitable for the pages of science fiction, but there are arguably no greater examples of anti-psychiatric aggression than the CCHR and Scientology. In the eyes of Scientology, and thus by extension the CCHR, psychiatry's threat to human existence is of the highest order and magnitude.

The CCHR was co-founded in 1969 by the Church of Scientology and Szasz to combat abuses of psychiatric patients. Some of their early advocacy programs forced the field of psychiatry to reflect on their keenness towards extreme, and at the time rudimentary psychiatric treatments like psychosurgery, shock treatment, and early psychotropic drugs. There are a few rare instances in which the CCHR has uncovered real cases of psychiatric abuse, such as in 1978 when they were vital in revealing the sham practice of deep sleep/sedation therapy at a clinic in Australia.[38]

The CCHR emerged at a time when many critics of psychiatric practices in the 1970s, 1980s, and early 1990s were responding to real concerns about the power and reach of psychiatry in post-WWII America, as well as the effectiveness of their interventions. Recall that the DSM-III was created in the 1980s as a response to these criticisms. Additionally, by the 1990s a new generation of psychiatric drugs had been invented, which posed significantly fewer risks or side effects than the powerful and sometimes dangerous treatments available when the CCHR was founded. Despite these changes, the CCHR and by extension the Church of Scientology (which essentially runs the CCHR), have not changed their position. In fact, they now represent the most

outspoken of mental illness denialists. Their online presence reaffirms this characterization.

The CCHR website is a robust source of anti-psychiatric aporetic rhetoric, and gives insight into the aporetic strategies mental illness denialists deploy, reflecting the deep-seated anxiety expressed in the work of its co-founder, Hubbard.[39] Visiting the landing page of their site, the user is immediately bombarded with an auto-play video in the top half of their browser. This video is a blunt fear appeal. It consists of a series of phrases that appear on the screen in the darkened, dirty, 3d-rendered environment of a mental health institution. Using the anaphora "Imagine…," usually followed by a statistic or fact about psychiatric practice colored in an ominous shade of red, the video quickly bombards the viewer with a series of carefully crafted images. A modified guitar riff accompanies these images, which nicely accompanies the darkened and gritty "feel" of the video. Once an intimidating phrase has been displayed, the colors soften to a cool blue while the video displays positive or happy outcomes.

One particularly representative segment displays the anaphoric "Imagine…" followed by the statement "*19,000* infants with *birth defects* caused by psychiatric *prescription drugs*…," the italicized words appearing in a dark, bold, red. Immediately after the appearance of this frightening claim, the video's guitar sounds stop, and in the background, we see the shattered pieces of an unidentifiable object. Suddenly, rays of light appear on the phrase "born happy & healthy" as the shattered, unidentifiable object begins to "reverse" its destruction, revealing that it was a child's doll. The video essentially repeats these elements of "reversal," where current challenges facing mental

health services are "imagined" as ameliorated. The visual enthymeme is that by eliminating psychiatry's influence, the idyllic imaginings proposed by the video become reality.

Digging into the textual content of the website, we find a different aporetic strategy than the video. Their "about" page contains the following illustrative paragraph:

> People frequently ask if CCHR is of the opinion that no one should ever take psychiatric drugs, but this website is not dedicated to opinion. It is dedicated to providing information that a multibillion dollar psycho/pharmaceutical industry does not want people to see or to know. The real question therefore is this: Do people have a right to have all the information about (A) the known risks of the drugs and/or treatment from unbiased, nonconflicted medical review, (B) the medical validity of the diagnosis for which drugs are being prescribed, (C) all nondrug options (essentially informed consent) and (D) the right to refuse any treatment they consider harmful.[40]

The first sentence here uses and frames a hypothetical question (and a good question at that) to generate ethos and establish the groundwork for a later red herring. We see a fairly sophisticated rhetorical alley-oop with the phrase "People frequently ask if CCHR *is of the opinion*… but this website *is not dedicated to opinion*." This technique both attempts to establish credibility by implying that the CCHR does not traffic in opinion, while it sets up the conditions for a classic heterogenium. We never get an answer to what "people frequently ask," and instead are immediately launched into a corporate

conspiracy theory. This is followed up with an assertive "The real question therefore is this:…," followed by a list of completely legitimate but altogether unrelated series of questions, further deflecting from the initial hypothetical question.

Both CCHR's visual and textual arguments are representative examples of the aporetic strategies of what-if-ism. The video deploys what I call "utopian what-if-ism," which establishes an imaginary future that overcomes the problems of the present, making present problems appear conquerable and inessential (in this case, additionally positioning the CCHR as the solution to these problems via enthymeme). The paragraph cited above performs a conspiratorial what-if-ism by suggesting that powerful entities are "hiding" information they do "not want people to see or to know."

Both types of what-if-ism rhetorically mobilize uncertainty in almost precisely the same manner, but through different means. Utopian what-if-ism shades present circumstances in uncertainty by projecting a "what if…" into the future, making the audience doubt both the conditions and essentiality of present circumstances. Conspiratorial what-if-ism amplifies uncertainty towards a current situation by ascribing secretive (and often destructive) motives to "hidden" entities and "masked" organizations (i.e., "what if the government is secretly…" doing X). The former creates uncertainty by modifying our vision of the future, the latter does so by altering how we perceive present motives or actions.

Importantly, the accuracy or reality of what-if-ism is separate from its rhetorical structure. That is, some conspiracy theories might wind up being true, and some hypothetical futures might be better. However, the validity of a what-if-ism is not an

important dimension of its aporetic operation. Whether or not a conspiracy theory is true, or if a future situation would indeed be improved by doubting present circumstances, the fact remains that uncertainty is deployed in both cases to alter our present or future view of a situation.

Deploying these aporetic strategies, Scientology and the CCHR have turned their attention to psychotropic drugs as they adapt to the modern conditions of psychiatry. However, Scientology and the CCHR are by no means the only groups who have criticized the increased use of psychiatric drugs. Some of these criticisms stem from more skeptical camps, who worry about the over-prescription of drugs and the long term negative effects they might have. Others take a more denialist stance, and deploy both what-if-ism and what-about-ism to suggest that psychiatric drugs are a "scam" perpetuated by either the government or major pharmaceutical companies (or both). Thus, we can observe how the same strategies used to criticize the diagnosis, existence, or severity of mental illnesses bleed into aporetic strategies used to criticize pharmaceutical treatments of mental illnesses. At the bottom of these strategies rests different modes of aporetic rhetoric.

6. Psychopharmaceutical Skepticism and Denialism

The rise of psychopharmacology can be traced back to the invention of chlorpromazine in 1952. Until the 1950s, there was no such discipline as psychopharmacology, and there were no effective drug treatments for mental illnesses. Once chlorpromazine was released, this changed. Synthesized on December 11, 1951 by

a French pharmaceutical company, chlorpromazine was originally thought to be a potentiator (a reagent that enhances the action of a drug) for general anesthesia when it was clinically investigated in 1952. Its psychiatric use was first realized by Henri Laborit, a French army doctor who was investigating artificial hibernation as an alternative to shock treatment.

In the patients he experimented on, Laborit found that chlorpromazine produced disinterest without loss of consciousness. Laborit persuaded two neuropsychiatrists to try the drug on a 24-year-old, severely psychotic man in January 1952. After a sustained treatment of doses of chlorpromazine, barbiturates, and electroshocks, the man was ready to resume a "normal life" after 20 days. Due to these experiments and observations, the psychopharmaceutical perspective underwent a tectonic and lasting shift, from a purely electrical to an electro-chemical model of brain synapses. This paradigm shift afforded physicians a pharmaceutical option for psychiatric treatment.

The meteoric rise of psychopharmaceuticals as a treatment for mental illness was accompanied by a dedicated community of skeptics and denialists. Many of those who doubt the validity of diagnostic instruments like the DSM were equally as likely to dismiss the efficacy of these new drugs. After all, if a diagnosis is invalid, treatments for a diagnosis will be excessive at best and fraudulent at worst. One of the strongest voices in this community of skeptics and denialists is Robert Whitaker, whose *Mad in America*[41] and *Anatomy of an Epidemic*[42] stand as potent distillations of both skepticism and denialism. In the latter, Whitaker sums up the problem of psychopharmaceuticals very succinctly: "One the one hand, we know that many people are helped by psychiatric

medications…And yet, at the same time, we are struck with these disturbing facts: The number of disabled mentally ill has risen dramatically since 1955…"[43]

A skeptic/denialist sleight-of-hand expert, Whitaker is an unmatched case study for analyzing how aporetic strategies function for both approaches. At times straightforwardly skeptical, Whitaker will deploy balanced questioning accompanied by familiar denialist rhetorical strategies: "Could our drug-based paradigm of care, in some unforeseen way, be fueling this modern-day plague?"[44] On the one hand, identifying the tension between the effectiveness of psychopharmaceuticals and the increasing prevalence of mental illness is a sound skeptical strategy. This line of thinking poses penetrating questions about the effectiveness and appropriateness of our mental health interventions. On other hand, using language like "modern-day plague" is reminiscent of the strategies that the CCHR uses to scare the public away from psychiatric treatment. Hence, Whitaker will be our central way in to understanding both psychopharmaceutical skepticism and denialism.

Grounded in historical, statistical, and scientific evidence, Whitaker's takedown of psychopharmaceutical treatments demonstrates a potent aporetic strategy. Whitaker's *Anatomy of an Epidemic* is a thought-provoking and systematic investigation of the psychopharmaceutical treatment of many well-known mental illnesses, including bipolar disorder and schizophrenia. For instance, his criticisms of treatments for bipolar disorder hinge on the long-term prognosis of those who use pharmaceutical treatments and those who do not. The latter, based on his reading of multiple long-term studies of treatment outcomes for bipolar/manic-depressive patients, tend to historically fare

much better in the long run than the former.[45] Whitaker also adeptly deploys narrative to increase the efficacy of his argument, often interspersing personal and emotionally-charged stories between his analysis of scientific literature. These even-handed analyses are in stark contrast to other sections of his book, like the chapter called "The Epidemic Spreads to Children," a transparent "think of the children" rhetorical strategy deployed to induce a heightened sense of fear in readers.

In "The Epidemic Spreads to Children," readers are immediately tipped off that Whitaker will be deploying both skeptical and denialist tactics when he makes the following remark early on in the chapter: "I realize that this frames our investigation of the medicating of children in a rather cold, analytical way, given the frightening possibility at stake here."[46] Reassuring the audience that his skeptical claims will drive his argument, Whitaker nonetheless reinforces this assurance with a fear appeal. This chapter continues by reviewing the historical roots of attention-deficit/hyperactivity disorder (ADHD) and its treatment, and is sprinkled with fear appeals. For instance, Whitaker tends to use words like "safe" in scare quotes when describing Ritalin.[47] Balancing these denialist strategies with more skeptical approaches, he also deploys a sophisticated (and accurate) critique of neurologists' failure to identify ADHD in brain scans.[48] However, this balance is short-lived. Near the end of the first section of this chapter, Whitaker launches into a jargon-laden comparison between Ritalin and cocaine, explaining how they both "block dopamine reuptake."[49] He follows up this comparison by using colorful analogies, like "the child's brain dials down its dopamine machinery," mixed with unexplained bursts of neuroscientific jargon, like the "density of

dopamine receptors on the postsynaptic neurons declines" and "the amount of dopamine metabolites in the cerebrospinal fluid drops, evidence that presynaptic neurons are releasing less of it."[50]

This book is intended for a wide audience, thus, both the comparison between Ritalin and cocaine and Whitaker's propensity for neuro-jargon act less as convincing evidence to an average reader, and more as a fear appeal masking as skepticism. Whitaker is not wrong that Ritalin is closely related to cocaine. However, he makes this comparison while simultaneously deploying jargon to obscure their differences. Cocaine and Ritalin (also known as methylphenidate) have different pharmacokinetics, or they both move through the body differently. The rapidity of drug delivery to the brain is an important component to understanding the how drugs become addictive, and since cocaine is usually snorted and reaches the brain quickly, while Ritalin is taken orally and reaches the brain more slowly, there are significant differences in how these substances affect the body. Whitaker is not wrong that Ritalin and cocaine are similar, but how he frames this similarity tends to ignore important details and obscures the more skeptical dimensions of his argument.

Whitaker deploys both skeptical and denialist aporetic strategies in *Anatomy of an Epidemic*, and the latter tend to both bolster and inevitably obscure the logical limits of his central claim. Or, Whitaker demonstrates how reasonable skepticism can be occluded by his denialist strategies. Whitaker's most convincing skeptical strategy is to question the long-term effectiveness of psychopharmaceuticals, thus arguing that while drugs can produce positive outcomes in the short term, the long-term effects of these

drugs also tend to fare worse than if no drug-based intervention was used. This strategy taps into trade-off uncertainty, or our inability to tell whether a decision's consequences will be favorable, especially in the long-term. This is sound logic. Yet, it is not his primary skeptical claim. His primary claim is that the increase in drug use has resulted in an increase of mental illness, and that the very solution to the problem only exacerbates the problem.

This claim is limited by its reliance on correlation. It is difficult to demonstrate that the rise in cases of depression is caused by a rise in drug treatments. For instance, it could be the case that the number of people with depression is relatively stable, but the number of people diagnosed with depression has increased. His argument glosses over this critical problem. Not all people with mental illnesses seek treatment, if they do not seek treatment, we can assume they have not been diagnosed, and this fact confounds our ability to measure the rate of depression. In other words, rather than using uncertainty to his advantage, Whitaker has opened himself up to criticisms that derive from *c*ausational uncertainty, or the uncertainty attached to cause and effect relationships, which lurks behind most explanations of human behavior.

As I argued earlier, denialists' imposition of uncertainty, accomplished through means like what-about-ism and what-if-ism, tends to obscure the nuance of more skeptical claims. Whitaker's work is no exception. Unlike other cases of this phenomenon, however, Whitaker deploys both strategies, affording him legitimate and though-provoking claims while undercutting the basis of these claims. His claims may indeed be worth reflection, but detractors can easily deploy aporetic strategies to

leverage these weaknesses. Importantly, Whitaker demonstrates how uncertainty can be used to deploy specific arguments, and how this can expose an argument to counterclaims.

6. An Aporetic Recap

In this chapter, I have tried to draw out a number of strategies that derive from specific types of uncertainty. Skeptical claims often deploy uncertainty that addresses our human limitations, but denialism amplifies the already-existing uncertainty that hides behind all rhetorical situations. In this chapter, I identified the five types of uncertainty that skeptical claims deploy:

- *Prudential*: Uncertainty associated with both the value of an action and how the timing of that action affects that value.
- *Conceptual*: Uncertainty associated with the stability, value proposition, or definition of a concept.
- *Scope*: Uncertainty associated with how well a specific case is representative of a general phenomenon.
- *Trade-Off*: Uncertainty associated with whether a decision's consequences are favorable, especially in the long-term.
- *Causational*: Uncertainty associated with cause and effect relationships.

The above list is a valuable addition to our catalogue of uncertainty, and as we continue to unpack how uncertainty is rhetorically deployed in subsequent chapters, this list will expand. Recall that in Chapter 1 we primarily investigated how spatial uncertainty

complicated the activity networks for Agent Orange veterans. However, in this chapter we identified different types of uncertainty and examined how arguments deploy them for their advantage, or how they can open arguments to counterclaims. For instance, humankind's propensity for making predictions about the future value of an action, including how the timing of this action affects its value, can be easily aporetically deployed.

For example, the suggestion that immediately cutting back on fossil fuel use needs to be done to prevent catastrophic environmental effects can be countered by a skeptical detractor by addressing the specific value or timing of the proposed action. It might be that cutting back on factory farms instead of fossil fuels is a much more feasible method of reducing greenhouse gas emissions. It might also be that immediately cutting back on fossil fuel use, instead of slowly phasing out this use, might not be the most prudent option. These are skeptical claims, which tap into prudential uncertainty to be persuasive. This is very different from the three denialist strategies I identified in this chapter:

- What-about-ism: Amplifying uncertainty about a proposition by deploying an unrelated counter-example.
- Utopian What-if-ism: Amplifying uncertainty about a present situation by making claims about a hypothetical future, in which the problems of the present have been solved (regardless of the feasibility of this future).
- Conspiratorial What-if-ism: Amplifying uncertainty about a present situation by ascribing secret and often nefarious motives to organization or individuals who

have some amount of power over the present situation, without sufficient evidence to support these claims.

To continue with my example, the aporetic strategy of a climate-change denialist might evoke conspiratorial what-if-ism by suggesting that "powerful forces" working for the "green energy lobby" have "cooked up" climate change science to push forward their "liberal agenda." What this argument means, in practice, is somewhat unclear. However, what it does is amplify uncertainty towards the government by ascribing motives with little evidence or explication, in turn, challenging our ability to justifiably combat climate change.

This strategy is more effective than skeptical criticisms. First, since conspiratorial what-if-ism is both by nature ascribing clandestine motives while simultaneously providing little signification (who are these "powerful forces?"), there is little room to rebut this type of denialist argument. It is more of a rhetorical vacuum than an argument, in this respect. What-if-ism often leaves no air for counterclaims. Second, by making such a potent and unyielding claim, any skeptical criticisms of climate change policies will almost immediately be caught in its intense rhetorical gravity.

Thus, denialist aporetic rhetoric has the peculiar effect of polarizing debate, since criticisms of climate change policies (regardless of their reasonableness) will be seen to "aid" the more extreme positions of denialism. In fact, denialists will frequently deploy skeptical arguments in support of their claims, bolstering their credibility by using reasonable claims as rhetorical cover for their more extreme positions. This tends to cast legitimate skepticism in a poor light, since skeptical arguments are extended for

exaggerated claims, in practice “aiding” the efforts of denialists. Thus, denialism frequently trumps skepticism in an economy of attention by arguing in bad faith.

This brief excursion into climate change skepticism and denialism has been to demonstrate that outside of the debate over mental illness, the ways in which these aporetic strategies unfold is quite similar. This chapter has examined many of the skeptical and denialists claims towards mental illness and mental illness treatments. However, as I note early in this chapter, my goal is not to provide a value statement about either the reality of mental illness or the efficacy of mental illness treatments. These are problems far beyond the scope of this project. Rather, I have tried to illustrate how different views on mental illness deploy and use uncertainty for their own unique aporetic strategies, with identifiable consequences.

Chapter 3
Aporetic Amplification in Patient Experience Design

1. A Patient Experience Narrative

Wandering the building, I finally found what I was looking for. There was no signage above or next to the steel door, no window to peek through. I had to trust the information I was provided over the phone, and threw the heavy entrance open to reveal the waiting room. Another patient sat in the corner looking at her phone as I wandered to the front desk. After a few moments, a woman took my name and told me to have a seat. A home improvement show was on in the upper corner. I watched and waited. The magazines to my left were standard-issue. I was impatient. I had waited three months to see this specialist for a chronic skin condition, and even then, I was only able to get an appointment with the dermatologist's assistant. The dermatologist's waitlist was around six months.

About forty-five minutes after my scheduled appointment time, I was led down the hallway into a small examination room. In the middle of the room was the examination chair, and off to the side, two smaller chairs rested against the wall. A stool sat beside a small desk. The walls were barren; no pictures, no diagrams, no illustrations. The cabinets were stark white, and their veneer was peeling at the edges. The drop ceiling tile above me had a wide, brown stain. The fluorescent light brightly hummed. I waited for another ten minutes until a nurse came in. She was friendly and asked me questions about why I was there. I explained my problem. As she left, she told me to disrobe. I did not know where to sit, but I plopped down on the examination chair in the middle of the room, my gown on, unsure of when the doctor would come.

Another ten minutes passed before the doctor came in. She asked what my profession was. I explained my skin problem, an issue I had coped with for almost my entire life, an issue I had tried to eradicate with dozens of different over-the-counter ointments, creams, and gels. I made sure to explain the areas where the condition was most problematic. The nurse re-entered the room with a clipboard and the doctor examined me. The examination was over in roughly a minute, perhaps less. She told me she was prescribing two kinds of medication without further explanation. I felt unarmed, because she had not examined the area that was most problematic. I did not feel like she had listened to my explanation. I said "no" when she asked if I had any questions. I failed to think of anything to say. She spun around and left the room. I had waited three and a half months to see the doctor. Her examination lasted five minutes.

I scheduled a follow-up before paying the steep cost of visiting the specialist. Even with insurance, it was expensive. Later that day I called the pharmacy that was supposed deliver both medications through the mail. One was only a few dollars, while the other cost as much as the visit to the specialist and was not covered by my insurance. The expensive medication was supposed to last a month. It lasted a week. I discovered that the active ingredient in this expensive medicine was freely available in an alternative, over-the-counter form. The only reason it required a prescription was because it was a "foam." This medication delivery system had not yet been approved for public distribution. I purchased an alternative medicine with the same active ingredient, for 1/5 the cost. It worked just as well. A week before my follow-up appointment, I cancelled. The secretary did not ask why. Money was tight that month, and I couldn't

afford to go. I felt like a bad patient. The treatment had helped (mildly), which gave me a rationale to cancel.

This chapter is about how patient experience design can amplify conditions of uncertainty, creating negative emotional affects and perceptions, ultimately leading to poor patient outcomes. The modern patient experience is rife with uncertainty, and the systems that should be designed to mitigate, manage, and reign in this uncertainty fail to do so or do not exist. Unlike previous chapters, where I have focused on how different kinds of uncertainty shape the aporetic strategies of governmental agencies and mental illness advocates or detractors, this chapter will examine the rhetorical consequences of failing to address uncertainty in the design of healthcare systems. These design features are not themselves aporetic, but they do amplify or mitigate the effectiveness of aporetic rhetoric by altering how patients make healthcare decisions.

2. Uncertainty and Affect

The story of my visit to the physician should be familiar to most readers, and illustrates many dimensions that have concerned healthcare design scholars over the last three decades. For instance, there is abundant scholarship on appointment systems. My inability to expediently find the entrance to the physician's office has been an interest of scholars who study "wayfinding," or what factors contribute to location-finding. The healthcare environment I described is also a topic of intense interest. Healthcare design researchers have devoted significant attention to factors like the lighting, flooring, furnishings, layout, and wall art of healthcare spaces. These different

yet interconnected facets of healthcare experience either directly or indirectly contribute to a patient's level of uncertainty. Not being able to find the waiting room is an obvious connection to uncertainty, but the sound level, light level, visual stimuli, and spatial distribution of furnishings all contribute to the general emotional state of patients. These emotional states, in turn, will affect how patients respond to uncertainty, risk, and benefits in the context of healthcare settings.

For patients, emotional states and uncertainty have a two-way relationship. Psychologists Yoav Bar-Anan, Timothy Wilson, and Daniel Gilbert have proposed an "uncertainty intensification hypothesis," which posits that uncertainty during an emotional experience makes unpleasant experiences more unpleasant, and pleasant experiences more pleasant.[1] Since healthcare situations are often both emotional and unpleasant, uncertainty would intensify these feelings of unpleasantness. On the other hand, if a healthcare experience is pleasant, patients are more likely to feel that it is more pleasant. Uncertainty amplifies emotional affects.

Alternatively, the "affect heuristic," proposed by Paul Slovic et al., posits that the general "goodness" or "badness" (what I refer to as "emotional affects" in this chapter) a person feels affects their decision-making process. [2] In situations where someone possesses a positive emotional affect, they are more likely to overlook potentially high risks and low benefits.[3] The opposite is also true: if someone has a negative emotional affect, they are more likely to infer high risks and low benefits. Perceived risks and benefits are another way of describing uncertainty in the decision-making process. A patient who has a negative emotional affect is much more likely to assume the risks of a

medical procedure are high, or the benefits of a treatment low. That is, perceptions of risks or rewards are accentuated in the decision-making process by negative emotional affects. Research on consumer marketing helps us further explain the connection between negative emotional affects and uncertainty.

Since the 1960s, marketing researchers have framed consumer behavior as risk-taking, and risk-taking is simply another way of describing uncertainty. Raymond Bauer was the first person to formally propose this view in 1960, and a subsequent flurry of marketing research substantiated and propelled his framework.[4] As Richard Taylor explains, marketing researchers view consumer behavior in terms of choice.[5] Since the value of a choice can only be known in the future, consumers are forced to contend with risk or uncertainty. That is, for marketing researchers, there is no practical difference between uncertainty and risk in the decision-making process.

Tying Slovic's research to this framework, when we say that negative emotional affects tend to increase perceptions of risk and positive emotional affects tend to decrease perceptions of risk, we are simply stating that negative emotions amplify uncertainty and positive emotions mitigate uncertainty. In making this connection between uncertainty and risk, we are somewhat departing from Knight's framework, where risk and "real" uncertainty are almost completely distinct. Instead, we will approach this chapter by addressing how negative emotions tend to affect the "known unknowns," which exist between the known and the unknown unknown. In doing so, we stand to gain a much deeper understanding of how negative emotional affects in the

patient experience have impacted perceptions of medicine in the United States more broadly.

In other words, the steadily declining trust in medical leadership in the United States over the last forty years might be explained by examining how medical experiences produce negative emotional affects. Robert Blendon et al. examined trust in the leadership of the Unites States medical profession over the past half century, and were dismayed to find out that in 1966, 73% expressed great confidence in the medical profession while in 2012, only 34% expressed this view.[6] Curiously, Blendon et al. found that trust in physician's integrity has always remained high. Even more interesting, only 23% of respondents expressed "a great deal" or "quite a lot" of confidence in the medical system. The United States is tied for 24th place in terms of how many adults agree with the claim, "All things considered, doctors can be trusted."[7] Even though, on average, healthcare outcomes in the United States have improved, attitudes towards the healthcare system have degraded.

There are contradictory elements to these findings. On the one hand, United States citizens seem to trust the integrity of physicians, but are not confident in both medicine's professional leadership or the medical system. Patients were satisfied with their own medical treatment, but they were not trusting of physicians more generally, an unusual combination of attitudes. Factoring in the income level of patients provides some insight. Low-income patients were far less satisfied with their treatment than high-income patients. Blendon et al. initially suggest that these contradictory views are related to "the lack of a universal health care system in the United States."[8] However,

they also note that "countries near the top of the international rankings and those near the bottom have varied coverage systems, so the absence of a universal system seems unlikely to be the dominant factor."[9]

Thus, patients' contradictory views of the medical profession in the Unites States remain somewhat of a mystery. Surely, cost is a major factor in these attitudes. However, the entire patient experience, from scheduling an appointment, to visiting the doctor, to getting billed, might also be a major factor. This would explain why patients tend to have negative attitudes towards the medical system but not towards the medical practitioners they use. Patients' ire is not focused on discrete objects or agents, rather, it bubbles to the surface because of the overall flawed patient experience design of healthcare in the United States.

To show how the patient experience design is flawed, I want to briefly triangulate my argument in the literature, providing a backdrop for my claims. Then, I will walk through each stage of the patient experience process, from scheduling, sitting in the waiting room, examination by a physician, to billing. As we progress, I will return to the central claim of this chapter, that patient experience design has aporetic consequences, by addressing how healthcare environments either indirectly or directly contribute to the mismanagement of emotional affects, and thus, uncertainty.

3. The Intersections of Patient Experience Design

This chapter finds itself at the intersection of three bodies of work: environmental psychology, healthcare design, and patient experience design (PXD).

There is significant overlap between these fields, and their connection can be framed as a genus-species relationship. Environmental psychology is the widest umbrella, healthcare design is a species and offshoot of environmental psychology, and PXD is a sub-species of healthcare design. To understand how these different fields intersect, we need to understand how healthcare spaces, and spaces in general, became a topic of interest to psychologists and designers. Environmental psychology, or the study of how environments impact mental states, can be traced back to the work of three twentieth century psychologists: Kurt Lewin, James Gibson, and James Barker.

Environmental Psychology

Lewin's foray into environmental psychology helps establish this field as legitimate, while providing some practical limits and defenses of studying the psychological impact of environments. In the 1940s, Lewin theorized about the "life-space" or "field" that psychological researchers have in mind when they refer to the motivations, moods, goals, anxieties, or needs of a subject.[10] Lewin argued that the sensorial field and motivations of a research subject are not only important to psychological research, they are intimately bound with how that subject is responding to experiments.

One early criticism of environmental psychology is that it lacked a restricted scope, or boundary. For instance, how much of the environment affects a person? Is it just the immediate surroundings? Or does the building or space where the surroundings

are located affect the person as well? Lewin provided a preliminary answer to this type of question:

> The food that lies behind the doors at the end of a maze so that neither smell nor sight can reach it is not a part of the life space of the animal. In case the individual knows that food lies there this *knowledge*, of course, has to be represented in his life space, because this knowledge affects behavior. It is also necessary to take into account the subjective probability with which the individual views the present or future state of affairs because the degree of certainty of expectation also influences behaviors.[11]

Lewin helps solve the problem of environmental boundaries by suggesting that the limits of the environment are, first, what the subject can sense, second, their motivations, and third, their expectations. This helped environmental psychology cope with boundary criticisms, and gave environmental psychologists a paradigm they could use to assess environmental impacts on human psychology.

Gibson reiterated what Lewin tacitly asserted: the environment is an impactful dimension of behavior, cognition, and affect. Gibson's contribution to the foundations of environmental psychology is his rejection of the standard stimulus-response methods in optics research.[12] Before Gibson, the equipment psychologists used only tested narrow visual processes, such as aperture vision. Gibson believed these tests did not capture "natural vision," or the kind of vision processes we use in everyday life. To capture these vision processes, Gibson set up life-like labs, where research subjects would perform optical tests under conditions that more closely resembled reality.

Gibson brought validity to environmental psychology by suggesting that the environment in the lab can affect the outcomes of experiments. Gibson understood how the environment of the lab needed to match "life-like" situations in order to collect useful data on vision. In addition, he demonstrated the value of simulating real-world conditions while still maintaining control over lab experiments.

Finally, Barker helped environmental psychology develop by pushing psychologists to perform fieldwork. In his 1968 work *Ecological Psychology*, Barker pointed out how psychologists tended to use the lab as a self-imposed limitation on their research.[13] Psychologists had gleaned useful insights from lab settings, but they knew very little about how these insights functioned outside the walls of the laboratory. Barker's solution was to record and analyze psychological behaviors outside of the lab, and he established the Midwest Psychological Field Station in Oskaloosa, Kansas, towards this end. Here, Barker conducted studies from the 1940s through the 1970s, generating a substantial amount of empirical data. Interested in developmental psychology, Barker recorded the day-to-day actions of a seven-year-old boy called "Raymond," and published his findings in the book, *One Boy's Day*.[14] Barker took psychology out of the lab, arguing the only way to understand human psychology was to examine human behaviors "in the wild." Barker's approach was a vital element in getting psychologists to recognize the psychological impact of the lived environment.

Together, these three psychologists established a foundation for what would become environmental psychology. What sets environmental psychology apart from other types of psychological inquiry is a simple and intuitive notion: the environment

affects human psychology. Rather than try and limit research subject's exposure to outside stimuli, these pioneers embraced these complicating factors, arguing that they were not so much confounding as constitutive to human behavior, thought, and motivation. Today, environmental psychology is an interdisciplinary subfield of psychology that encompasses researchers in geography, economics, architecture, sociology, anthropology, education, and design. For our purposes, it is important to understand how environmental psychology plays a major role in healthcare design.

Healthcare Design

Environmental psychology is the basis for healthcare design, which for the last three decades, has used the methods and approaches of environmental psychologists in the context of healthcare environments. What sets healthcare design apart from other approaches is not only its subject matter, but its research methodology. Imitating the shift towards evidence-based medicine, healthcare design practitioners deploy evidence-based design, the brain-child of healthcare design researcher Roger Ulrich.

Ulrich's research on the impact of windows on patient recovery in the 1980s, which we will discuss later in this chapter, set a precedent in healthcare design towards testing and data-driven design. In contrast to other approaches, healthcare design is less interested in aesthetics and more interested in how design impacts patient psychology – and by extension, patient outcomes and attitudes – in healthcare environments. Thus, healthcare design has attempted to mirror the scientific practices of both psychology and medical science, and base design decisions on gathered data. Their research has

revealed that lighting, flooring, pictures, and even waiting areas all factor into the experiences of healthcare practitioners and patients. Design choices in these areas have real and measurable impacts.

Patient Experience Design

Patient experience design (PXD) is a term that rhetoric of health and medicine scholar Lisa Meloncon has advocated for. She argues that a "new term was necessary because our existing terminology (e.g., user experience, usability, participatory design) was not adequate to capture the necessary attitude that researchers and practitioners need to do user experience and usability work in healthcare contexts."[15] A cross between user experience, patient-centered medicine, and technical communication, PXD is a "participatory methodological approach centered on contextual inquiry to understand the relationship between information…and human activities in health care."[16]

This chapter is not an example of PXD because it does not build up a theoretical position from usability testing and contextual inquiry, but it is a broadly theoretical overview of the kinds of environments, situations, and processes where PXD research is relevant. Or, my overview of the theories and literature on healthcare design are centered on the patient experience, not the experience of practitioners or healthcare providers. Most healthcare design research has no such emphasis, and as I will argue, what makes a healthcare environment design adequate from the perspective of a physician or medical staff is sometimes in direct conflict with what makes it adequate

for the patient. Thus, PXD is an invaluable lens through which to view uncertainty in healthcare design, since it can tease out these conflicts, sometimes contradicting or overturning assumptions in traditional healthcare design.

4. Mapping the Patient Experience Process

Together, environmental psychology's recognition of the importance of lived spaces, healthcare design's emphasis on empirical and data-driven research, and PXD's focus on the experience of patients establishes a foundation for my description of the patient experience process. Rather than focus on the general experience of the patient, however, we are primarily concerned with how uncertainty factors into this synthesis of psychology, healthcare, and design. My claim is that both the affect heuristic and the uncertainty intensification hypothesis play a vital role in understanding how uncertainty factors into the patient experience process. From the initial decision to schedule an appointment, to paying your bill, uncertainty is either directly implicated or indirectly colors the experience of being a patient, and often to the patient's detriment.

To capture this process, I have broken up the patient experience process into six discrete phases. Admittedly, more or less phases could be used to map the process of the patient experience, and how I have approached describing each phase will vary depending on the type of patient experience we have in mind. I have tried to describe an "average" outpatient experience, meaning an experience of someone who is not chronically ill. I will mention how the experiences of the chronically ill and inpatients factor into certain patient experience design failures, but these experiences are not a

central focus. Along the way, I will ground my analysis of each phase (more or less directly) on uncertainty's connection to affect, design, and decision-making. In other words, we will investigate aporetic environments.

Stage 1: Deciding to Call a Physician

Patient experience often commences with uncertainty, especially when an appointment is not an annual, regular, or mandated visit. Unless it is an emergency, patients first have to decide if they can identify their health issue themselves or whether they need the help of a professional. Looking up health information online has become a popular component of this process, and a Pew center survey of 3,014 adults in the United States found that 35% of respondents have gone online to figure out what medical condition they or someone they know might have.[17] Although this fact might alarm some in the medical community, pre-internet patients likely engaged in the same decision-making processes without the aid of online tools to help guide them. In fact, this same Pew survey found that 46% of respondents sought the assistance of a medical professional after locating online information on their health problems.[18] The evidence does not suggest that patients are replacing their physicians with an internet search.

There are many factors that go into the decision to seek professional help or not, but epistemologist Jason Stanley's notion of "practical interest" can helps us better understand how uncertainty is an important component of this decision-making process. As I will argue in the next chapter, the relationship between stakes and uncertainty has distinct rhetorical effects. Stanley develops a thought experiment with

two scenarios, a low-stakes case and a high-stakes case, which demonstrates how stakes affect knowledge.[19]

In both cases, two interlocutors are unsure if a bank is open on Saturday. In the high-stakes case, the main characters will be evicted if they do not deposit a check in the bank on Saturday. In the low-stakes case, there is little consequence if they do not deposit the check on Saturday. Stanley's question is this: is the proposition "the bank is open on Saturday" epistemologically different in either of these cases? In the high-stakes case, is it harder for our interlocutors to know that the bank is open on Saturday, since the stakes of knowing are so high? Stanley, and other fellow epistemologists who call themselves "contextualists," believe so. They claim that in the high stakes case it is harder to know about the proposition "the bank is open on Saturday," and in the low-stakes case it is easier to know the truth of this statement, all other things being equal. Thus, the urgency of knowledge acquisition, what these epistemologists call stakes, affects our relative certainty. If we take this claim seriously, whether or not a patient contacts a physician – whether or not their uncertainty persuades them to seek professional assistance – will likely depend a great deal on how high their perceived stakes are.

This process of patient decision-making is neither straightforwardly logical nor easily predictable. Instead, it depends on the patient's perceived stakes, which can be confounded by multiple factors. Fear of the physician's office, the belief they are unable to afford care, or even thinking they do not have the time to visit a physician are all reasons a patient might decide to avoid calling a professional, regardless of the validity

of these beliefs. Importantly, we must be wary of general claims concerning what drives a patient to avoid (or visit) a physician. The "calculus" of patient decision-making is not necessarily rational, as some decision theorists might have us believe. Rather, we are much better off understanding how uncertainty is rhetorically accentuated or stifled, accelerated or mitigated, as a means of better understanding this decision. Stakes are one major factor amongst a complex network of confounding variables. Although not directly related to patient experience design, which factors contribute to the decision to become a patient in the first place are vital to our understanding of patient experience.

Stage 2: Scheduling an Appoint with a Physician

Patient scheduling has a ripple-like effect on the functioning of a physician's office. Surveys of patients have shown that excessive waiting times are a major contributing factor for negative attitudes towards outpatient care, and many patients associate reasonable waiting times with clinical competence.[20] As Tugba Cayirli and Emre Veral have suggested, the objective of scheduling is to find a system in which performance in a clinical environment can be optimized, which offers hope that excessive waiting times are reduced.[21] The optimal conditions for performance in a clinical setting are beset by uncertainty. In a perfect world, patients would show up on time and visits would last as long as they are scheduled for. In reality, late patients, no-shows, walk-ins, and emergencies complicate physicians' ability to schedule their work.

Most appointment systems try to account for a range of variables to optimize the patient wait time, however, there are unexpected variables that make such

optimization difficult. For instance, while arriving late is an undesirable behavior for a well-tuned appointment system, arriving early is as well, since this can create excessive congestion in the waiting room.[22] No-shows are also more complicated than they seem. No-show probabilities range from 5 to 30 percent, with this variance partially accounted for by difference in medical specialty.[23] However, the higher percentage of no-shows, the shorter the wait times for patients. This design problem from a physician's point of view is a windfall for the patient. Although not often considered, the presence of companions can also affect the arrival process for appointments, since this causes additional congestion in the waiting room. This factor is not accounted for in most appointment systems.

"No-shows," or patients who fail to show up for scheduled appointments without forewarning, are a particular problem for appointment systems. Some physicians have instituted "no-show" penalties, which charge patients for not cancelling at least 24-48 hours in advance. These have been effective in reducing instances of no-shows and reducing lost revenue for physicians.[24] However, offsetting this lost revenue by charging it to patients is poor patient experience design.

From the patient's perspective, this is not an equitable exchange. Physicians face no discrete penalty for showing up late for (or canceling) a patient's appointment, even though patients might use a precious vacation or sick day to visit the doctor. A family emergency or other unpredictable contingency that forces a patient to miss an appointment means their medical issue remains unresolved, a new appointment will need to be scheduled, and they will be charged for receiving no product or service. This

does not describe a process that elicits positive emotional affects. Some physicians have deployed more creative methods, like putting chronic no-shows on a "probationary" schedule,[25] using telemedicine and cloud-based, same-day appointment solutions,[26] or using automated reminder systems to reduce the number of no-shows. These are all more patient-friendly design choices than no-show penalties.

Any appointment system that cannot account for, manage, or cope with uncertainty will inevitably produce negative emotional affects in patients. To date, no practical solution for long wait times, unpredictable patients, or unexpected events has been developed. Technological advances like telemedicine are promising developments in this arena, but widespread adoption of these advances has yet to occur. If a patient enters into a healthcare decision-making process burdened by negative emotional affects, the affect heuristic suggests they will treat this process with more skepticism. In practical terms, if a patient undergoes a poor scheduling experience with a physician, their willingness to listen to the physician's medical advice might become compromised. Scheduling system design is thus an important factor in mitigating or exacerbating aporetic conditions.

Stage 3: Finding the Physician's Office

Web-based technologies have shifted many expectations about how, and how fast, services or products can reach the hands of consumers. These expectation shifts lag in the healthcare sector, but the desire for rapid, on-demand, and digital access to physician services grows. Speed is a tradeoff, however. Loyalty to a single physician will

likely decline as appointment systems and patient experience design catches up to contemporary trends. Since many physician appointments require an in-person presence, this means that patients will need to navigate different healthcare spaces more frequently. If a patient is changing physicians based on their availability, it is only natural that patients' wayfinding in healthcare spaces will be tested.

Wayfinding is an underappreciated dimension of environmental design, and is often an afterthought in healthcare environment design.[27] Despite this lack of attention, poor wayfinding can contribute and exacerbate problems in healthcare spaces. Yona Nelson-Shulman's research on hospital signage found that the absence of orientation aides and staffing contributed to the general chaos and confusion of healthcare environments.[28] Nelson-Shulman found that many patients struggled to find the admitting office in her study, and once they did, did not realize that they needed to register at the front desk to receive their paperwork. Since the admission process at this particular hospital was not spelled out, procedures that patients needed to complete before going to their examination rooms often "came as unpleasant surprises."[29] Finally, patients frequently interrupted staff to ask where the restrooms, telephone, or cafeteria were, and how to find them. The simple lack of signage in the healthcare space that Nelson-Shulman studied contributed to increased crowding, confused patients, and distracted staff.

From a patient experience perspective, poor wayfinding contributes to pre-existing anxieties and frustrations, increasing dissatisfaction with the hospital and wait times.[30] The longer patients were kept waiting, the more likely they were to be angry

and feel "abandoned by the institution."[31] The more likely they were to feel abandoned, the more likely they were to seek out front-desk staff and demand explanations. Since this interrupted the staff's attempts to manage patient visits, wait times became even longer, producing a chain reaction of delays, frustration, and poor patient experiences.

Nelson-Shulman's study incorporated improved signage to see how it affected the patient experience of wayfinding, and the results were positive. Patients were less stressed and required assistance less often. Staff members were equally pleased, since their time was not spent answering repetitive wayfinding questions by patients. In fact, personnel from other areas in the hospital approached the researchers in Nelson-Shulman's study, asking if they could perform similar interventions in their operations.[32] These findings support the claim that uncertainty can have distinct affective impacts on patients. Since negative emotional affects can alter the decision-making process for patients, something as simple as providing clear signage can have a profound impact on how a healthcare experience unfolds.

From a universal design perspective, many healthcare environments also fail to consider different wayfinding needs. For instance, recent research on dementia patients' wayfinding abilities suggests that most healthcare environments are unprepared for the specific challenges of this disease.[33] Dementia symptoms that conflict with poor wayfinding design include limitations on cognitive abilities, wandering or restless walking, agitation and aggression, and temporal disorientation. Environments that mitigate these conflicts take account of five dimensions: legibility, familiarity, autonomy, sensory stimulation, and social interaction.[34] For a population whose very

illness can affect their relationship with navigational certainty, using these dimensions as part of the healthcare design process is invaluable.

Wayfinding is a small element in healthcare environments, but this small element can mean the difference between a positive and negative experience with physicians and staff. Many healthcare situations are stressful, time-consuming, and unnerving. After all, most of us do not see a physician because we feel particularly vigorous or are certain what ails us. Being unable to find the waiting room, being uncertain where important facilities are, or simply being lost in a maze of bustling healthcare workers can easily exacerbate an already-tenuous emotionally affective situation. Drawing on the uncertainty intensification hypothesis, emotional affects are accentuated under these conditions. Thus, poor wayfinding experiences create conditions of uncertainty, and since most poor wayfinding experiences produce negative emotional affects, patient decision-making processes will tend to amplify perceptions of risk, and mitigate perceptions of reward.

Even though Nelson-Shulman's research is several decades old, her findings are as relevant then as today. Importantly, her research shows how even small changes to signage, small clarifications about process, and small tweaks to the environment can overcome poor healthcare building layout and architecture. For patients with special needs – like the needs of dementia patients – these small additions and tweaks become invaluable components in overcoming the uncertainty of foreign spaces. A healthcare environment can be modified to mitigate aporetic effects.

Stage 4: The Waiting Room

There is no lack of irony in a patient showing up to an appointment on time, only to sit in a "waiting room." Yet, waiting rooms are nearly ubiquitous components of the patient experience, and function to offset issues that arise from a combination of day-to-day uncertainties and appointment system failures. Research on waiting room environments has shifted in recent years, from a focus on the negative factors that beset the waiting room experience, to what healthcare designers call a "positive distraction," or an "environmental feature or situation that elicits positive feelings, holds attention and interest, and eventually fosters beneficial changes in physiological systems."[35] For instance, quality furniture, warm color hues, decorative artwork, and plentiful lighting all function as positive distractions in the waiting room environment. These different elements work in concert to sooth patients' feelings and increase their satisfaction with perceived care.[36]

A good portion of research on waiting rooms is influenced by Roger Ulrich's theory of "supportive design."[37] This concept is developed in Ulrich et al.'s 1991 article "Stress Recovery During Exposure to Natural and Urban Environments," which is one of the most widely cited articles in healthcare design and one of the most popular pieces in environmental psychology published in the last three decades. In this piece, Ulrich et al.'s research centers on the positive emotional states that are elicited by nature.

A pioneer in healthcare design research, Ulrich's work in the 1980s found that hospital patients recovering from surgery who were positioned by windows that overlooked trees had better recovery outcomes, including shorter inpatient stays, lower

intakes of narcotic drugs, and more favorable evaluations by nurses.[38] These findings parallel research on prison settings, which suggest that cell windows facing views of nature were associated with lower prisoner stress symptoms, such as digestive problems and headaches, and correlated with fewer sick calls.[39] The basic takeaways of Uhlrich's theory of supportive design, based on his study of nature views on patients, suggests that healthcare facilities should 1) foster a sense of control, 2) enhance social support, and 3) provide access to positive distractions and limit exposure to negative distractions.[40]

In other words, the view from waiting rooms can produce measurably positive emotional affects, which are correlated with positive patient outcomes. Jiang et al.'s application of Uhlrich's research to waiting rooms found that the optimal design for these spaces includes: 1) "floor-to-ceiling windows or larger window-wall ratio with maximum natural views," 2) "bountiful natural light and perceivable warmth," and 3) "abundant views to the external therapeutic landscapes/healing gardens."[41] Jiang's team also found that furniture arrangement was an important factor.

Arranging furniture in "noninstutitional ways," or in ways that promote social interaction and interpersonal communication were highly preferred. Lines of chairs in rows are not conducive to these effects. Additionally, people preferred furniture arrangements that intentionally guided patient's views to meaningful external scenes. Internal components, like fireplaces, stone, brick, wooden decorations, and home-like interior designs with lamps and comfortable seating produce a sense of familiarity that patients also preferred.

From a patient experience perspective, Jiang et al.'s research is an invaluable contribution to understanding how healthcare environments can be optimized to produce positive emotional affects. Our earlier discussion of the connection between uncertainty and emotional affect, based on Slovic's affect heuristic, works two ways. Negative emotional affects can lead to uncertainty and distrust, but positive emotional affects make people more likely to think that benefits are ample and risks are minimal.

In healthcare settings, when tensions can run high, producing positive emotional affects in patients produces a domino effect, contributing to physicians' ability to do their job effectively. Some healthcare design elements put patients and physicians in conflict, like appointment systems, but waiting room environments pose no such problems. The only barrier to reducing uncertainty in the patient-physician relationship via environmental design is forethought and will on the part of designers, at least as it concerns waiting room spaces.

Stage 5: The Physician Consultation/Inpatient Experience

The physician consultation phase is arguably the most important dimension of the patient experience, meaning the design elements in this phase will be particularly vital to understanding how impactful uncertainty can be in healthcare contexts. Examining the literature on healing environments, Eliane Schreuder et al. found that there are six themes that matter to patients: safety and security, social comfort, spatial comfort, sensory comfort, privacy, and autonomy.[42] In the context of the physician consultation or an inpatient stay, these factors are crucial in managing the levels of

uncertainty and the emotional affects of patients. If one of these factors contributes to higher levels of uncertainty, we know that negative emotional affects are likely to be intensified. If negative emotional affects are intensified, we know that perceptions of risk (and thus uncertainty) will be amplified. Hence, how consultation environments manage the tendency for healthcare environments to be aporetic will have a significant impact on the relationship between physicians and patients.

Safety and security are associated with feelings of prospect, refuge, and escape.[43] Prospect refers to the ability for the patient to have clear lines of sight to detect potential dangers. Refuge refers to the patient's ability to have their belongings kept safe. Escape is associated with the ability of staff to call for support in the case of an emergency. Thus, concerns over safety and security are transparently about the mitigation of uncertainty in the healthcare experience. The desire to know how to escape in case of an emergency, the desire to know that your belongings are safe, and the desire to know that help can arrive all assume a deep connection between design and states of uncertainty.

Social comfort is associated with the support of other patients, friends, family, and staff.[44] In particularly stressful conditions, the need for social support increases, even though admission to the hospital tends to decrease access to these networks.[45] Factors that impact patients' perception of social support include the number of beds, the interior design (specifically, the use of carpeting and the placement of chairs around tables), and several forms of media that can provide "positive distractions" (although they can also prove to be negative, in some instances).[46] Social comfort reproduces

conditions of social connection and familiarity inside healthcare settings. Here too, uncertainty lurks in the background. Familiarity denotes the absence of uncertainty; to feel socially comforted within the context of healthcare settings, patients need to feel that their connection to established social networks is not uncertain, tenuous, or precarious.

Spatial comfort refers to the physical features and use of space in an environment.[47] For patients, a space is comfortable if it is functional (allows a patient to do what they want), it fulfills personal needs (the patient finds it personally pleasing), and it is perceived to support social interaction. Factors that determine spatial comfort include the size of the room, which should be big enough to allow patients to easily get in and out of their bed and allow space for visitors. Allowing patients to personalize the room is also a contributing factor, as are factors that influence the perceived quality of waiting rooms, such as views of nature and the style of walls, floors, and ceilings. Even the mere presence of houseplants or pictures of natural environments demonstrate measurable effects on a patient's perception of spatial comfort.[48] Again, familiarity is a primary component of a patient's perception of spatial comfort, suggesting that mitigating the uncertainty and foreignness of environments can produce positive emotional affects.

Sensory comfort is associated with the general comfort provided by environmental factors like light, air, scent, temperature, and noise. Appropriate lighting has been found to reduce symptoms of depression, the length of inpatient stays, patient stress, and errors committed by staff.[49] Good ventilation (fresh air) is also a contributing

factor to sensory comfort, as are appropriate temperature settings and vent placements. However, the most investigated dimension of sensory comfort is sound. Music has been found to be stress-reducing, but elevated levels of noise are associated with abrupt awakenings and poor sleep.[50] Minimizing the number of beds and using sound-absorbing materials for walls and floors can contribute to higher levels of sensory comfort for patients. Uncertainty is not directly implicated in these factors, but emotional affects are. Based on the affect heuristic, these emotional affects can increase or reduce how uncertainty affects patients' decision-making processes.

Schreuder et al. define privacy as the ability for patients to shut out information about others and the need for one's own space.[51] The number of beds in a room is an important dimension of patients' perceptions of privacy, with single rooms increasing feelings of dignity, privacy, and satisfaction.[52] Other factors, like building materials that absorb sound, places for private consultation, and bed partitions also contribute to feelings of privacy. Again, we find that the desire for privacy is implicated in a parallel need for uncertainty management. Patients wish to keep their private medical information to themselves, and privacy-inducing design can mitigate uncertainty about this facet of the patient experience.

Finally, autonomy is best understood as the ability for patients to control their environments through their own actions or behaviors. A significant amount of patient experience lacks autonomy, since patients are often reliant on staff who control both monitoring and treatment. From a design perspective, the ability to open windows, adjust lighting and temperature settings, close doors, or otherwise use the environment

around them contributes to patient autonomy. Feelings of a loss of autonomy are deeply interwoven with sensations of uncertainty. The sensation of losing one's autonomy induces feelings of helplessness, especially when faced with unexpected situations. Thus, feeling a loss of autonomy can make a patient feel more incapable, depressed, or frustrated with the inherent uncertainty of medical treatment.

Viewing patient experience design from the vantage point of uncertainty provides a strong sense that most, if not all, design decisions in the consultation or inpatient area of a healthcare environment can exacerbate or mitigate uncertainty. Patients' perception of the spatial aspects of the environment – where things are positioned, how controllable the environment is, etc. – plays an important role in influencing their emotional affects and behaviors, which in turn can disrupt this phase of the patient experience.

For instance, research by Vanessa Okken, Thomas van Rompay, and Ad Pruyn has found that when a room "feels" less spacious to a patient, it "not only invokes less positive judgments, but also decreases self-disclose intentions."[53] The commonplace notion that the "walls are closing in on me" is not trivial, but a deeply revealing design statement. In addition to Okken, Rompay, and Pruyn's findings, research by Stuart Albert and James Dabbs in the 1970s found (at least in the context of American culture) that a reduction in interpersonal space arouses resistance to persuasion.[54] As Albert and Dabbs speculate, "As distance decreases, the speaker appears to focus his attention more intently upon the listener, and gives the impression of trying to influence him. As a consequence it is difficult for the listener to relax."[55] Small patient spaces, or even the

perception that a space is small, is enough to limit self-disclosure (a rather large problem for the practice of medicine), produce negative emotional affects, and thus reduce the persuasiveness of a speaker.

To put Okken et al.'s and Albert and Dabbs's research in another way, environmental perceptions of the consultation environment can exacerbate negative emotional affects. Slovic's research has also demonstrated how negative emotional affects tend to amplify perceptions of risk and mollify perceptions of benefits. Since risk is nothing other than a certain type of uncertainty, we can suggest that unpleasant consultation environments amplify perceptions and feelings of uncertainty.

Thus, unpleasant environments contribute to aporetic environments, or environments where there are elevated levels of uncertainty affecting decision-making. A negative aporetic environment makes attempts to persuade patients to overlook uncertainty more difficult, while positive aporetic environments make it easier for physicians to deploy these same tactics. When factoring in the six themes that Schreuder et al. finds in the literature on healing environments, we find that many dimensions of the overall inpatient or consultation phase of the patient experience are vulnerable to poor design decisions, which can directly alter the emotional affects of patients. These emotional affects, in turn, have measurable outcomes on interpersonal interactions and general attitudes towards physicians.

Stage 6: Billing and Cost

The cost of medical treatment is an important dimension of the patient experience because of the observable association between emotional affect and value. Slovic has applied the affect heuristic to this dimension of decision-making, with fascinating results. For instance, Slovic sees the work of Christopher Hsee as demonstrating an instance of the affect heuristic in action.

In Hsee's experiment, he provides a joint-evaluation condition where participants are shown two dictionaries and asked how much they would be willing to pay for them.[56] Dictionary A has 10,000 entries and is pristine, while Dictionary B has 20,000 entries but has a torn cover (but is otherwise like new). When compared together, participants were willing to pay more for Dictionary B. However, when only one group was asked to price A and a separate group was asked to price B, B was given a lower value than A. Hsee calls this phenomenon the "evaluability principle."

Without a direct comparison between the 10,000-entry dictionary A, and 20,000-entry dictionary B, participants were uncertain how much each dictionary should be worth based on their utility, and instead based their valuation on the attractiveness of the dictionary. Under simultaneous scrutiny, a buyer is more capable of seeing that dictionary B is superior to dictionary A where it counts, mainly, the number of entries it contains. Thus, the evaluability of entries only becomes available through the comparison process. This finding has import for understanding the relationship between cost, emotional affect, and uncertainty in patient experience.

If the evaluability principle is applied to the context of patient experience, then patient experience design takes on a new level of priority. Patients have little access to the evaluability of their experience at a physician, meaning their ability to compare experiences is clouded by uncertainty. If a patient attends a physician's office that provides a poor patient experience design, Slovic's affect heuristic suggests they will be more inclined to think they are getting less value from the experience than if this same environment was well designed, even if the care they received is better in the poorly-designed patient experience case. This is the most important insight of Hsee's and Slovic's research for patient experience design. Because patients, on average, are uncertain of the quality of the care they receive, and likely unable to know what constitutes "good" care in the first place (outside of outcomes), patient experience design becomes a critical dimension of both perceived care quality and value. We can take this argument one step further.

Slovic's and Hsee's work on the affect heuristic and evaluability principle do not address a corollary phenomenon: willingness to pay. Imagine if in Hsee's original experiment, participants were not told to price dictionary A and dictionary B, but instead given a price and asked how willing they would be to pay that amount. This question, a measure of what researchers call "willingness to pay," is exactly what Kampfer et al. explore in packaging design, a different but related area of research.[57]

Kampfer et al. rely on the theory of sensation transference, or how a product's sensory experience transfers over into seemingly unrelated attributes of this product. For instance, the perceived sturdiness of a cup can affect the evaluation of the beverage

it contains, or potato chips in hard-to-open bags are perceived as fresher.[58] However, Kampfer et al.'s research is centered on product weight, and connects this sensory dimension to value expectations in a way not often considered in research on sensory transference. Interestingly, Kampfer et al. found that willingness-to-pay is mediated by both flavor intensity and flavor evaluation, which are in turn influenced by product weight. A higher product weight increases the desire for food and beverages, which in turn increases a consumer's willingness to pay for a product.

Applied to our case of patient experience design, we can extrapolate the findings of Kampfer et al. to theorize that the sensory conditions of a healthcare setting are likely to affect a patient's attitude towards the quality of care they are receiving. In turn, the perception of care quality likely plays a role in patients' willingness to pay for a physician's services. Based on Hsee's evaluability principle, this is only the case when few comparisons of quality are accessible. Patients with chronic illnesses, for instance, are probably less likely to be affected by patient experience design when it comes to perceived value, because they frequent the physician more often.

We can tie together these different psychological strands together by suggesting that uncertainty is a primary factor in the perception of value. Patients who are uncertain about the quality they receive will be more affected by the overall patient experience design than those who are more familiar with the healthcare system. Patients who only attend the physician when they are sick, for instance, are probably going to be much less willing to pay steep healthcare costs if they have negative emotional affects towards their experience. Thus, the cycle repeats itself. Patients who

fail to go to the doctor are more likely to have poor patient outcomes, which means they will require more expensive interventions, which raises the total cost of healthcare. In addition, physicians are mostly unaware of how much their treatments cost, meaning they are likely unable to effectively intervene in this unfortunate situation.

From a patient experience design perspective, the fact that physicians and patients are both uncertain about the cost of treatments is problematic. In a systematic review of the literature on physician awareness of drug costs, Allan et al. found physicians' median estimate for drug costs was 243% away from the true cost, implying that many physicians make wild guesses when asked how expensive the drugs they are prescribing are.[59] Allan et al. also found that country, level of training, specialty, and other factors have little to no impact on how much physicians were aware of drug costs, and that this awareness has not improved in the 25 or so years that their review covered.[60]

Taking account of Slovic's, Hsee's, and Kampfer's findings, this means that while patients may be uncertain about the quality of care they are receiving, physicians are unaware of the cost of the care they are delivering, causing a striking disconnect between patient and physician concerns. Thus, from a cost perspective, patient experience design is both paramount to perceived costs, while costs are unknown to the physicians who construct and manage patient experiences. This is a destructive mix of priorities.

Perhaps more alarming, this effect is recursive. Interestingly, perceptions of the cost of medicine contribute to higher drug costs. In a survey of 10,000 patients, Aurel

Iuga and Maura McGuire found that 17% of patients did not take their prescribed medicine because of perceived cost.[61] In another survey of nearly 15,000 Medicare beneficiaries, 55% of respondents did not fill at least one prescription because they thought it would cost too much.[62] Non-adherence to medications inevitably leads to poor patient outcomes, which then increase the use of healthcare services, thus increasing the total cost of healthcare across the board. Combined with our previous discussion, we can begin to see a wider picture of how uncertainty, cost, and patient experience have a tenuous and ultimately toxic relationship.

Based on Slovic's and Hsee's findings, we can surmise that negative impacts of healthcare design are amplified in conditions of uncertainty. Without the ability to reasonably compare different healthcare experiences, how patients feel about the experience will be more impactful. In terms of aporetic rhetoric, we can simply say that comparative uncertainty amplifies the pathos of design. Or, the affective dimension of design is more likely to affect our decision making in situations where comparisons are difficult to make, or value is hard to ascertain. Extending this premise, Kampfer's work takes this affective amplification and applies it to cost.

If the perceived quality of a healthcare experience is poor, thus producing negative emotional affects, it follows that cost expectations will be lower. Because healthcare costs have on average risen over time, we can see why the connection between poor patient experience design and cost will only increase negative emotional affects. These negative emotional affects, in turn, have a recursive effect on cost. Thus,

again we find that uncertainty is a vital component of the patient experience, arousing increasingly negative affects while increasing costs in the healthcare system.

5. Healthcare's Conceits

Patient experience design, uncertainty, and emotional affects are all interrelated components necessary for understanding how environments can induce or mitigate aporetic effects. The notion that environments can be "rhetorical" is not novel. Thomas Rickert's theoretical work on "ambient rhetoric" is nothing other than a philosophical probing of the connection between environmental psychology and rhetoric.[63] My argument differs from Rickert's notion of "ambience," however. In this chapter, my point was not to illustrate how healthcare environments are themselves rhetorical, or how objects are rhetorical. Instead, I wanted to illustrate how environments and objects contribute to certain emotional states – or general "moods" of negativity or positivity – which in turn can affect decision-making processes. Decision-making is the fully-realized product of a rhetorical process, and if this process is affected by certain kinds of emotional affects (as Slovic hypothesizes), we can rightfully say that an environment is "rhetorical" in this sense.

As Slovic suggests, if we feel good we tend to overlook high risks and low benefits, and if we feel bad we tend to become suspicious of low risks and high benefits. To think of this formulation rhetorically, when we experience positive or negative emotional affects, we become susceptible to persuasive attempts to overlook or amplify uncertainty, respectively. The vital bridge between aporetic rhetoric and design is

emotional affect. When we begin to examine how these effects mingle with the experience of environments – a highly affective dimension of experience – the patients' place in an affective ecology becomes more striking. How patients experience healthcare is not a trivial dimension of being healthy. In fact, the complex ecology of patient experience is inseparable from patient decision-making, which in turn is a major component of patient outcomes.

It is tempting to reduce the experience of patients to the functional, to the immediate materials that "work" to make the patient healthier like drugs, but doing so risks overlooking the bigger rhetorical picture. Whether a patient follows a treatment plan is in no small way affected by a series of seemingly unrelated calculations, emotional affects, and encounters. How these calculations are made, emotional affects are felt, and encounters are experienced will lean heavily on how uncertainty is managed throughout a patient's healthcare journey.

Poor patient experience design is a reflection of modern medicine's most disappointing conceits. The notion of "patient-centered treatment," which more often than not functions as empty verbiage, is toothless without a deeper understanding of patient experience design. Efforts to implement more "patient-centered treatment" often disregard dimensions of environmental psychology and healthcare design. Instead, patient-centeredness usually focuses on treating patients as "persons in context of their own social worlds, listened to, informed, respected and involved in their care – and their wishes are honored (but not mindlessly enacted) during their health care journey."[64]

This sounds well and fine, but it only considers a marginal portion of the overall patient experience. If a patient does not believe the expensive medical treatment they have been prescribed is worth it, we can safely assume that having their wishes "honored (but not mindlessly enacted)" will not count for much. If a patient must wait for hours in a waiting room, after having waited months to get an appointment in the first place, only to be examined for a few moments, acknowledging their "social worlds" and being "listened to, informed," and "respected" helps. However, without further change, such reassurances do not go far enough in "centering" on the patient.

The problem with "patient-centeredness" is not the "patient," but the "centeredness." Considered conceptually, "centeredness" is at best an empty promise and at worst a bad-faith appeasement. Healthcare cannot (and arguably should not) be "centered" on any particular component or agent. Focusing solely on reducing healthcare costs will come at the expense of other important dimensions of healthcare experience. Focusing solely on the patient, a well-intentioned notion, tends to discount the potential utility of population-level findings and outcomes. Focusing solely on the physician has the inverse problem, and tends to discount the potential utility of a patient's personal preferences and decisions.

The first step in overcoming the conceptually myopic connotations of "centeredness" is to admit that there is no center to the healthcare system experience. This chapter's point-of-entry was the patient, but it was impossible for us to tarry along this path without recognizing the various different agents, entities, and components of the patient experience that have little to do with patient wishes or decisions. Instead,

patient experience design is not about sticking with the patient, so much as it is about starting with the patient and moving outwards and inwards, understanding how the entire healthcare system continuously reinforces and mitigates aporetic effects.

Unlike the previous chapters, this chapter examined aporetic environments instead of discrete types of uncertainty that lend themselves to distinct aporetic strategies. In Chapter 2, we examined how spatial uncertainty influences the activity of Agent Orange veterans. In Chapter 3, we looked at how mental illness skeptics and denialists tend to deploy competing aporetic strategies. Skeptical strategies tend to rely on prudential, conceptual, scope, trade-off, or causational uncertainty. Denialist strategies tend to use what-about-ism and what-if-ism to accomplish their aporetic goals. In this chapter, we have taken a markedly different approach to thinking through aporetic rhetoric.

In the introduction to this project, I argued that aporetic rhetoric can be more than epistemological, or it can function outside the parameters of verbal or visual communication between one agent and another, affecting their cognitive states. This chapter has latched on to this distinction by positing an aporetic environment, or the kind of environment that amplifies or mitigates the flow and structure of aporetic rhetoric. When in Xenophon's *Anabasis* Hecatonymus describes the trip through Paphlagonia as being "impassable," aporia acts as a description of a place as well as how the structure of that place produces certain cognitive states. Many healthcare environments are "aporetic" in this sense. They are both confusing and difficult to navigate, like when they are designed without wayfinding in mind, and they are the sort

of spaces that produce a heightened sense of risk or uncertainty. As we turn to our next chapter, we will return to the epistemological dimensions of aporetic rhetoric. However, understanding how environments can be aporetically inflected is an important piece of understanding the rhetorical functions of uncertainty.

Chapter 4
Addiction Theory, Urgency, and Aporetic Rhetoric

1. A Brief History of Addiction

The phrase, "to blow smoke up one's ass" derives from the ancient practices of the Aztecs and Incas, who first engaged in the rectal use of tobacco smoke. The practice died out until eighteenth-century Europe, when the exercise was rediscovered and used to rouse people from "suspended animation" or those who had drowned.[1] Soon after, a bellows-like device which a physician inserted in a patient's posterior was invented, increasing the therapeutic force of the "treatment" over the more traditional and gentle syringe method. There is arguably no more horrifying application of nicotine to privates than France's Doctor Buc'hoz, who testified to the effectiveness nicotine smoke treatment for women suffering "hysteria," administered vaginally. Coming in close second, however, is Adelaide's Hollingsworth's 1893 *The Columbia Cook Book*, which advocated that women who became poisoned should induce vomiting by literally "blowing smoke" into their anuses.[2]

Such creative methods of "getting high" span many substances across the entire length of human history. The most common and socially accepted of these include alcohol, nicotine, and caffeine, which all stimulated incredible civilizational changes, including the opening of trade routes and the development of shared social spaces like pubs and bars, smoking parlors, and tea rooms. Researchers located the oldest cultivated grape vines in Georgia, and carbon dated them to around 7000 to 5000 BCE.[3] Coffee was popular in the Islamic world at the end of the fifteenth century, but tea's history is longer, since the Chinese people have been widely using the drink since at least the third century BCE. The Aztecs, setting aside their more colorful applications of

tobacco, practically worshipped the plant. They mixed it into their food and water and taught their young that the goddess Cihuacoatl was made of tobacco leaves. The Aztecs even used tobacco ritually during governmental proceedings, lighting their pipes before the meetings began and keeping them lit throughout the discussion, believing it allowed them to work longer and more efficiently.

Long accompanying the potency and importance of these substances have been official laws, regulations, and taxes, a vital method of extracting revenues for states and empires. Rulers in Babylon and Ancient Egypt created monopolies on drug production to maximize how much they could receive in state profits. In contrast, movements decrying the horrors of drug use are evident in most points in history, the United States' prohibition in the 1920s and the modern day "war on drugs" being only recent examples. Earlier and more brutal cases are ample, however. Tobacco users had their lips cut off under the first tsar, while Ottoman sultan Murad IV beheaded them.[4] In the late fourteenth century, the Ottoman emir in Egypt eliminated the use of hashish and imprisoned or executed farmers who grew the crop. Citizens found smoking the herb had their teeth removed.[5] The imposition of these policies, harsh as they were, are a direct response by states and empires to abnormal patterns of drug use.

Historians credit modern addiction medicine to Calvinist theologians, who offered basic explanations for compulsive alcohol consumption later adopted by medical practitioners. For instance, in 1641 Dutch physician Dr. Nicolaes Tulp relied on theological models to explain the loss of control associated various behaviors, giving "sinful" habits a medical explanation. One of Tulp's colleague, Cornelius Bontekoe,

applied Tulp's basic theory to the progressive loss of control over alcohol consumption only a few decades later.

The development of psychiatry as a scientific discipline had a profound influence on the development of addiction medicine as well. American physician Benjamin Rush wrote in the eighteenth century about compulsive drinking, attributing the behavior to the innate characteristics of the drink, as opposed to the drinker.[6] Additionally, in the nineteenth century, physicians first introduced medical journals dedicated to the study of addiction. Interested parties first published the *Journal of Inebriety* in the US in 1876 and the *British Journal of Addiction* in 1884. The founder of modern psychiatric medicine, Emil Kraepelin, published psychometric data on alcohol and tea consumption in the 1890s, concluding that chronic alcoholism led to permanent cognitive decline. Kraepelin's work laid the groundwork for Freud's psychological approach to addiction, an important marker in addiction history. Until Freud, addiction as a monolithic category was unheard of, especially as an expression of a single psychological malady.[7]

Addiction research in the twentieth century further developed the study of compulsive and chronic behaviors by introducing new diagnostic classificatory systems, engaging in increasingly sophisticated neurobiological research, and incorporating large-scale animal studies that examined the physical effects of addiction on the brain. The modern view is that addiction is caused by a "rewiring" of the brain's reward system, conditioning it to see drug intake as mimicking reward cues from more biologically advantageous activities such as food and sex. Additionally, addiction research has revealed that genetic factors play a role in addiction, which interact with the

environment and other substances in incredibly complex ways. Despite humankind's long and storied experiences with intoxicating substances, we have yet to settle critical questions on what addiction is, what causes it, and why it is such a difficult behavior to alter.

Based on this long and complex history, it makes sense that addiction researchers have consistently struggled to define the term, let alone unravel its mysteries. Historically, the term "addiction" entered the English language in the late sixteenth century, indicating an inclination for repeated habits or actions, holding both a positive and negative sense. In the nineteenth century the term appeared in medical discourse, taking on a discrete pathological meaning. This pathological meaning has remained, despite the shift towards terms like "dependence," which the medical community implemented to prevent the stigmatizing associations that have developed around addiction and "addicts," as well as to provide a more broadly applicable term to describe a wide range of chronic behaviors. Additionally, psychological researchers often use the term "addiction" to indicate a compulsive motivational drive. Therefore, as a neutral inclination or habit, as a pathology, or as a compulsive drive, different scholarly perspectives conflate the meaning of addiction.[8] The lack of an agreed-upon "general" theory of addiction, which could explain the mechanisms in play across any given addictive behavior or substance, is a strong indication this phenomenon is deeply entrenched in uncertainty. By extension, how addiction theories treat this uncertainty will lend them different aporetic virtues and vices.

2. Expeditious and Fastidious Theory-Building

This leads us to ask, what makes for a good "general" theory, and what sorts of questions should a general theory of addiction ask? A good general theory should be able to explain a collection of related observations, be internally consistent, understandable, parsimonious, generate testable hypotheses, and when tested, not be contradicted by observations. Applied to addiction, a general theory should answer some of the following questions: what is the difference between an addict and a non-addict, or between a chronic abuser and merely a habitual or recreational user? How do we classify which potentially addictive substances are more valuable than dangerous? Is drug addiction more easily explainable in terms of properties of an external chemical, substance, or behavior, or an internal biological, psychological, or social predilection for addictive behaviors? How do we classify levels of craving, withdrawal, or other relapsing effects? Perhaps most importantly, how can we commingle the variety of individual theories of addiction, making sure that different insights from different fields work together to produce a comprehensive explanation for addiction?

These questions have characteristics that define almost any attempt to produce a general theory, however, medical researchers often build up healthcare theories from empirical observation, and then use them diagnostically to match up a perceived medical condition or state to a pre-conceived category of severity, progression, or to identify the existence of a medical condition in the first place. Addiction theories are no exception, as they often help physicians determine the existence or extent of someone's addiction.

In healthcare settings, we can distinguish between two different "styles" of theory. The first and most commonly used style is to create a simple, parsimonious, abstracted theory that can fit multiple specific cases with ease, or an expeditious theory. For instance, the popular Myers-Briggs Type Indicator (MBTI) is an expeditious personality inventory comprised of four either/or categories that describe sixteen "types" of personality. Taking a MBTI "test" is quick and easy, the categories are relatively intuitive and straightforward, and there are a narrow range of personality types. This indicates that the structure of the test largely mitigates individual differences within each personality category. MBTI personalities are relatively isolated from other types of personality inventories, and there are clear and distinct explanatory limits on how well the MBTI can measure personality.

An "inventory" is a classic example of an expeditious theory in medicine, and medical practitioners often use inventories to determine the type, existence, or intensity of a condition or state. For instance, the DSM 5 uses a "Substance Use Disorder" inventory, where meeting a certain number of conditions on the list translates into a certain intensity of addiction. Like all expeditious theories, inventories are generally easy to use, common, and in most circumstances accurate and useful in medical situations.

Theories based on stages are another type of expeditious theory. Medical practitioners often used stage-based theories to help locate the progression of an illness or disease. The most well-known of these is probably the stage system associated with cancer, which moves from stage 0 to stage IV, each stage indicating the increasing size

and spread of cancer cells. Like other expeditious theories, phase or stage-based models are easy to use and apply and help physicians make quick and generally accurate diagnoses, depending on the situation. Also like other expeditious theories, stage-based models tend to "flatten out" individual differences, or differences that straddle multiple categories. This ambiguity can make it difficult to determine which exact category an observed condition or state currently occupies. Later, we will examine a stage-based model of addiction.

There is a second and less-commonly used style of theory, often characterized by interconnected, highly representative, complex, and nuanced abstractions that can fit multiple specific cases accurately, or fastidious theories. Fastidious theories tend to synthesize multiple theories, approaches, or concepts to explain a phenomenon. Because they are unwieldy, complex, and confusing, fastidious theories are more difficult to find "in the wild," because they are not easily taught, explained, or built upon by medical researchers. Like expeditious theories, fastidious theories in healthcare settings can be both inventory or stage-based, however, while expeditious varieties of these approaches are often simple and easy to use, fastidious versions are punishingly intricate, complex, and often require a high level of expertise and experience to use correctly.

For instance, the Minnesota Multiphasic Personality Inventory (MMPI) is in stark contrast to the more simplified MBTI. The most recent version of the MMPI, the MMPI-2-RF, has only 338 items, which is a significant drop from earlier versions based on 567 items. The test is wide-ranging and captures potential personality and

psychopathologies like depression, anxiety, paranoia, alienation, self-esteem issues, and family problems. Unlike the MBTI, which has only 93 forced-choice questions (meaning there are only two options to choose from for each question), the MMPI is more complex and must be interpreted by a highly-trained expert. The test takes anywhere from 30 to 60 minutes to complete in its entirety. This intricate measure of personality may be elaborate and difficult to use, but it is also a highly valid, reliable, and thorough examination of multiple dimensions of the human psyche, and unlike the MBTI, tends to retain individual differences to produce a more representative diagnostic picture. Both expeditious theories like the MBTI and fastidious theories like the MMPI are characterized by how they contend with uncertainty.

Since humans act in complicated ways, embed themselves in complicated cultural and physical systems, and act in accordance with a complicated and wide variety of motivations, fears, and desires, there will always be an uncertainty gap between theory and reality, especially as it pertains to human behavior. Uncertainty is thus an innate feature of any theory of human behavior. Attempts to manage, constrain, or "wrangle with" this uncertainty tends to be expeditious. Expeditious theories are rhetorically potent because they are comprehensible, easily tested, and allow quick categorization (and thus rapid comparison). However, expeditious theories are susceptible to aporetic strategies that deploy counter-examples, point out how these theories tend to "flatten out" specifics for the sake of categorization, and claims that they produce representations of reality that are intuitive but inaccurate.

On the other hand, attempts to embrace, precisely describe, or "lean in" to the uncertainty between theory and reality tend to be fastidious. Fastidious theories are rhetorically efficacious because they are exhaustive, applicable with high levels of accuracy, and tend to draw on the strengths of multiple perspectives. However, fastidious theories also tend to be susceptible to aporetic claims that they are unwieldy and difficult to explain, tend to get lost in the details and specifics, tend to be difficult if not impossible to test quickly, and tend to make it difficult to compare specific situations, since the details of each situation are preserved for the sake of representativeness.

Expeditious theories usually buy efficiency at the cost of accuracy, while fastidious theories usually buy accuracy at the cost of coherence. My hedge of "usually" is important, because under certain conditions expeditious theories do not lose any practical amount of accuracy, nor do fastidious theories significantly suffer from a lack of coherence. In other words, both styles of theory-building are more or less effective depending on the situation in which they are applied. Both expeditious and fastidious theories attempt to contend with uncertainty in different ways, and the style of engagement with this uncertainty leads them to possess specific aporetic virtues and vulnerabilities.

Addiction scientists often use expeditious theories, but offer very few fastidious theories. As addiction researchers Robert West and Jamie Brown explain, the field of addiction studies does not lack for theories.[9] The problem, however, "is that each theory seems to stem from an idea or a set of ideas that accounts for a part of the

problem but does not account for other features that were previously addressed by other theories."[10] The sociology of addiction can tell us a great deal about how addiction functions in social networks, rational addiction theory can explain addiction in terms of economic costs and benefits to drug users, while biological theories can identify markers that are correlate certain populations as vulnerable to addictive substances. Yet, these theories rarely communicate with one another. This makes many expeditious theories of addiction vulnerable to valid and powerful aporetic critiques, based on their failure to account for how addiction affects different people, the differences between addictive substances or behaviors (usually, addictive behaviors are completely ignored), or why some addictive substances are more socially permissible than others. In other words, most expeditious theories of addiction are vulnerable to criticisms of "oversimplification."

On the other hand, fastidious theories of addiction are both rare and difficult to produce. Rare, because studies of addiction usually subscribe to the "incremental" philosophy common in modern scientific endeavors, where super-specialized researchers and research studies are justifiable because they "fill in" the "bigger picture" of addiction, inch-by-inch. Thus, given the limited scope and disciplinary commitments of addiction scientists, a fastidious theory of addiction that accounts for the wide variety of approaches to the subject is impractical. Creating a fastidious theory of addiction is difficult, in part because of this variety of perspectives, and in part because of the sheer volume of addiction research. Synthesizing the disparate, siloed, vast amount of highly technical research done on addiction is outside the purview of any

one discipline, making any attempt at a fastidious theory of addiction vulnerable to critiques of "overreaching" the expertise of its authors, or simply being too unwieldy to generate useful insights.

The point of this chapter is not to argue that expeditious theories are better or worse than fastidious theories, or vice versa. Both styles of theoretical modeling, of generating representations of reality, come with advantages and disadvantages which make both useful in certain circumstances. Rather, this chapter will argue that either style of theory building comes packaged with a set of aporetic virtues and vulnerabilities, weaknesses and strengths.

Addiction is the medium used to make this argument, in part because of its contemporary importance, in part because the distinction between expeditious and fastidious theories in this field is so stark, and in part because healthcare (thus, addiction) is fundamentally wedded to uncertainty. In turn, this fundamental uncertainty located at the center of healthcare is equally inextricable from rhetoric, an argument that I will be develop in the conclusion. Regardless of the reality a theory seeks to model, however, expeditious and fastidious theories are distinguished by the way they interact with uncertainty, which has identifiable rhetorical consequences.

To better demonstrate this claim, this chapter will examine one expeditious theory and one fastidious theory and point out the aporetic consequences that come from these different approaches to modeling addiction. Positioning these consequences with respect to urgency, I will then suggest which situations expeditious and fastidious theories are best suited for. The first theory is Pier Piazza and Véronique Deroche-

Gamonet's "multistep" theory of addiction, a simple and powerful model of how addiction shifts from casual use to full-blown addiction.[11] Comprised of three steps and limited in scope, this general theory of addiction is an exemplary expeditious theory. Piazza and Deroche-Gamonet intuitively and efficiently describe the phenomenon while entirely oversimplifying it, making their theory highly vulnerable to counter-examples and other aporetic strategies.

The second theory this chapter examines is Robert West and Jamie Brown's "synthetic" theory of addiction, one of the only book-length and wide-ranging theories of addiction. Fastidious, West and Brown's complex and all-inclusive theory is novel, fits a wide range of specific differences between addictions, and is so unwieldy and complex that it was difficult summarizing even the basic tenets of the theory in this chapter. What unites these different styles of theory is nothing other the uncertainty that rests at the heart of all theoretical models, an echo of the gap between reality and representation. The hope of overcoming this gap is not naïve. Rather, it is imperative if we are to develop an effective and accurate picture of what addiction is, who it affects, and how we should think of the large population of people addicted to a variety of substances and behaviors. Management of this "uncertainty gap" can never be completely realized, but the conclusion of this chapter will provide strategies for limiting our inability to assess what "addiction" is.

3. Piazza and Deroche-Gamonet's Multistep Theory of Addiction

Piazza and Deroche-Gamonet's wide-ranging and novel "A multistep general theory of transition to addiction" is a prime example of an expeditious theory. In this essay, they offer what they believe is the foundation for a first general theory of transition to addiction. They qualify it as general because it weaves together current addiction research, and transitional because it does not attempt to address the phenomenon of relapse. They identify three steps in the addiction process: 1) recreational, sporadic drug use, 2) intensified, sustained, escalated drug use, and 3) loss of control of drug intake and full addiction.[12] Furthermore, they describe these phases as consecutive but independent of one another: "entering one phase is necessary but not sufficient to progress toward the next phase."[13]

This three-phase system is a cornerstone of their general theory of addiction, and attempts to address uncertainty between the recreational or nonpathological use of substances from more dangerous chronic misuse. In other words, their theory is simple, easy to understand, and applicable to a wide variety of situations quickly and efficiently. Frameworks that use a minimalized set of "steps" or "stages" to describe a process are usually expeditious, as they often try to keep a process to five or six coherent, understandable, and memorable central "phases."

Having established a multistep framework, Piazza and Deroche-Gamonet ask a question usually left out of psychopharmacological discussions of addiction: if drugs are so risky, why do economic drives often overrule the associated dangers? Or, if addiction

is so dangerous, why are addictive substances like coffee, tea, alcohol, and tobacco legal and easily accessible? They provide two central responses to this line of questioning.

First, they argue that getting "high" is "one of the major goal-directed activities of the human species," or, the "consequence of a large number of recreational activities is to alter brain activity."[14] We could easily classify watching or playing sports, listening to or playing music, dancing, or watching films as pursuing this goal. Taking drugs is different only because it does not require sensory or physical activities, and instead achieves brain activity modification through the direct use of pharmacological compounds.

Second, they suggest that addiction "is something believed to be happening to others."[15] Around 15% of drug users move from the recreational stage to the substance-related disorder stage of drug abuse.[16] The relative distance between those who use and those who abuse lulls people into a false sense of security. Those who are addicted become unseen "others." Because of these two factors, millions of people develop addictions. Due to the severe health consequences of chronic drug abuse, this also makes it one of the costliest health problems worldwide. Their two-pronged argument is a plausible explanation for why some substance use is socially and legally prohibited by governments, while others are encouraged: drugs imitate one of the central goals of human activity, while the relatively low incident rate of addiction blinds us from the associated risks of addiction.

With some sense of why addiction is a widespread phenomenon, they then turn to attempting to define a distinction between pathological and nonpathological drug

use, another critical barrier towards developing a general theory of addiction. For example, how can we differentiate the withdrawal behaviors of someone using prescribed opioids from someone abusing heroine? Why is one a drug addict, while the other is not, even though their symptoms and experiences are essentially the same?

Using the Diagnostic Statistical Manual (DSM), they suggest that the current criteria for Substance Abuse Disorders (SUDs) in the DSM-5, in practice, matches up with their three-step theory of addiction. As we can see in Figure 4.1, many of the DSM-5 criteria align with both step 2 and 3 of their multistep theory, where drug use transitions into drug abuse. Importantly, their general theory centers on a transition to loss of control, of which almost every item in the DSM-5 inventory represents. Their thinking goes that because someone receiving prescription opioids is under medical supervision, they are therefore still in control, thus making their use nonpathological. Addiction is a pathological loss of control.

DSM-5 criteria for SUDs
0-1 unaffected; 2-3 mild; 4-5 moderate; 6+ severe
1. Recurrent failure to fulfill major role obligations
2. Recurrent substance use in physically hazardous situations
3. Continued substance use despite persistent or recurrent social of interpersonal problems
4. Tolerance
5. Withdrawal
6. The substance is often taken in larger amounts or over a longer period than intended
7. Persistent desire or unsuccessful efforts to cut down
8. Craving
9. Considerable time spent in obtaining the substance or using, or recovering from its effects
10. Important social, work, or recreational activities given up because of use
11. Continued use despite knowledge of problems.

Figure 4.1 – DSM-5 SUD Criteria

Notably, Piazza and Deroche-Gamonet do not try to synthesize the DSM criteria for their own purposes, uniting the standards for SUD with their own theory. Rather, they use this alternative standard as a point of contrast and comparison, to show that while their theory is different, the criteria they propose can still fit neatly into this well-understood model. That is, expeditious theories like Piazza and Deroche-Gamonet's tend to speak to other theories, as opposed to engaging in a sustained synthesis with alternative viewpoints. They do so to aid in their efficiency and expediency, thus making such comparisons a vital rhetorical technique for positioning their theory within a broader conversation.

A critical component of their model is a commitment to an individual as opposed to drug-centered theory of addiction. Drug-centered theories posit that addiction emerges from the psychopharmacological changes that occur from chronic drug use. Studies in this camp are often interested in specific changes brought on by chronic drug use, such as increased tolerance, withdrawal, or cognitive changes. Supporting this perspective are numerous studies that find clear neurobiological alterations in chronic drug users.[17] Individual-centered theories, per Piazza and Deroche-Gamonet, posit that "addiction results from a pathological response to a drug that is generated in a few individuals by a vulnerable biological phenotype."[18] This explains how some casual drug users become addicted, while others do not: some have a drug-vulnerable phenotype, or colloquially, an "addictive personality." Piazza and Deroche-Gamonet provide ample details to support their position, often centered on rat-based studies, but their central argument is that while taking drugs is a sufficient condition for addiction, it is not

necessary. Drug vulnerability is necessary to understanding why addiction consumes some and not others.

Individual-centered theories have broad implications for policy-based solutions to addiction. Predominantly drug-centered positions support social and legal policies that are representative of the current drug laws in the United States. That is, if exposure to drugs is the primary cause of addiction, then preventing exposure to drugs in any amount, at any cost, will be the predominant societal solution. Applying this model to contemporary circumstances, the best way to deal with the current opioid crisis in the United States is to limit access to prescription opioids, perhaps even forbidding their use, and engage in a long-term effort to communicate their dangers to the public. The drug-centered model is an all-or-nothing position.

On the other hand, an individual-centered solution follows a disease-based model, somewhat like how we treat psychiatric diseases. For example, a particularly contentious divorce might cause PTSD in a child. However, many children caught in the middle of difficult divorces do not get PTSD. As Piazza and Deroche-Gamonet explain their analogy: "We do not forbid divorce, moving, and wars or eradicate spiders, snakes, and elevators, although such measures would probably substantially decrease the prevalence of depression, anxiety, and PTSD."[19]

Since many addictive drugs (like opioids) have legitimate medical uses, and since only a portion of people who use these drugs become addicted, it makes sense to these theorists that we should focus on identifying and assisting those who have particularly drug-vulnerable phenotypes, as opposed to the wholesale prohibition of potentially

useful substances. As Piazza and Deroche-Gamonet argue, drugs "have an important role in helping individuals function in most human societies that are largely very demanding, often unjust, and practically never egalitarian."[20] Despite their seeming artificiality, under such conditions it is arguably natural and rational to use drugs.

How well does Piazza and Deroche-Gamonet's take on addiction fare as a general theory of addiction? As Aldo Badiani argues, not well.[21] For instance, Badiani points out how they end their essay by making the following claim: "The reader will notice that we call this not just a theory but a general theory – the first of its kind in the field of addiction research."[22] However, Badiani notes how Piazza and Deroche-Gamonet's theory is far from the "first" general theory, and most "theoretical models of addiction are not even taken into consideration" by Piazza and Deroche-Gamonet.[23] For instance, there is no mention of addiction as a psychiatric condition or a rational choice. Even limiting their perspective purely to neuroscience, they fall short. They lean heavily on animal studies in their theory, yet completely eschew any discussion of relapse, a critically important dimension of addiction studies in animals.[24]

Exasperated, Badiani's simplest and most powerful critique of Piazza and Deroche-Gamonet's "general" theory of addiction is that "it lacks a critical prerequisite of any general theory of addiction, that is, its applicability to different addictive drugs."[25] Most of their evidence is derived from data on cocaine, thus their multistep theory may not apply to other drugs. They are not the only to fall prey to this problem, since many studies on addiction purposefully limit themselves to single, substance-specific effects of drug reward and drug addiction.

In many respects, their failure to produce a general theory of addiction is less an issue with the force and convincingness of their arguments (although this plays a role), and more of an issue contending and competing with increasingly potent forms of uncertainty that underlie any attempt to produce an expeditious theory of addiction. The more general a theory, the more likely it is to intersect with exponentially complex uncertainties. More specifically, Piazza and Deroche-Gamonet's expeditious theory wrangles with process-based uncertainty.

Process-based uncertainty is associated with difficulty locating which stage a given entity is in relation to a process, trouble determining which events are vital for the continuation, reversal, or stoppage of a given process, or issues determining how an isolated process relates to other interconnected or tangential processes. Or, there are three species of process-based uncertainties working behind the scenes of Piazza and Deroche-Gamonet's argument: uncertain states, movements, and foci. These subspecies of uncertainty present specific rhetorical vulnerabilities and virtues.

For instance, uncertain states provide visible aporetic strengths or weaknesses in Piazza and Deroche-Gamonet's arguments. Because addiction is a process that unfolds in real-time, with contested demarcations between the status of user and abuser, cutting up this dynamic activity into digestible components is good rhetorical practice. It allows addiction researchers to find a drug user, examine their condition, and neatly fit them into a preconceived model. It also allows addiction researchers to flatten out the particularities of individuals to make comparisons between and amongst drug users, thus allowing rapid comparison. Taking a complex situation and fitting it into a

preconceived model satisfies the all-too-human desires for order and expediency. The longevity of process-based models of composition, classical and Rogerian models of argumentation, or variants of the Shannon-Weaver model of communication are all testament to the rhetorical potency of managing uncertain states.

The aporetic weaknesses of this strategy are equally potent. For instance, all divisions of a process are vulnerable to critiques of arbitrary enumeration. Why are there only three steps to becoming an addict? Why not four or five? Why not eleven, or seventeen, or so on? The division of a dynamic process into discrete states presents a tradeoff. In many cases, the more discrete steps that are identified and codified, the closer a model will be to reflecting the reality it intends to represent. However, the more theorists add steps to a model, the less generalizable, comparable, and expedient a model becomes. This is likely why very few sixty-seven step models survive the test of time. Uncertain states provide both rhetorical opportunities and aporetic vulnerabilities.

Uncertain movements in a process can also be a rhetorical tradeoff. In Piazza and Deroche-Gamonet's case, their decision to ignore drug relapse is critical for understanding this exchange. Their model is simple, as expeditious models tend to be: drug use begins casually, escalates, and finally becomes drug dependence. This process moves in only one direction. Its simplicity allows it to accurately capture a vast range of addictive behaviors. Just as breaking down and codifying the inherent uncertainty associated with uncertain states is rhetorically justified, producing a process model that is simple, unidirectional, and unburdened by recursive or recalcitrant effects is alluring.

This also provides opportunities for aporetic criticisms. For instance, Badiana rightly picks up on Piazza and Deroche-Gamonet's eschewing of relapse, arguing that by ignoring important research on the subject, their general theory falls short of its goals. Siloing their general theory from recursive effects, like relapse, has the unfortunate consequence of limiting the generality of their claim. At bottom, arguments that reduce the complexity of movement in a process increases the likelihood of translatability, comprehension, and cohesiveness, all while aporetically opening an argument to the ever-present vulnerabilities associated with uncertain movements, like increasingly complex processes that fold in on themselves, making classification, theorization, and general arguments increasingly less likely. What expeditious theories gain in clarity, they lose in representativeness.

Finally, uncertain foci are also a difficulty and strength of Piazza and Deroche-Gamonet's general theory of addiction. Unlike uncertain states and movements, uncertain foci create openings for aporetic criticisms that have less to do with the composition or movement of a process model, and more to do with what aspects or dimensions of the process a theorist is trying to model. Uncertainty of this type is what allows Piazza and Deroche-Gamonet to characterize addiction models as either drug- or person-centered. A drug-centered model of addiction is not inseparable from people, just as a person-centered model of addiction cannot exist apart from drug-centered model.

Selecting a focus, often contrasting the selected focus with another related but "insufficient" alternative, is a well-known and effective rhetorical strategy. The classic

speech and debate maneuver of using gravitas to counter an opponent who is taking a topic too lightly, or levity when they are being too serious, is a perfect example of this effect in practice. Here, Piazza and Deroche-Gamonet have tapped into the rhetorical logic of contrast in the context of addiction science, making their case for a person-centered theory of addiction compelling by comparing it to an "insufficient" alternative.

As with all species of process uncertainty, however, there are aporetic downsides to this strategy. For instance, in practice, utilizing uncertain foci results in binary claims. Addiction becomes either drug-centered or person-centered. Hence, this strategy can fall into an either/or trap, misrepresenting a debate as only having two starkly contrasted positions. Related, contrasting the selected foci with the weakest possible alternative leaves their theory open to strawman claims. The rhetorical use of contrast, impossible to leverage without the pretext of uncertain foci, has both rhetorical strengths and aporetic weaknesses.

Piazza and Deroche-Gamonet's theory, predicated on a process-based model that contends with uncertainty at an aporetic loss and uses uncertainty for rhetorical gain, illustrates several key lessons. First, their model creates "steps" or "divisions" to frame a dynamic process as static, a technique used to manage the complexity of real-world situations. This maneuver has demonstrable practical and rhetorical upsides, like making their theory applicable to a wide variety of cases, making its application expedient and efficient, and making it as simplistic and elegant as possible.

Second, modeling a complex process in terms of static "steps" comes with certain practical and rhetorical risks. Badiana's criticisms of their piece effectively

leverage these vulnerabilities, drawing from the same pool of uncertainty that Piazza and Deroche-Gamonet have painstakingly tried to manage. By concretizing the dynamic process of addiction into discrete phases, they open themselves up to critiques of arbitrary enumeration. Why not four stages? Why not five? Likewise, Piazza and Deroche-Gamonet's reluctance to include relapse into their model again opens them to the kind of aporetic critique that Badiana levels, mainly, that their "general" theory of addiction has ignored vital aspects of the process they sought to model. Alternatively, Piazza and Deroche-Gamonet's preference for a person-centered as opposed to drug-centered model taps into foci uncertainty, opening them up to well-worn aporetic and logical criticisms.

None of this is to say that Piazza and Deroche-Gamonet's general theory of addiction is insufficient. Rather, the point in analyzing both the strategies and vulnerabilities of their claims is to emphasize how uncertainty rests at the core of their rhetorical endeavor. Piazza and Deroche-Gamonet try to manage this uncertainty by making a tidy theoretical model. This is a wise tactic. However, uncertainty is difficult to manage.

Hence, Badiana's aporetic strategies are not only effective but entirely predictable. Irrespective of one's knowledge of the situation, it is relatively straightforward to produce counterarguments of Piazza and Deroche-Gamonet's claims, not because their approach is insufficient, but because they use ubiquitous and well-known argumentative strategies which implicate equally widespread aporetic counter-arguments. For instance, if someone claims they have a "general" theory of anything, let

alone addiction, it is easy enough to dispute their claim of generality by finding a single instance where their theory does not apply, thus deploying uncertainty to cast doubt on their claim. The more expeditious a theory is the more vulnerable it will be to this aporetic strategy. The easy back-and-fourth that this debate (and many others) rests on is a substrate of uncertainties.

4. West and Brown's Synthetic Theory of Addiction

West and Brown's ambitious attempt at a general theory of addiction takes a different approach than Piazza and Deroche-Gamonet.[26] Indicative of a fastidious theory, West and Brown propose "a *synthetic theory of addiction* that draws into a single system the mechanisms underlying it: learning through reward and punishment by associations; feelings of compulsions and desire; the exercise of self-control, beliefs, decisions and plans."[27] Piazza and Deroche-Gamonet try to manage the uncertainty between theory and reality, but West and Brown actively embrace it. For instance, their theory is based on "*moment-to-moment* control of actions through causal pathways of varying lengths of complexity from simple reflexes, through impulses and inhibitory forces, then desires, drives, and emotional states, to evaluations and plans."[28] Rather than focus on specific phenotypes that are vulnerable to addiction or specific drugs that are particularly addictive, they emphasize the immediacy of addiction, or addiction as it appears via impulses and inhibitions functioning at a given time. Additionally, they see the motivational system as unstable, like an "aircraft with built-in instability that requires constant balancing input to keep it 'on the straight and narrow'."[29]

They frame this instability using two concepts: Conrad Waddington's notion of the "epigenetic landscape" and chaos theory. Waddington's epigenetic landscape is a representation of cellular "decision-making" that occurs during cell development. Imagine a ball rolling through hilly terrain. Some valleys and ridges will compel the ball to move in one direction, but with enough momentum and a little chance the ball can go "off track" into alternative pathways and ridges. According to West and Brown the motivational process of addiction is well-represented by this analogy: we are driven more often than not into "deep" or "well-worn" parts of the motivational landscape, but with enough force, we sometimes take alternative paths.

The second concept they use, chaos theory, is a mathematical approach to modeling unpredictable phenomena like weather patterns. As West and Brown explain it, in chaos theory "systems can descend into particular states…but still switch apparently unpredictably to other states or even move in a *pseudo-random* fashion between them."[30] Both Waddington's epigenetic landscape and chaos theory are examples of how a theory can "lean in" to the uncertainty that innately exists between reality and models of reality. Rather than try and manage this uncertainty, West and Brown incorporate uncertainty as a component of their system. This is an attempt to cooperate with the gap between a general model of events and how events dynamically unfold in reality.

Having incorporated uncertainty as a component of their fastidious theory, West and Brown meticulously cover every major theory of addiction currently discussed, separating these disparate theories into two categories: those that address individual or population-level addiction. Figure 4.2 below is an illustration of their system of categorization, which provides a useful sense of how many disparate theories West and Brown are attempting to synthesize in their general theory of addiction.[31]

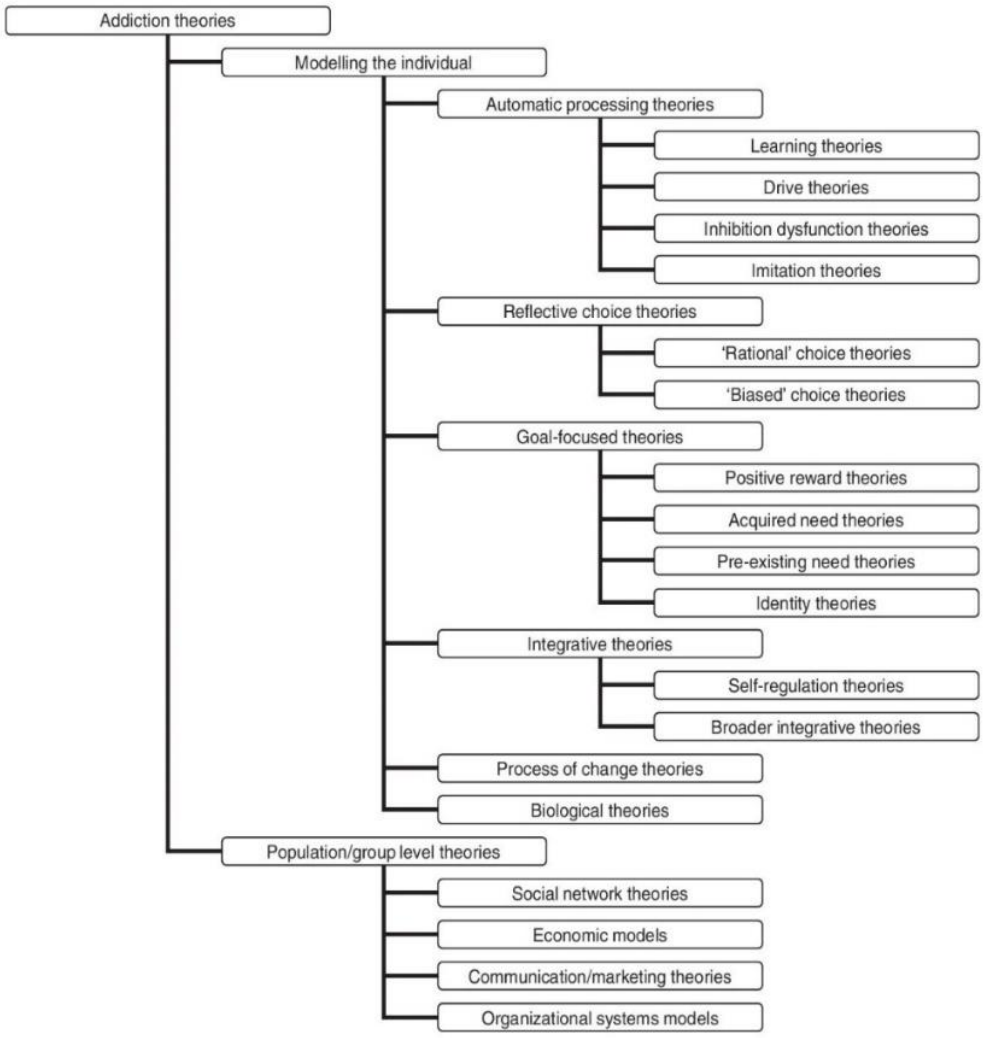


Figure 4.2 – Addiction Theory Chart
Reprinted with permission from Wiley

For instance, automatic processing theories include approaches that understand addiction from the perspective of classical conditioning models, the disease model of addiction, inhibitory brain circuitry models, and social learning theory. Alternatively, reflective choice theories encompass models like prospect theory, the theory of rational addiction, cognitive bias, and affect heuristics. Despite the visual hierarchy depicted in Figure 4.2, West and Brown admit that their classification system tends to "flatten out" some differences between theories for the sake of visual appeal.[32]

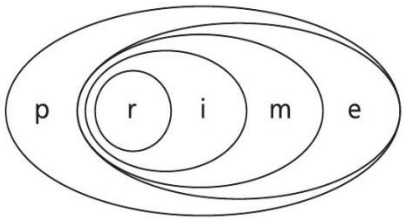
Nevertheless, a simple examination of Figure 4.2 illustrates the vastly different approach that fastidious theories take compared to expeditious theories. Both will inevitably "flatten out" specifics to generate categories, but the former tends to try and "capture" the complexity of a situation while the latter generalizes and simplifies specifics. Both fail to completely represent specific cases that fall within a model, but the style in which they fail is markedly different, due to their respective attempts to cope with uncertainty. The style in which a model fails to capture reality, premised on the uncertainty between representation and reality, simultaneously opens and closes rhetorical pathways. In this case, we could accuse West and Brown's synthetic model of being overambitious in its goals. Fastidious theories will always be susceptible to claims of overcomplexity and convolution, a by-product of overambition.

Before we evaluate the full scope of West and Brown's argument, we should first examine how they devise their synthetic theory of addiction. Interestingly, West and Brown adopt the well-known and simple "COM-B" model. As they describe it, the COM-B model does the following: "it recognizes that for any BEHAVIOR to occur, three

conditions must be present: the person must have the physical and psychological CAPABILITY to perform it; they must have the physical and social OPPORTUNITY to engage in it; and they must be more MOTIVATED to engage in it at the relevant moment than some other behavior."[33] As they note, the COM-B model is embedded in the United States legal system, where we ascribe guilt based on capability, motive, and opportunity.

All behaviors (not just criminal behaviors) exhibit these basic constituent parts, according to West and Brown. As they see it, the great benefit in using the COM-B model is its capacity to generate analysis of ongoing patterns of behavior dynamically, since it is malleable enough to identify what would need to change to redirect a pattern of behavior. The COM-B's applicability at any scope of analysis, including populations, communities, or individuals also makes it appealing for West and Brown's purposes, as many general models fail to adapt to changes in scope.

To put it another way, the COM-B model is highly contextual and adaptable to different situations because it incorporates the dynamism of real situations and contexts as a vital component of interpreting behavior. Of the three central components of behavior, motivation is the most problematic. Physical and psychological capability is easy to account for, as is physical and social opportunity, but what motivates addictive drug use over other behaviors is trickier to ascertain. In practice, it is not clear how this motivational system works. However, West and Brown attempt to elaborate and clarify. Their motivational model, called PRIME for short, is illustrated in Figure 4.3.



The human motivational system
p: plans (conscious mental representations of future actions plus commitment)
r: responses (starting, stopping or modifying actions)
i: impulses/inhibitory forces (can be consciously experienced as urges)
m: motives (can be consciously experienced as desires)
e: evaluations (evaluative beliefs)

Figure 4.3 – The PRIME Model[34]
Reprinted with permission from Wiley

Responses (r) are the lowest level of this nested model of the motivational system, and relate to the starting or stopping of an action. For instance, smoking a cigarette, eating ice cream, or having sex are discrete actions with a beginning and an end. For West and Brown, the response system is "the brain structures and mechanisms that underpin" these activities.[35] The response system receives inputs from internal and external stimuli reflexively, thus responses do not arise from learned associations. They are quick, immediate, and "gut-level" responses to either internal or external stimuli. Most animals can prioritize certain behaviors based on competing demands, hence, responses are in some part controlled by impulse/inhibitory functions, the next step up the PRIME system.

Impulses and inhibitory (i) forces are more "flexible" than responses, and can be best thought of as forces that "compete" or "combine" with responses to produce modifications to an action. For instance, if I tend to smoke cigarettes when stressed, being in that emotional state can modify a response to smoke a cigarette, combining

with the original reflexive act of pulling out a smoke to start the activity of smoking. Essentially, an impulse is an "urge." West and Brown suggest that urges have the quality of immediacy and urgency, making them distinct from desires. Furthermore, drives influence urges, which include internal and external stimuli that signal physiological needs (like thirst), and emotional states, which directly influence urges (like wanting a cigarette in response to being stressed). Thus, impulses and inhibitions function at the level of stimulus-response, which in turn contribute to the next level of PRIME, motives.

Motives (m) are where we can take account of potential consequences of actions, and come into conscious awareness when responses and impulses/inhibitions draw our attention to them.[36] For West and Brown, motives are at the center of purposeful behaviors. The ability to express what one wants or needs, for instance, is a direct consequence of motivational experience. Drives, emotional states, and past experiences affect these expressions. Revisiting our example of smoking, I pull a cigarette out of the pack (response), a behavior reinforced by my poor emotional state (impulse), and I turn to my friend and say, "Boy, I really need a cigarette" as I flick my lighter on (motives). I would perform none of these actions, however, if there were not some evaluative component of my decision to smoke, the next level of the PRIME model.

Evaluations (e) are beliefs about the world expressed in language as propositions.[37] These propositions about the reality of the world have varying levels of likelihood, thus beliefs have greater or lesser levels of "confidence." Per West and Brown, evaluations influence motives either directly or indirectly.[38] Directly, they

generate representations that we find repulsive or attractive. For instance, if I witnessed my beloved grandfather died of emphysema from a lifetime of smoking, that experience might influence my very "identity," thus making the act of smoking seem repulsive. As West and Brown argue, evaluation affects motives directly by altering our commitment to an activity.[39] Indirectly, evaluation can affect motives by altering our emotional states. For example, if I feel that I suffered unfair treatment at work, I might find myself increasingly stressed and frustrated, positively influencing my decision to smoke a cigarette. As West and Brown add, evaluations are also the level at which analytical reasoning and cost-benefit analysis are applicable, which can explain how we resolve conflicting evaluations. Plans, the final level of the PRIME theory, directly influence evaluations.

As West and Brown describe them, plans (p) "arise when thought or forethought is required for an action to occur."[40] Plans thus come in two varieties: immediate and delayed. The former occur quickly, but are "sufficiently complex that it requires at least some self-conscious reflective thought to construct it or get it going."[41] Alternatively, we construct delayed plans when a situation that makes an action appropriate are not in place, other actions have taken priority, or there is some uncertainty about starting conditions or an appropriate course of action. External events do not usually dictate the conditions for forming plans. We can, for instance, decide to quit smoking at any time, regardless of external stimuli. Additionally, specific discrete actions or steps with immediate objectives do not make up plans. If I plan to stop smoking, that does not necessarily entail a specific set of actions that I need to immediately take to fulfill that

plan. Finally, plans can persist even if actions contradict these plans. If I plan to quit smoking, I may remain committed to my plan to smoke but nonetheless smoke a cigarette. Thus, we can see the PRIME model envisioned by West and Brown in its totality in Figure 4.4, or as they refer to it, the "HEAD" model.

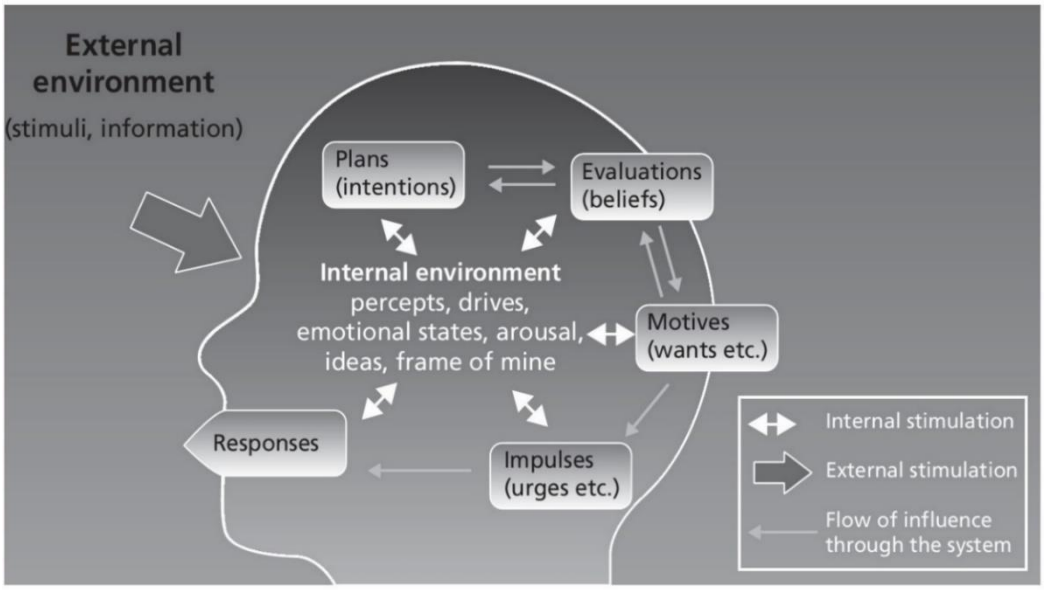


Figure 4.4 – The HEAD Model
Reprinted with permission from Wiley

Figure 4.4 further validates the argument that West and Brown's theory is fastidious. The HEAD model attempts to capture the intricate and interconnected factors involved in addiction, including both internal and external forms of stimulation. Figure 4.3 and 4.4 are also characterizations of the same model, but the former illustrates the relationship between elements of PRIME, while the latter takes those elements and shows how they function more clearly with respect to reality.

Rather than simply throw out innumerable separate elements working together, West and Brown use a rhetorical strategy of hierarchy to help mitigate the complexity of

their theory. Fastidious theories like West and Brown's sometimes generate complexity and representativeness by using a "nesting doll" approach, where each aspect of a theory contains sub-theories, with each sub-theory containing sub-sub-theories, and so on. The HEAD model, PRIME model, and COM-B model are no exceptions to this strategy. The rhetorical effect of the "nesting doll" approach borrows from the clean, parsimonious theories of more expeditious theories. However, instead of creating highly abstract and simplified representations of reality, the "nesting doll" strategy approaches the issue of complexity by embedding increasing nuance into each element of relatively straightforward aspects of the larger theory.

For instance, they begin by describing the COM-B model, which on its surface appears like an expeditious explanation for addiction. They then note how motivation is an unclear dimension of this model, and thus introduce their PRIME system, a sub-system of the COM-B model. Each dimension of the PRIME model, in turn, has distinct sub-sub-characteristics. For example, there are two varieties of plans, immediate and delayed, and each has different effects and influences on addiction. The "nesting doll" approach blurs the lines between fastidious and expeditious theories for rhetorical effect, making an otherwise over-nuanced amalgam of ideas more digestible. West and Brown go to great lengths to both create a theory of addiction that is highly representative and nuanced, but also one that can resist claims of overcomplexity.

What, then, is West and Brown's final word on their theory of addiction? In the last chapter of their book, they offer an answer: "According to the proposed theory, addiction can be usefully viewed as a chronic condition involving a repeated powerful

motivation to engage in a rewarding behavior, acquired as a result of engaging in that behavior, that has significant potential for unintended harm."[42] As they explain, addiction is essentially a social construct with "fuzzy boundaries," and "in this respect, it is no different from other taxonomies in biology and social science."[43] Instead of trying to capture exactly what addiction is, West and Brown skirt the question by proposing three interacting types of "pathologies" that underlie addiction:

1. Motivational abnormalities independent of addictive behaviors, "such as a propensity to heightened sensitivity to reward, low ability to learn from punishment, anxiety, depression, or impulsiveness."[44]
2. Motivational abnormalities that derive from addictive behaviors themselves, "such as acquisition of a strongly entrenched habit or an acquired drive."[45]
3. Motivational abnormalities in an individual's physical or social environment, "such as the presence of strong social or other pressures to engage in the activity."[46]

Again, these categories of motivational abnormalities are good evidence of a fastidious theory at work. Each type of abnormality is networked with every other type, and all work in tandem to represent the conditions under which addiction occurs. This is in stark contrast to an expeditious theory like Piazza and Deroche-Gamonet, whose multistep approach tries to capture addiction as a process with a discrete beginning and end, as opposed to a networked series of conditions.

West and Brown's fastidious theory also presents the same rhetorical upsides and aporetic vulnerabilities that we would expect. Their model of addiction is highly

sophisticated and can be applied to very specific circumstances while retaining the nuance of these specific cases. Alternatively, their model of addiction is extremely difficult to summarize, contains an unwieldy amount of information, sub-categories, and details, and this make comparisons between different types of addictions difficult and applications of their theory arduous. My above summary of their basic ideas is both cursory and tedious, a clear sign that their system is both detailed and unwieldy, a feature of fastidious theories.

Unlike Piazza and Deroche-Gamonet's expeditious general theory, West and Brown do not struggle to contend with different varieties of uncertainty. Rather, because West and Brown initially account for uncertainty in their theory, their final characterization of addiction is the theoretical equivalent of a shrug. The notion that addiction has "fuzzy boundaries," or that it is "socially constructed" is indicative of the critical vagueness and confusion left in the wake of fastidious theory-building. Their interconnected system of concepts is clever, novel, and sophisticated, but how this theory can be usefully applied to situations is difficult to ascertain. They spend the last chapter of their theory providing examples of how the theory can be applied, but they focus primarily on nicotine addiction, skirting the differences between types of addiction. As I have argued in this chapter, making comparisons between specific cases using a fastidious theory are difficult because we retain details in each specific case.

It is important to emphasize that this does not mean their theory is insufficient, useless, or extraneous, just as Piazza and Deroche-Gamonet's multistep theory is not necessarily an oversimplification. Rather, I wish to suggest that the way in which both

theoretical styles contend with uncertainty lends each a rhetorical valence. On the one hand, expeditious theories can claim parsimony and efficiency, while they struggle to contend with accusations of oversimplification or lack of nuance.[47] On the other hand, fastidious theories can claim accuracy and representativeness, while they struggle to fight against accusations of overcomplexity and unwieldiness.

Importantly, these general rhetorical features of expeditious and fastidious theories are not necessarily true of the theories themselves. Some expeditious theories are sufficiently complex to capture a phenomenon accurately, while some fastidious theories are parsimonious enough to be easily applicable and useful. In other words, both expeditious and fastidious theories have means of rhetorically combatting their deficiencies and excesses. We can discover how by identifying which level of uncertainty and urgency of a given situation lend each style more rhetorical force.

5. Aporetic Rhetoric and Urgency

In the best-case scenario, if there is a low level of urgency and high level of uncertainty, a fastidious theory will possess more rhetorical leverage. Alternatively, if there is a high level of urgency and a low level of uncertainty, an expeditious theory will be highly defensible. Figure 4.5 below gives a sense of the different rhetorical strategies

that are workable in different conditions of urgency and uncertainty. When deployed in favorable rhetorical conditions, expeditious and fastidious theories gain resistance to aporetic critiques. In unfavorable conditions, the opposite occurs.

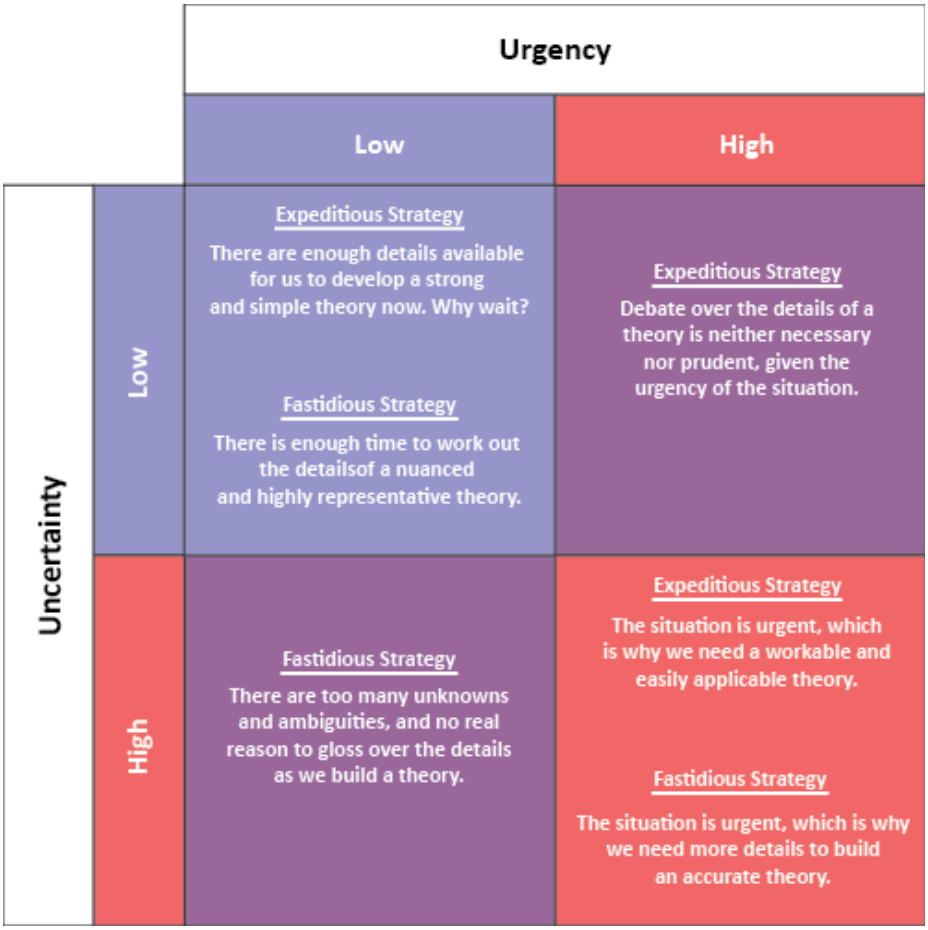


Figure 4.5 – An Uncertainty/Urgency Matrix

In the high uncertainty and high urgency and low uncertainty and low urgency scenarios, both expeditious and fastidious theories have about the same persuasive opportunities, albeit in substantially different ways. In the high-high scenario, a workable expeditious strategy is to double-down on *kairos* by playing up the importance of urgency and efficiency to defend a more streamlined theory. In the same scenario, a

fastidious strategy will instead emphasize the importance of "getting it right," because the stakes are high.

Kairos has two faces: time and stakes. Expeditious theories rely on the former for persuasive force, while fastidious theories rely on the latter. In the low-low scenario, a reasonable expeditious strategy is to emphasize the low levels of uncertainty surrounding the details of the theory, thus playing up how little we gain by elaborating on every granular idiosyncrasy of a theory. Alternatively, the fastidious theory-builder will double-down on the lack of urgency, thus reiterating the benefits of attending to the details. What does this mean for a general theory of addiction?

A general theory of addiction may not be a goal worth pursuing, at least not in the sense that addiction researchers should develop a theory that describes any kind of addiction of any substance in any person. It is unclear if such a theory is possible, given the wide range of variance between different addictions. Instead, a much more defensible (rhetorically and conceptually) route is to assess which style of theory is the best fit for a given case of addiction. For instance, researchers are well-versed in the addictive properties of opioids. There is also a massive, urgent, devastating crisis of opioid addiction currently sweeping the United States. This is a low uncertainty, high urgency scenario where an expeditious theory of addiction is a more suitable theoretical tool. Focusing on the specific substance and narrowing the research scope is thus a more defensible approach to opioid addiction. From a legislative perspective, emphasizing the overwhelming dangers of such an addictive substance by examining the

narrow neurobiological effects it has is a rhetorically feasible route for policy-makers wishing to create legislation.

In contrast, addiction to video games is not a well-understood or particularly medically urgent phenomenon. We are not entirely sure what mechanisms are at work in addiction to video games, nor is there evidence that this addiction is spiraling into a full-blown health crisis. Thus, we have a high uncertainty and low urgency situation, making a more robust, nuanced, and fastidious theory of addiction far more persuasive in this case. Focusing on broad sociological, psychological, and neurobiological factors that might contribute to video game addiction is a more defensible approach to studying the phenomenon than only focusing on one narrow dimension. Combining these dimensions, as West and Brown attempt to do with their synthetic theory of addiction, also has distinct rhetorical and conceptual upsides in the case of video game addiction.

6. An Aporetic Overview

Before concluding our analysis of aporetic rhetoric in healthcare, it is helpful to review our catalogue of uncertainty. The conclusion of this project will not leave these concepts behind, but it will alter the argumentative trajectory of this project, repositioning the aporetic dimensions of our case studies within a different framework. Thus, reviewing the different types and sites of uncertainty acts as a soft conclusion to my claim that healthcare contexts are permeating with aporetic rhetoric, while priming us for the final claim of this project. So far, we have examined how aporetic rhetoric

plays an important and impactful role in healthcare debates and environments. This argument began by examining the experiences of Agent Orange Veterans.

In Chapter 1, we examined how spatial uncertainty characterized the spraying of Agent Orange. There are few ways of recognizing where, how, and to what extent this dangerous chemical was sprayed on soldiers. This uncertainty caused a chain of subsequent uncertainties to emerge, when it became clear that neither the VA nor CDC performed research on Agent Orange exposure in a timely or accurate manner. By the time the Agent Orange Act was passed in the early 1990s, many Agent Orange veterans had already been severely affected by their exposure. VA regulations, the spatial uncertainty associated with spray patterns and troop locations, as well as the natural health effects of aging provide the U.S. government with a robust aporetic arsenal used to arbitrate remuneration for Agent Orange-related injuries. However, veterans organizations like the VFW offer a way for Agent Orange veterans to combat these aporetic conditions by providing a high-rapport space that encourages disclosure and provides a hub for communication and social support.

In Chapter 2, we explored how mental illness skeptics and denialists deploy different types of uncertainty in different ways. Here, I identified five kinds of uncertainty associated with the aporetic strategies of mental illness skeptics:

- **Prudential Uncertainty:** Uncertainty associated with how the value and timing of an act affect the perceived value of that act.
- **Conceptual Uncertainty:** Uncertainty associated with the stability, value proposition, or definition of a concept.

- **Scope Uncertainty:** Uncertainty associated with how well a specific case is representative of a general phenomenon.
- **Trade-Off Uncertainty:** Uncertainty associated with whether a decision's consequences are favorable, especially in the long-term.
- **Causal Uncertainty:** Uncertainty associated with cause and effect relationships.

In contrast to the uncertainty deployed by the United States Government in Chapter 1, which was used to limit the capacity of Veterans receive remuneration for injuries, the above of types of uncertainty are deployed to disrupt monolithic categories of mental illness. However, many of these types of uncertainty can also be deployed by denialists, who use a similar but more aggressive approach.

Unlike their skeptical cousins, mental illness denialists deploy emotionally-charged aporetic strategies that amplify or artificially inject uncertainty into a situation:

- **What-about-ism:** Amplifying uncertainty around a situation by using a misleading, extraneous, or disingenuous counterexample.
- **Utopian What-if-ism:** Amplifying uncertainty about a present situation by presenting a hypothetical future free of current problems (regardless of the feasibility of this future).
- **Conspiratorial What-if-ism:** Artificially creating uncertainty about a present situation by ascribing secret and nefarious motives to organization or individuals who have some amount of power, without sufficient evidence to support these claims.

Denialists have the benefit of intensity, and those we might otherwise characterize as skeptics become "pulled in" by the gravity of denialism. Despite their conceptual proximity, skepticism and denialism are very different aporetic styles of engagement. Both skeptics and denialists would argue they deploy aporetic strategies for the greater good, but skeptics' aporetic style is more probing and nuanced than dismissive, while denialists' approach is more caustic and impactful than properly supported by evidence. The former question how our concepts of mental illness are constructed, the latter question if our concepts of mental illness should exist at all. The former offer a nuanced take on mental illness, the latter overshadow this nuance with aporetic force.

Departing from an emphasis on how different types of uncertainty offer different aporetic opportunities, Chapter 3 examined how design influences our experience with uncertainty. Rather than focus on different types of uncertainty, this chapter relied on two psychological hypotheses: Bar-Anan et al.'s "uncertainty intensification hypothesis" and Slovic et al.'s "affect heuristic." The former describes how uncertainty during an emotional experience makes unpleasant experiences more unpleasant, and pleasant experiences more pleasant. The latter posits that in situations where someone possesses a positive emotional affect, it is much easier for them to overlook high risks and low benefits. The opposite is also true. If someone has a negative emotional affect, they are more likely to infer high risks and low benefits. Thus, positive emotional affects tend to push people to overlook the risks of uncertainty, while negative emotional affects tend to accentuate the risks of uncertainty.

Both the uncertainty intensification hypothesis and affect heuristic contribute to aporetic environments, which alter how a patient assesses risks and benefits. Walking through the various stages of a "typical" patient experience, I examined how poor design choices can lead to negative emotional affects and states of uncertainty, which in turn affect patient decision-making processes. The consequences of these affective influences are consequential for patient outcomes, and often result in a recursive effect, whereby negative emotional affects and uncertainty contribute to poor decision-making, which coalesce into further negative emotional affects and states of uncertainty.

Rounding out our case studies, this chapter has examined how theories become more or less vulnerable to aporetic strategies, and which kind of aporetic strategies work best in different conditions of uncertainty and urgency. Examining Piazza and Deroche-Gamonet's expeditious theory of the transition to addiction, we identified three kinds of uncertainty that open up their theory to aporetic dispute:

- **State Uncertainty:** Uncertainty pertaining to how well a given case "fits" into a model based on stages, steps, or states.
- **Movement Uncertainty:** Uncertainty relating to how a case moves within a model with multiple phases, points, or progressions.
- **Foci Uncertainty:** Uncertainty about which aspect of a phenomenon is the "central," "most important," or "starting point" of that phenomenon.

Expeditious theories tend to offer simplified representations of reality, which open them to aporetic critiques deploying the three types of uncertainty listed above, but fastidious

theories tend to fall into a different trap. Fastidious theories are not as susceptible to aporetic strategies because of their expansive and exhaustive approach to representing reality. However, because of their size and complexity, fastidious theories tend to be difficult to use and develop, and offer little in the way of generalizable conclusions about a phenomenon. Using West and Brown's theory of addiction as an example, we got a first-hand look at how complicated and convoluted a fastidious theory can be. By way of conclusion, I offered a matrix of uncertainty and urgency which offers insight into when fastidious and expeditious theories are most and least capable of contending with aporetic strategies. In cases with high urgency and low uncertainty, expeditious theories can be used more justifiably. In cases with low urgency and high uncertainty, the same can be said with fastidious theories.

The best strategy for theory-building in addiction and beyond is to understand both the upsides and downsides of expeditious and fastidious theories, and use these characteristics to model reality in flexible ways that neither glosses over details nor gets lost in theoretical labyrinths. Combining expeditious and fastidious styles of contending with the uncertainty that lies at the heart of all theories creates opportunities for new ways of engaging with reality. Instead of focusing on whether a theory "gets it right," or is "accurate," or "nuanced," we should instead focus on what a theory should do for us.

I have attempted to show how two styles of theory-building contend with uncertainty in this chapter, and instead of suggesting that one is better than the other, I wish to suggest that both are useful for different circumstances. This is an argument deeply entrenched in both a pragmatic and rhetorical perspective, both useful

approaches for tackling how uncertainty works, and not simply what it is. As we turn to our last chapter, I wish to push our argument one step further. It may seem that the study of healthcare is tangential to our treatment of aporetic rhetoric, but just the opposite is true. Understanding how aporetic rhetoric is used in healthcare settings is a vital bridge for understanding the functioning of uncertainty, because aporetic rhetoric is a pharmaceutical.

Conclusion
Aporia's Pharmakon

1. Flipping the Script

Each chapter of this project has examined a different site in the field of health or medicine, and explored the ways uncertainty is rhetorically deployed. In other words, this project has classified how different forms of uncertainty contribute to different aporetic strategies or environments. This chapter views the connection between health, medicine, and rhetoric from an entirely different perspective. Instead of focusing on how aporetic rhetoric is an important dimension of healthcare settings, this chapter will instead focus on how healthcare is implicated in the study and practice of rhetoric. The goal of this focus is to establish the necessary groundwork for a final claim: aporetic rhetoric is a pharmaceutical.

This claim is significant for both scholars of rhetoric and medical practitioners and theorists. For rhetoricians, it imbues the study and practice of rhetoric with renewed importance and gravity. Aporetic rhetoric is a potent drug; it can heal, harm, or intoxicate a field of debate or situation. For healthcare researchers and practitioners, this aporetic potency reinforces the importance of rhetoric in healthcare settings. If aporetic rhetoric is a potent drug, then medical professionals need to carefully consider how they deploy that drug, just like any other kind of therapeutic intervention. We have spent a great deal of time setting the groundwork for this latter claim, and now, we need to establish the footing for the former.

The connection between healthcare and rhetoric runs deep, both historically and conceptually. Tracing rhetoric and medicine's shared historical backdrop, we will briefly examine the life of Galen of Pergamum, the famous 2nd century physician and

rhetorician who embodies the practical connection between these two seemingly disparate disciplines. From Galen, we will step back in time and look at how Plato and Aristotle often speak of rhetoric and medicine in the same breath, often for very different ends. Rewinding to the pre-Socratics, we will then turn to Gorgias, whose *Encomium of Helen* provides a literal connection between medicine and rhetoric through the notion of "*pharmakon*," which can mean "cure," "poison," or other related significations, and is the origin of our modern term "pharmaceutical." Having developed the concept of pharmaceutical rhetorics, we will then revisit our case studies in this project, demonstrating how aporetic rhetoric is in fact a species of pharmaceutical rhetoric. Finally, we will turn to the implications of this argument. If aporetic rhetoric, or more broadly pharmaceutical rhetoric, is taken seriously by rhetoricians and healthcare theorists, then rhetoric should be treated as seriously as any other type of drug. The first character on this journey, Galen, certainly understood the impact of rhetoric as a practicing physician.

2. Rhetoric and Medicine's Shared Historical Foundations

Historically, philosophy, rhetoric, and medicine shared a relatively close relationship. Galen of Pergamum embodies this relationship. Galen was a 2nd century physician, rhetorician, and philosopher who had a major impact on the theory and practice of medicine. Born in modern day Turkey, Galen's hometown was a popular site for the Roman aristocracy. Galen's father, Nicon, would often bring his son to philosophy lectures around town, hoping that Galen would become a politician or

intellectual. However, fate intervened when Asclepius, the god of healing, visited Nicon in a dream and told him that Galen was destined to be a physician. Galen entered the profession of medicine at his father's behest, and even though he was only sixteen years old, his entrance was considered late compared to his peers.

Despite his delayed entrance into medicine, Galen played a significant role in early developments in human anatomy and physiology, and did so by tapping into the anatomical theories of ancient philosophers. Combining the ideas of Aristotle and Plato with an understanding of anatomy, his writings are a bizarre journey into early empirical and scientific conceptions of the body. With rhetorical skill, he conjured a number of fascinating anatomical conclusions based on his readings of Plato: "It is quite easy for blood to become flesh; for, if Nature thicken it to such an extent that it acquires a certain consistency and ceases to be fluid, it then becomes original newly-formed flesh; but in order that blood may turn into bone, much time is needed and much elaboration and transformation of the blood."[1] Galen believed his skills as an anatomist were bolstered by a reverence of Plato. This was not unusual, as Plato's *Timaeus* was an oft-used resource for Greek and Roman physicians interested in physiology and biology.

At the time, anatomical theories presented by both Plato and Aristotle were being put to the test by ancient physicians. Again, showing his preference for Plato, Galen disagreed with Aristotle's claim that the heart was the center of consciousness (Plato cited the brain as the most likely source). In one instance, Galen was even challenged by the Peripatetics and Stoics to prove that the brain was responsible for respiration and speech functions. A demonstration was scheduled and a public lecture

lasting several days was held. Using live animals, Galen showed how modulations in the larynx are directed by the brain, and respiration occurred through the contraction and dilation of the thorax muscle through the signals originating in the brain.

Galen's demonstration was a rhetorical spectacle. Galen, trained in the art of philosophy and rhetoric, gave a public demonstration to a Roman audience, effectively arguing that the physiological theories of Plato were superior to that of Aristotle. Shortly after the event, Galen summarily dismissed Aristotle's theory that the heart controlled the body: "Aristotle! What a thing to say! For my part, I am certainly ashamed even now to mention the subject."[2] Galen's dispute with Aristotle is only one such example of how ancient physicians tarried with philosophers and rhetoricians. Galen also initiated an argument against the ancient Sophists, arguing against their theory of material transformation in the body.

The role of transformation is a vital component of Galen's system, and ran contrary to the position of the Sophists. As Galen characterizes the Sophist's theory of transformation, they did not believe in the transition of food into bodily fluids, since such a change occurs in a reality they deny has any connection with the substance of Nature. In one instance, Galen even chides a physician for engaging in the Sophistic art of argumentation, scoffing at the practitioner's careful and eloquent rhetoric on why urine only flows in one direction. Galen insisted the physician should simply spend more time "admiring Nature's artistic skill."[3] Both Galen's and the Sophist's theories would not withstand medicine's march of scientific progress, but their relationship is another example of how medicine and rhetoric have a shared historical foundation and

connection. Sadly, the increased isolation between academic disciplines have made the physician/rhetorician largely extinct, but Galen demonstrates that the connection between rhetoric and medicine we have made in each chapter of this project is neither new nor foreign.

In each chapter of this project, we have explored situations where rhetoric and medicine are deeply entwined in ways both similar and different from the historical physician/rhetorician. We saw in Chapter 1 how the VA and CDC struggled to research the effects of Agent Orange, and how this complicated Agent Orange veteran's rhetorical situation, a complication that likely mirrored medical mysteries in ancient healing arts. In Chapter 2, we examined how mental illness skeptics and denialists deploy rhetoric to undermine medical theories and practices, much like Galen did to Aristotle's medical theories. In Chapter 3, we looked at how environments, emotional affects, and uncertainty have rhetorical effects, a connection Galen likely understood when he performed in front of a massive audience, using the environment and the spectacle of live experimentation to undermine Aristotle. Finally, in Chapter 4, we learned about competing styles of addiction theory, which harken back to medical disputes between ancient philosophers and Sophists. Healthcare and medicine have been, and continue to be, rhetorical enterprises.

On the flipside of this historical connection, ancient rhetoricians and philosophers deployed a wide variety of medical metaphors, examples, and analogies in their work. Plato speaks of rhetoric and medicine on equal terms in the *Gorgias*, when he makes the disparaging analogy that what pastry baking is to medicine, rhetoric is to

justice.[4] In the *Phaedrus*, Plato shows a different perspective on rhetoric. Here, Socrates explains to Phaedrus that the method of medicine is similar to the method in rhetoric, because in "both cases we need to determine the nature of…the body in medicine" or "the soul in rhetoric," otherwise we will lack "the basis of an art, a body with the medicines and diet that will make it healthy and strong, or a soul with reasons and customary rules for conduct that will impart to it the convictions and virtues we want."[5] Plato casts rhetoric as an insufficient medicine in this passage, because unlike philosophy (as he claims), rhetoric does not seek to "determine the nature of the soul" of the audience. Aristotle is more generous with his analogies between rhetoric and medicine.

In Aristotle's *Rhetoric*, he deploys medicine as an analogy at an early stage in the text. In Book I, he describes rhetoric as an art that "discover[s] the persuasive facts in each case," like all other arts.[6] He continues: "For example it is not the function of medicine simply to make a man quite healthy, but to put him as far as may be on the road to health."[7] In the *Topics*, Aristotle again positions rhetoric and medicine as analogous: "…it is not every method that the rhetorician will employ to persuade, or the doctor to heal: still, if he omits none of the available means, we shall say that his grasp of the science is adequate."[8] In both cases, Aristotle is responding to Plato's contention that rhetoric is inadequate unless the rhetor has a complete knowledge of the audiences' soul. Aristotle contends that like medicine, a rhetorician may have an incomplete knowledge of her audience and yet still perform adequately, just as a physician may not fully understand a disease, but can still act to alleviate symptoms. Our

overview of Galen's interest in Plato and Aristotle shows that both ancient thinkers were deeply interested in healthcare and medicine, sometimes directly like in Plato's *Timaeus*, and sometimes indirectly like in the instances cited above.

The most important historical connection between healthcare and rhetoric comes from Gorgias' *Encomium of Helen*. Here, Gorgias deploys the term "*pharmakon*" to describe speech or logos. According to Michael Rinella, the term "pharmakon" (plural pharmaka) is commonly translated as either "remedy" or "poison," but it also is "a signifier for many other things that do not easily fit that binary."[9] Pharmakon is the origin of the modern term, "pharmaceutical," and ties together language and medicine in a way that Galen, Plato, and Aristotle do not. Below is the passage from Gorgias' *Encomium*, where Gorgias introduces the connection between logos and pharmakon:

> The power of speech has the same relation to the disposition of the soul as the application of drugs on the disposition of the body. For just as different drugs draw different juices out of the body, and some end disease but others end life, so also some speeches produce pain, some enjoyment, some fear; some instill courage in hearers; some drug and beguile the soul with a kind of evil persuasion.[10]

Unlike Aristotle or Plato, Gorgias' connection between pharmakon and rhetoric is not simply analogical or metaphorical, it is literal. For Gorgias, rhetoric (or logos) is not like a medicine or drug, it is a drug. Deepening our understanding of the connection between medicine and rhetoric, we will examine the connection between pharmakon (I will use the term "pharmaceutical" interchangeably) and rhetoric.

3. The Logos-Pharmakon Connection

In the beginning of this passage from the *Encomium*, Gorgias sets up the relationship between speech (logos) and pharmakon as metaphorical, but near the end, we find a semantic slippage between terms. As Debra Hawhee notes, this "slippage combines Gorgias' use of 'drug' (*pharmakeusan*) as the passage's final verb with speech as the implied subject – 'some drug and beguile the soul' – to suggest the metaphor's dissipation: *logos* becomes a type of *pharmakon*."[11] Hawhee uses the pharmakon-logos pairing to elaborate on Gorgias' Empedoclean theory of effluences, which posits that elements literally enter through our senses, but other scholars have interpreted this passage for alternative argumentative purposes. [12]

For instance, Barbara Cassin suggests that Gorgias' conception of logos as pharmakon is strikingly like J.L. Austin's concept of perlocutionary language, or language that does something in the saying rather than merely signifying. This standpoint aligns with the pharmaceutical capacity that Gorgias outlines in the passage above. The analogy of how drugs "draw different juices out of the body" just like speeches produce pain or enjoyment frames logos as a force that produces physiological (instead of purely cognitive) changes in the audience. For Cassin, pharmaceutical logos is characteristically perlocutionary. Cassin's theory casts our examination of aporetic rhetoric in a new light.

If aporetic rhetoric is a pharmaceutical, and pharmaceutical rhetoric is perlocutionary, then many of the aporetic strategies we have uncovered over the course our inquiry are more potent than they first seem. For example, the aporetic strategies of Scientologists (and by extension the CCHR) are not merely creating significations

between psychiatry and danger, they are constructing deeply moving shifts in our perceptions of psychiatry itself. We are swayed to do more than associate psychiatry with danger after viewing the CCHR landing page video. Rather, this combination of terrifying images and texts persuades us to feel psychiatry deeply embodies danger. Cassin's connection between pharmakon and perlocutionary language thus suggests that aporetic rhetoric is more than associational.

An alternative and influential reading of this important passage comes from classicist Charles Segal's 1962 article "Gorgias and the Psychology of Logos." Segal suggests that Gorgias describes how a rhetor is interested in the techne of a "linguistic *pharmakon*," which draws on a "great reservoir" of emotional forces to persuade.[13] According to Segal's reading of Gorgias, rhetoric is a powerful and near-mystical emotional techne (art or craft), and pharmakon describes a class of linguistic tools that tap into this expressive force. Robert Connors's take on Gorgias acknowledges Segal's masterful reading of the *Encomium,* but also notes how he "reaches no conclusions about whether Gorgias' claims for the power of logos were *true*."[14]

Connors's perspective is that Gorgias' speaking abilities were so superior at the time, his words took on an almost intoxicating ability, suggesting that Gorgias' description of logos is historically literal.[15] Citing the theories of Eric Havelock, Connors suggests what Gorgias "is describing here is not the critical, analytical response of a literate audience, but… [a response] which involved the whole unconscious mind and probably the central nervous system, a total loss of objectivity as the audience gives itself up to identification with the speaker and his goals."[16] This power is closely related

to the "effect of poetry and poetically based rhetorical techne on an oral culture… [which] must indeed have seemed magical to the majority of orally conditioned people."[17]In sum, Connors argues that Gorgias records a peculiar cultural confluence of poetics and rhetoric, which produced discourse with literal pharmaceutical effects.

Jeffrey Walker makes a similar suggestion when he uses Gorgias' famous pharmakon passage as a lens for viewing Aristotle's understanding of emotional catharsis, providing a rather dynamic definition of Gorgias' pharmakon:

> [A] particular *techne* – such as the application of a particular rhythm or melodic mode – that causes the soul of the hearer to be 'put into a state'… or to have its 'disposition' (*taxis*) rearranged according to the 'disposition' of the pharmakon or *techne* applied, and this 'state' is expressed behaviorally and physically as a particular type of *pathos*…[18]

Walker's conception closely resembles Cassin's and Segal's take on this important passage. Pharmakon is described as a techne, but Walker takes one step further and describes its application as rhythmic or melodic. Additionally, Walker makes note of how this techne is directed towards *taxis* (one's disposition, or the movement of an organism in response to a stimulus), and that this shift in *taxis* is expressed as a kind of *pathos*. Much like Connor, Walker infers Gorgias' conception of the logos-pharmakon circuit as powerful and emotional. We can extend Walker's, Segal's, and Connors's formulation of pharmakon to better understand aporetic environments.

Segal's and Connors's connection between pharmakon and emotion is evident in our examination of patient experience design. Aporetic environments, or environments

that lend themselves to distortions in our perceptions of uncertainty, function primarily through emotional affects. Despite my knowledge and experience with my chronic skin condition, I was nonetheless disarmed by the experience of visiting the dermatologist. Impatient, upset, and frustrated, I not only had trouble locating the physician's office, I was deeply entrenched in an environment that exacerbated negative emotional affects. In hindsight, my reluctance to reschedule an appointment, my skepticism towards the physician, and my overall displeasure with the experience overruled my desire to find a solution for my medical problem. If pharmaceutical rhetorics tap into emotional affects, and aporetic environments are pharmaceutical rhetorics, then my negative emotional experience pharmaceutically "intoxicated" me, amplifying my perceptions of risk and mitigating my perceptions of benefits, contributing to my failure to seek further treatment. Thus, aporetic environments take on pharmaceutical qualities similar to how Cassin, Segal, and Walker describe Gorgias' understanding of pharmakon.

The work of Hawhee, Segal, Cassin, and Walker comprise an increasingly rich site for rhetorical scholarship more broadly, however, pharmakon took on its contemporary importance because of Jacques Derrida's reading of Plato's *Phaedrus* in his 1968 piece, "Plato's Pharmacy," which remains an influential and oft-cited analysis. In this piece, Derrida offers numerous definitional iterations of pharmakon, like "the *pharmakon* makes one stray from one's general, natural, habitual paths and laws,"[19] or "the *pharmakon* is that which, always springing up from without, acting like the outside itself, will never have any definable virtue of its own."[20] Derrida's characteristic

attention to minutiae helps build a platform for later analysis. In particular, Derrida sets his sights on Plato's myth of Theuth and Thamus.

Plato's famous myth of Theuth and Thamus in the *Phaedrus* ends with Theuth offering writing to make the Egyptians wiser and improve their memories. He calls this invention a pharmakon; writing (*graphein*) takes on the character of pharmakon. As Derrida explains

> …the malleable unity of this concept, or rather its rules and the strange logic that links it with its signifier, has been dispersed, masked, obliterated, and rendered almost unreadable not only by the imprudence or empiricism of the translators, but first and foremost by the redoubtable, irreducible difficulty of translation.[21]

Pharmakon can signify a poison, a cure, a cosmetic, and a psychotropic substance, amongst other possible significations. Derrida is pointing to the untranslatability of the pharmakon, whose signification is always on the move. Translations of pharmakon in this passage as "cure" are not strictly accurate, nor is it accurate to translate the term as "poison" (we could just as easily say that both are equally accurate as well). Instead, it is often the translator's context that bubbles to the surface when translating pharmakon.

As noted above, Derrida is entirely justified in picking up the fundamental ambivalence located at the nexus of the pharmakon and logos. In fact, a genealogy of the term pharmakon owes much to Derrida's reading of Plato's *Phaedrus* in "Plato's Pharmacy," which brought the term out of relative obscurity. However, as Michael Rinella notes, Derrida's argument tends to "reproduce, not suspend, the very charm of Platonic binary metaphysics the deconstructionist approach seeks to evade."[22] The

practical consequence of Derrida's reading is that pharmakon tends to be framed in one of two ways: as either healing or poisonous, either good or bad, or as totally free-floating, acting as a signifier for nearly anything. This (mis)reading of Derrida has limited our ability to fully examine the full scope of meanings contained within pharmakon.

Michael Rinella's recent exhaustive analysis of Plato's use of the term pharmakon upends and synthesizes much of the contemporary scholarship on the subject, and in doing so, helps resuscitate Derrida's reading of the term. As Rinella argues, while Derrida does briefly examine pharmakon as a pigment, cosmetic, and perfume, he tends to subsume each of these alternative senses under the category of poison, as he does when he notes how the enchanting power of writing and painting rest in their cosmetic concealing of death, and in practice, this claim restricts the meaning of pharmakon as a cosmetic only for the purposes of funerary traditions, when it was also used for other purposes.[23] Alternatively, Derrida almost totally glosses over pharmakon as a ward or talisman, a sense of the term that references crystals worn about the neck in ancient Greece ("amethyst" comes from the Greek *amethystos*, meaning "not drunk." This semi-precious stone was frequently worn around the neck to ward off intoxication). Thus, pharmakon has many uses and values, depending on the context of its use, much like aporetic rhetoric.

Aporetic rhetoric does not have a stable value, which further supports our connection between aporetic rhetoric and pharmakon. In each chapter, aporetic rhetoric has served a variety of purposes and ends. Aporetic rhetoric is deployed against Agent Orange veterans who seek a corrective for a wrongdoing. Aporetic rhetoric is also

deployed by mental illness skeptics, who wish to ensure those who manage mental illnesses are understood as more than the sum of their neural activity. Aporetic rhetoric is deployed by both expeditions and fastidious theory-builders, whose unique approaches to uncertainty are neither universally good nor bad, but more or less appropriate depending on circumstances. As a pharmaceutical, aporetic rhetoric can be a medicine, a poison, or something outside of this binary altogether. The value of aporetic rhetoric, much like any pharmaceutical, derives from how it used.

Instead of subsuming pharmakon under the banner of "poison" or "cure," Rinella wisely opts to circumscribe the meaning of pharmakon as having with capacity for *ekstasis*, or displacement. Pharmaceutical rhetoric – much like drugs, medicines, and intoxicants – has a capacity for ekstasis, the counterpoint to our contemporary conceptualization of *stasis*. From Plato until roughly Hobbes, stasis was a term that represented a civic and political world marked by strife. However, modernity reconstructed the concept of stasis, where it acquired the positive valence that it has today.[24] As modern rhetoricians understand the term, to produce stasis means to produce a common ground between two political stances. Our four-tiered system of stasis, which appears in numerous rhetoric and composition textbooks (and was originally developed by Hermogenes), demonstrates how this occurs: for example, we can resolve an argumentative impasse by referring to conjectural ("Does X exist?") or definitional ("How do we define X?") stases, using them as a method for finding common ground.

The connection between rhetoric and the pharmakon places our positive evaluation and contemporary use of stasis in question. While Plato does not specifically utilize the language of stasis, his concerns about the *homonoia* (literally "same mind," mutual agreement, or harmony) of civic life indicate that stasis is of the utmost concern to his greater political project. The unraveling and unbinding of the harmony of an organism (*lusis*) is a term that Plato and others projected into the political realm, essentially creating a circuit between the status of mental states and the status of political states. That is, the question of rhetoric's place in civic and political life has since Plato been intimately connected to the *stasiazonta* (inner stasis) of the individual mind. As far as the pharmakon is concerned, throughout the ancient texts pharmaka stand as prime examples of ekstasis, or of an unbinding of the harmony of the mind. In fact, we can plausibly suggest that the conceptual thread that runs through each sense of pharmakon (poison, cure, cosmetic, charm, etc.) is nothing other than ekstasis.

Following this logic, pharmaceutical rhetoric produces conditions of ekstasis, but the connection between rhetoric and pharmakon does not end there. The pharmaka also modify the efficacy, production, and reception of rhetoric itself. That is, rhetoric and the pharmakon are two sides to the same coin: rhetoric's effects produce external ekstasis, while the pharmakon's effects produce internal ekstasis. Following Gorgias' claim that logos is a pharmakon, rhetoric thus functions to produce external and internal modes of ekstasis. Laws that prohibit congregations of protesters have as much to do with managing modes of external stasis (by limiting discourse), as they do

managing modes of internal stasis (by preventing dense spaces of affective transference).[25]

Attempts to "reign in" rhetoric run parallel to attempts to manage and control the pharmaceuticals that we come in contact with, because the two concepts are conceptually and practically similar. The link between rhetoric and the pharmakon is ekstatic management and control. Since the connection between internal and external modes of stasis is entwined, the ever-increasing prescription of psychoactive drugs is as much a question of internal harmony as it is civic harmony. In turn, attempts to reign in, manage, or constrain certain types of rhetoric are as much a question of managing potent drugs as they are a question of internal and civic harmony. The connection between rhetoric and pharmakon, between logos and ekstasis, has implications for our understanding of aporia.

Aporetic rhetoric is a type of pharmaka that deploys uncertainty to produce states of ekstasis. The near-ubiquitous attempts to reign in, control, and manage uncertainty are an extension of society's need to manage and control ekstasis. Generating uncertainty, through speech, or image, or environment, produces neither argumentative harmony or agreement. Instead, uncertainty has a curious way of "intoxicating" debate, stripping argumentative positions of their signification and redirecting them to the conditions for knowing. Responding to a claim with the suggestion that "we don't have all the facts, so we can't say either way" can only lead in one direction: dispute over whether we have all the facts. This is a rhetorical trap. A rhetor need only reassert that more information is needed, that the situation is still

uncertain, or that we need to understand what is happening in greater depth as a rebuttal to claims of epistemic adequacy.

As I argued in Chapter 4, there are limits and contours to this strategy correlated with the urgency and level of uncertainty in a given debate, however, the urgency and level of uncertainty in a situation are capable of being rhetorically manipulated. When in doubt, a motivated aporetic rhetorician can always fall back on uncertainty: "we need more facts before we call the situation urgent, since we don't want people to panic," or, "we need more time to determine what we know and don't know about this situation." An aporetic system can be disingenuously deployed to sustain inaction, or continue a harmful policy or action indefinitely. It can also be used to resist unethical action, or produce ethical inaction. Framing the justness of laws as uncertain, like many advocates for justice do, can produce moments of ekstatic realization and reflection.

Ekstasis literally means moving "away" from where one "stands," and signals a fundamental breakdown of *homonoia*, or order, unity, or "oneness of mind." Aporetic rhetoric has the capacity to produce an alteration in our cognition, providing the conditions for us to "change our minds," or "standing out" from our personal and particular mode of understanding the world. Aporetic rhetoric has the capacity to disrupt our mutual agreement on a situation, much like the mental illness skeptics we examined in Chapter 2. As both a harmful rhetorical trap and a liberating force from homogeneity, aporetic rhetoric is a potent pharmaceutical, or a potent type of pharmaceutical rhetoric. In light of this claim, we will now reexamine the central points

of this project, illustrating how the aporetic strategies in healthcare settings are pharmaceutical.

4. Aporia's Pharmakon

The aporetic strategies of the CDC and VA are pharmaceutical, because they displace conflict between Agent Orange veterans and the U.S. government. Agent Orange was liberally and haphazardly deployed to reign in dense jungle foliage, without knowledge of the deleterious effects it would have on American soldiers. This uncertainty creates conditions ripe for aporetic rhetoric. The status of Agent Orange veterans' bodies, their health, their very knowledge and experiences become displaced rather than rebutted or reinforced. They must prove their illnesses are more likely than not to have been caused by Agent Orange, or to prove that their exposure was both real and prolonged enough to "count." It is not surprising that Agent Orange veterans take little issue with the United States government or military, since spatial uncertainty displaces their illnesses. They do not seek justice against the United States government. They seek it against uncertainty itself. They doggedly pursue the reality of their exposure, an experience altogether difficult to substantiate. Drug-like, spatial uncertainty acts to distort the field of debate, or to cloud the injustice of Agent Orange use in Vietnam.

Mental illness denialists' aporetic strategies, like what-if-ism and what-about-ism, function as a potent pharmaceutical, displacing the subtler aporetic strategies of mental illness skeptics. Skepticism positions itself as medicinal, while denialism acts as

an intoxicant. In truth, skepticism and denialism are cut from the same cloth: both deploy pharmaceutical rhetoric, and both deploy uncertainty to further their rhetorical goals. The difference lies in their pharmaceutical impact and effect. Skeptics tend to attack the conceptual dimensions of mental illness with surgical precision, but denialists waylay the foundation of mental illness haphazardly, deploying almost any rhetorical means necessary to achieve their goals. Denialist's haphazard and potent aporetic strategy displaces potentially helpful criticisms of mental illness institutions and practices, rather than disputing them or reinforcing them in good faith. Thus, the pharmacological outline of mental illness denialism and skepticism is one of competing drugs. In this situation, one drug overpowers another, the effects of the latter becoming conflated with the potency of the former. The aporetic rhetoric of mental illness skeptics and denialists is pharmaceutical.

Patient experience design is pharmaceutical, because much like other intoxicants, it produces emotional affects and states of mind that distort decision-making processes. Walker's reading of pharmakon, which emphasizes the dimension of pharmaceutical language that ties to pathos, when viewed next to Slovic's affect heuristic, helps us locate how the design of appointment systems, waiting rooms, examination spaces, and billing processes are drug-like. The confusion of poor wayfinding acts as a pharmaceutical, because it distorts and displaces our assessment of risk and reward. The pleasant atmosphere of a well-designed waiting room acts as a pharmaceutical, because it encourages patients to self-disclose to physicians. A poor overall patient experience acts as a pharmaceutical, because its high costs seem

unjustified, regardless of treatment outcomes. Design is a pharmaceutical with aporetic consequences for physicians and healthcare providers who wish to guide patients to positive outcomes.

Addiction theories are pharmaceutical, because depending on their composition, they will either successfully work to help us understand what addiction is, or fall short of explaining this important health problem. We can think of expeditious and fastidious addiction theories as different kinds of pharmaceuticals. The former is like a powerful antibiotic, deployed in situations where the diagnosis is clear and urgent treatment is needed. The latter is like a low-dose blood pressure medication, deployed in situations where there is no immediate threat to life and diagnosis is beset by complex factors. In turn, using an expeditious or fastidious theory in unsuitable situations lends them aporetic weaknesses. For expeditious theories, claims of oversimplification and theoretical shallowness will gain a foothold when used to explain non-urgent addictions, where important causal mechanisms are still unclear. For fastidious theories, claims of conceptual bulkiness and overcomplication will be viable when used to describe urgent addictions, where the details of how addiction functions are clear and the need is great. Fastidious and expeditious theories are pharmaceutical, and each provide aporetic defenses and openings, depending on their administration.

Aporetic rhetoric, the rhetorical use of uncertainty, is pharmaceutical. Deploying uncertainty in situations does not settle a dispute, reinforce a point, or decide the outcome of an argument. Rather, it displaces argument. In some cases, the ekstatic function of aporetic rhetoric is useful, as it allows us to constructively assess our

assumptions and beliefs. In other cases, it is harmful, as it prevents us from defending what is right or seeking justice for wrongdoing. In addition, some factors (like design) can accelerate or stymy the pharmaceutical effects of aporetic rhetoric. In other situations, how we account for the pharmaceutical effects of aporetic rhetoric will change how our claims can be disputed or supported. Aporetic rhetoric is drug-like, intoxicating, healing, and poisonous. Aporetic rhetoric is pharmaceutical and healthcare settings are permeated with aporetic rhetoric. This claim has important implications for both rhetoricians and healthcare researchers and practitioners.

If we accept the notion that aporetic rhetoric is a pharmaceutical – a pharmakon, or drug – then aporetic rhetoric must be taken seriously by rhetoricians and healthcare researchers and practitioners, just as any other intoxicating substance. For rhetoricians, this means that aporetic rhetoric will need to be further investigated, its use and deployment examined and probed. In addition, aporetic rhetoric is not the only kind of pharmaceutical rhetoric. Identifying other forms of rhetoric that entrance, that produce ekstasis, that beguile and disrupt argumentation, is critical to understanding how motivated activists can resist injustice, and how powerful organizations and actors perpetuate injustice. This project has only scratched the surface of pharmaceutical rhetoric.

For healthcare researchers and practitioners, the potency of aporetic rhetoric is also an important reminder that healing and illness is as affected by pharmaceutical drugs as it is by pharmaceutical rhetoric. How healthcare scholars and practitioners frame, manage, and communicate uncertainty is as important as the drugs they are

administering. Efforts in health communication and the rhetoric of health and medicine have grasped this importance, but medical training and scholarship has yet to fully understand the implications of rhetoric in the practice of their art. In addition, the design of healthcare environments also needs to be addressed and considered in-depth by healthcare practitioners and designers. There is already recognition that verbal, visual, and environmental rhetoric is important to healthcare, but the synthesis and importance of these dimensions has yet to fully grip the interest or education of healthcare practitioners.

By positioning aporetic rhetoric as a literal pharmaceutical, my hope is that the diligent researchers and passionate scholars who already recognize the importance of rhetoric in healthcare settings can gain a powerful and persuasive foothold for the importance of their work. The implications and impact of this project are, like all projects, uncertain. My hope is that readers have learned something about uncertainty along the way, not just as a discrete mental state, but as potent rhetorical tool.

Notes

Introduction

[1] Xenophon, *The Anabasis of Xenophon*, trans. Thomas Clark (New York: David McKay Company, 1887), 364.

[2] Plato, *Laws*, trans Trevor J. Saunders, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 1367.

[3] Herodotus, *The Histories of Herodotus*, trans. Henry Cary (New York: D. Appleton and Company, 1899), 238.

[4] Plato, *Protagoras*, trans. Stanly Lombardo and Karen Bell, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 757.

[5] Plato, *Crito*, trans. G.M.A. Grube, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 48.

[6] Plato, *Cratylus*, trans. C.D.C. Reeve, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 155.

[7] Plato, *Theaetetus*, trans. M.J. Levett, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 234.

[8] Plato, *Phaedrus*, trans. Alexander Nehamas and Paul Woodruff, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 505.

[9] Plato, *Gorgias*, trans. Donald D. Zeyl, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 838.

[10] Donald Rumsfeld, "DoD New Briefing – Secretary Rumsfled and Gen. Myers," (U.S. Department of Defense, 2002).

[11] Frank H. Knight, *Risk, Uncertainty and Profit* (New York: Houghton Mifflin Company, 1921), 199.

[12] Ibid., 201.

[13] Ibid., 204 (emphasis his)

[14] Ibid., 205.

[15] Ibid., 210.

[16] Ibid., 209.

[17] Amos Tversky and Daniel Kahneman, "Judment Under Uncertainty: Heuristics and Biases," *Oregon Research Institute Research Bulletin* 13, no. 1 (1973): 7.

[18] Ibid.

[19] Amos Tversky and Daniel Kahneman, "The Framing of Decisions and the Psychology of Choice," *Science: New Series* 211, no. 4481 (1981): 453.

[20] Ibid.

[21] Ibid.

[22] Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision Under Risk," *Econometrica* 47, no. 2 (1979): 266.

[23] Michael Calnan, "Clinical uncertainty: is it a problem in the doctor-patient relationship?" *Sociology of Health and Illness* 6, no. 1 (1984): 76.

[24] Richard Hayward, "Balancing certainty and uncertainty in clinical medicine," *Developmental Medicine & Child Neurology* 48 (2006): 74-77.

[25] Ibid., 75.

[26] Ibid.

[27] Amit K. Ghosh, "On the challenges of using evidence-based information: The role of clinical uncertainty," *Journal of Laboratory and Clinical Medicine* 144, no. 8 (2004): 60.

[28] Ibid., 64.

[29] Ibid., 61.

[30] Ibid.

[31] Stefan Timmermans and Alison Angell, "Evidence-Based Medicine, Clinical Uncertainty, and Learning to Doctor," *Journal of Health and Social Behavior* 42, no. 4 (2001): 342-359.

[32] Ibid., 349.

[33] Ibid.

[34] Ana I. Balsa, Naomi Seiler, Thomas G. McGuire, and M. Gregg Bloche, "Clinical Uncertainty and Healthcare Disparities," *American Journal of Law & Medicine* 29, no. 2/3 (2003): 203-219.

[35] Ibid.

[36] Ibid., 204.

[37] It should be noted that priming effects have recently come under scrutiny for their lack of replicability, in no small part because of an open letter Kahneman published backing away from many priming effect studies. As Joseph Cesario rightly suggests, a

failure to replicate priming effects does not necessarily mean that priming effects are not real. It simply means that priming may have a high level of potential variability, and researchers have not yet been able to overcome type 1 error in these experiments. One serious problem with priming studies is their ecological validity, or the extent to which they attempt to replicate real-world conditions. In other words, clinicians do not encounter patients of a different race or ethnicity in the context of a lab experiment, they are not "primed" with words flashing on a screen, and their treatment of their patients is not necessarily influenced by their perception of patient hostility. In other words, racism and bias are complicated phenomenon, and while priming effects studies are indeed important contributions to understanding these phenomenon, so far they have presented little *predictive* power, and of their *descriptive* power, they are limited to very narrow situations. In other words, it is difficult to generalize the results of priming effects in the lab to realistic situations, because lab conditions are so unrealistic.

[38] José M. Abreu, "Conscious and nonconscious African American stereotypes: Impact on first impression and diagnostic ratings by therapists," *Journal of Consulting and Clinical Psychology* 67, no. 3 (1999): 387.

[39] Saif S. Rathore, Leslie A. Lenert, Kevin P. Weinfurt, Aldo Tinoco, Christopher K. Taleghani, William Harless, and Kevin A. Schulman, "The effects of patient sex and race on medical students' ratings of quality of life," *The American Journal of Medicine* 108, no. 7 (2000): 561-566.

[40] Baruch Spinoza, *Ethics: Treatise on the Emendation of the Intellect and Selected Letters*, trans. Samuel Shirley (Indianapolis: Hackett Publishing, 1992), 105.

[41] Gorgias, "Encomium of Helen," translated by Debra Hawhee in *Bodily Arts*, 79.

Chapter 1

[1] Richard Stone, "Agent Orange's Bitter Harvest," *Science* 315, no. 5809 (2007): 176-179.

[2] Anh D. Ngo, Richard Taylor, Christine L. Roberts, and Tuan V. Nguyen, "Association between Agent Orange and birth defects: systematic review and meta-analysis," *International Journal of Epidemiology* 35, no. 5 (2006): 1220-1230.

[3] Susan G. Fisher and Richard I. Fisher, "The epidemiology of non-Hodgkin's lymphoma," *Oncogene* 23, no. 38 (2004): 6524-6534.

[4] Eva Kramárová, Manolis Kogevinas, Cung Thuyet Anh, Hoang Dinh Cau, Le Cao Dai, Steven D. Stellman, and D. Maxwell Parkin, "Exposure to Agent Orange and Occurrence of Soft-Tissue Sarcomas or Non-Hodgkin Lymphomas: An Ongoing Study in Vietnam," *Environmental Health Perspectives* 106, no. 2 (1998): 671-678.

[5] Joseph E. Buron, Joel E. Michalek, and Alton J. Rahe, "Serum Dioxin, Chloracne, and Acne in Veterans of Operation Ranch Hand," *Archives of Environmental Health* 53, no. 3 (1998): 199-204.

[6] Ibid.

[7] Institute of Medicine (US) Committee to Review the Evidence Regarding the Link Between Exposure to Agent Orange and Diabetes, *Veterans and Agent Orange: Herbicide/Dioxin Exposure and Type 2 Diabetes* (Washington DC: National Academies Press, 2000).

[8] Karim Chamie, Ralph W. deVere White, Dennis Lee, Joon-Ha Ok, and Lars M. Elison, "Agent Orange Exposure, Vietnam War Veterans, and the Risk of Prostate Cancer," *Cancer* 113, no. 9 (2008): 2464-2460.

[9] Richard Stone, "Agent Orange's Bitter Harvest," *Science* 315, no. 5809 (2007): 176-179.

[10] Ibid.

[11] Edwin A. Martini, "Even We Can't Prevent Forests: The Chemical War in Vietnam and the Illusion of Control," *War & Society* 31, no. 3 (2012): 266.

[12] Mark A. Brown, "Science Versus Policy in Establishing Equitable Agent Orange Disability Compensation Policy," *Military Medicine* 176, no. 7 (2011): 35-40.

[13] Ibid.

[14] Ibid.

[15] Ibid.

[16] Ibid., 37.

[17] Jeanne Mager Stellman, Steven D. Stellman, Tracy Weber, Carrie Tomasallo, Andrew B. Stellman, and Richard Christian Jr., "A Geographic Information System for Characterizing Exposure to Agent Orange and Other Herbicides in Vietnam," *Environmental Health Perspectives* 111, no. 3 (2003): 321-328.

[18] Victor Kaptelinin and Bonnie A. Nardi, *Acting With Technology: Activity Theory and Interaction Design* (Cambridge: The MIT Press, 2006), 31.

[19] Ibid.

[20] Yrjö Engström, "Activity theory and individual and social transformation," in *Perspectives on Activity Theory*, eds. Yrjö Engström, Reijo Miettinen, and Raija-Leena Punamäki (Cambridge: Cambridge University Press, 1999), 19-38.

[21] Ibid., 31.

[22] There are fringe communities that believe Agent Orange has no detrimental effects on humans. Their reasoning is that Agent Orange is an herbicide, and since herbicides are supposed to only affect plants, they couldn't be harmful to humans. They also make claims about spray patterns, suggesting that there was no possible way Agent Orange could have reached servicemembers because of the density of the jungle canopy. The former notion is absurd, since what things ought to be is not always what they are. The latter notion is blissfully unaware of fluid mechanics, wherein liquid is affected by gravitational forces. Both notions fail to support their claim with convincing evidence.

[23] Sara A. Jahnke, Christopher K. Haddock, Walker S. Carlos Poston, and Nattinee Jitarin, "Priorities of Legislatively Active Veteran Services Organizations: A Content Analysis and Review for Health Promotion Initiatives," *Military Medicine* 179, no. 11 (2014): 1331-1337.

[24] Ibid., 1332.

[25] Ibid.

[26] "VFW Fact Sheet," *Veterans of Foreign Wars*, last modified December 2017, https://vfw-cdn.azureedge.net/-/media/VFWSite/Files/News-and-Publications/Press-Room/VFWFactSheet.pdf?la=en.

[27] Jonathan P. Vallano and Nadja Schreiber Compo, "A Comfortable Witness is a Good Witness: Rapport-Building and Susceptibility to Misinformation in an Investigative Mock-Crime Interview," *Applied Cognitive Psychology* 25, no. 6 (2011): 966.

[28] U.S. Army, "FM 2-22.3 (FM 34-52) Human Intelligence Collector Operations," *Department of Army* (2006).

[29] John Reid, "The Reid Technique," *John E. Reid & Associates, Inc,* https://www.reid.com/educational_info/criticthechnique.html.

[30] Judith A. Hall, Debra L. Roter, Danielle C. Blanch, and Richard M. Frankel, "Observer-rated rapport in interaction between medical students and standardized patients," *Patient Education and Counseling* 76, no. 3 (2009): 326.

[31] Jonathan Tandos and Arthur A. Stukas, "Identity Negotiation in Psychotherapy: The Influence of Diagnostic and Rapport-building Strategies on the Effects of Clinical Expectations," *Self and Identity* 9, no. 3 (2010): 241-256.

[32] Ibid., 251.

[33] Gerard M. Schippers, Mieke C. De Boer, Cees P.F. Van Der Staak, and W. Miles Cox, "Effects of alcohol and expectancy on self-disclosure and anxiety in male and female social drinkers," *Addictive Behaviors* 22, no. 3 (1997): 305-314.

Chapter 2

[1] Andrew Tate, Twitter Post, December 21, 2017, https://twitter.com/AndrewTateBack/status/943928527480672257. (Note, this is not the original Tweet, which came from Andrew Tate's original account @cobratate on

September 7th. That account was banned, thus, all of his associated messages are no longer accessible.

[2] This tweet is no longer available. See note 1.

[3] This tweet is no longer available. See note 1.

[4] This tweet is no longer available. See note 1.

[5] Rick Mayes and Allan V. Horwitz, "DSM-III and the Revolution in the Classification of Mental Illness," *Journal of the History of the Behavioral Science* 43, no. 3 (2005): 250.

[6] Ibid.

[7] Herb Kutchins and Stuart A. Kirk, "DSM-III and Social Work Malpractice," *Social Work* 32, no. 3 (1987): 205-211.

[8] Ibid., 205.

[9] Stuart A. Kirk and Herb Kutchins, *The Selling of DSM: The Rhetoric of Science in Psychiatry* (New York: Routledge, 1992).

[10] Jerome C. Wakefield, "Disorder as Harmful Dysfunction: A Conceptual Critique of DSM-III-R's Definition of Mental Disorder," *Psychological Review* 99, no. 2 (1992): 232-247.

[11] Ibid., 233.

[12] Ibid.

[13] Ibid.

[14] *Diagnostic and Statistical Manual of Mental Disorders: DSM-III-R* (Washington DC, The American Psychiatric Association, 1987), xxii.

[15] Ibid.

[16] Jerome C. Wakefield, "Disorder as Harmful Dysfunction: A Conceptual Critique of DSM-III-R's Definition of Mental Disorder," *Psychological Review* 99, no. 2 (1992): 236.

[17] Ibid., 238.

[18] Ibid.

[19] Jordynn Jack and L. Gregory Applebaum, "'This is Your Brain on Rhetoric': Research Directions for Neurorhetorics," *Rhetoric Society Quarterly* 40, no. 5 (2010): 416.

[20] Ibid.

[21] Nikolas Rose and Joelle M. Abi-Rached, *Neuro: The New Brain Sciences and the Management of the Mind* (Princeton: Princeton University Press, 2013).

[22] Ibid., 76.

[23] David P. McCabe and Alan D. Castel, "Seeing is believing: The effect of brain images on judgments of scientific reasoning," *Cognition* 107, no. 1 (2008): 343-352.

[24] Kenneth Burke, *A Grammar of Motive* (Berkeley: University of California Press, 1969).

[25] Ibid., 78-79.

[26] Michel Foucault, *Madness and Civilization: A History of Insanity in the Age of Reason*, trans. Richard Howard (New York: Vintage Books, 1988).

[27] Ibid., 13.

[28] Thomas S. Szasz, *The Myth of Mental Illness: Foundations of a Theory of Personal Conduct* (New York: Harper Perennial, 1974).

[29] Thomas S. Szasz, "The myth of mental illness," *American Psychologist* 15, no. 2 (1960): 113.

[30] Ibid., 114.

[31] Richard E. Vatz and Lee S. Weinberg, "The Rhetorical Paradigm in Psychiatric History: Thomas Szasz and the Myth of Mental Illness" in Mark S. Micale and Roy Porter, *Discovering the History of Psychiatry* (New York: Oxford University Press, 1994).

[32] Ian Hacking, *The Social Construction of What?* (Cambridge: Harvard University Press, 1999), 6.

[33] Stephen A. Kent and Terra A. Manca, "A war over mental health professionalism: Scientology versus psychiatry," *Mental Health, Religion & Culture* 17, no. 1 (2014): 1-23.

[34] Ibid., 4.

[35] Ibid., 3.

[36] Ibid.

[37] Laura Hirshbein, "L Ron Hubbard's science fiction quest against psychiatry," *Medical Humanities* 42, no. 4 (2016): e10-e14.

[38] Stephen A. Kent and Terra A. Manca, "A war over mental health professionalism: Scientology versus psychiatry," *Mental Health, Religion & Culture* 17, no. 1 (2014): 1-23.

[39] "Citizens Commission on Human Rights," *Citizens Commission on Human Rights*, http://www.cchr.org/.

[40] Ibid.

[41] Robert Whitaker, *Mad in America: Bad Science, Bad Medicine, and the Enduring Mistreatment of the Mentally Ill* (New York: Basic Books, 2002).

[42] Robert Whitaker, *Anatomy of an Epidemic: Magic Bullets, Psychiatric Drugs, and the Astonishing Rise of Mental Illness in America* (New York: Broadway Books, 2011).

[43] Ibid., 9.

[44] Ibid.

[45] Ibid., 193.

[46] Ibid., 216.

[47] Ibid., 219.

[48] Ibid., 221.

[49] Ibid.

[50] Ibid., 222.

Chapter 3

[1] Yoav Bar-Anan, Timothy D. Wilson, and Daniel T. Gilbert, "The feeling of uncertainty intensifies affective reactions," *Emotion* 9, no. 1 (2009): 123-127.

[2] Paul Slovic, Milissa L. Finucane, Ellen Peters, and Donald G. MacGregor, "The affect heuristic," *European Journal of Operational Research* 177, no. 3 (2007): 1333-1352.

[3] Ibid.

[4] James W. Taylor, "The Role of Risk in Consumer Behavior," *Journal of Marketing* 38, no. 2 (1974): 54-60.

[5] Ibid., 54.

[6] Robert J. Blendon, John M. Benson, and Joachim O. Hero, "Public Trust in Physicians – U.S. Medicine in International Perspective," *New England Journal of Medicine* 371, no. 17 (2014): 1570-1572.

[7] Ibid.

[8] Ibid., 1571.

[9] Ibid.

[10] Kurt Lewin, "Defining the 'Field at a Given Time'," *Psychological Review* 50, no. 3 (1943): 293-310.

[11] Ibid., 307.

[12] James J. Gibson, *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979).

[13] Roger G. Barker, *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior* (Stanford: Stanford University Press, 1968), 1.

[14] Roger G. Barker and Herbert F. Wright, *One Boy's Day: A Specimen Record of Behavior* (New York: Harper and Brothers, 1951).

[15] Lisa K. Meloncon, "Patient Experience Design: Expanding Usability Methodologies for Healtchare," *Communication Design Quarterly* 5, no. 2 (2017): 20-28.

[16] Ibid., 20.

[17] Susannah Fox and Maeve Duggan, "Health Online 2013," *Pew Research Center*, January 15, 2013, http://www.pewinternet.org/2013/01/15/health-online-2013/.

[18] Ibid.

[19] Jason Stanley, *Knowledge and Practical Interests* (Oxford: Oxford University Press, 2005).

[20] Tugba Cayirli and Emre Veral, "Outpatient Scheduling in Health Care: A Review of the Literature," *Production and Operations Management* 12, no. 4 (2003): 519-549.

[21] Ibid.

[22] Ibid., 521.

[23] Ibid.

[24] Parviz Kheirkhah, Qianmei Feng, Lauren M. Travis, Shahriar Tavakol-Tabasi, and Amir Sharafkhaneh, "Prevalance, predictors and economic consequences of no-shows," *BMC Health Services* 16, no 13 (2016): 1-6.

[25] Tito Izard, "Managing the Habitual No-Show Patient," *Family Practice Management* 12, no. 2 (2005): 65-66.

[26] Tom Cox, "One way to solve the no-show problem." *Medical Practice Insider*, January 26th, 2015, http://www.medicalpracticeinsider.com/best-practices/one-way-solve-no-show-problem.

[27] Ann Sloan Devlin, "Wayfinding in Healthcare Facilities: Contributions from Environmental Psychology," *Behavioral Sciences* 4, no. 4 (2014): 423-436.

[28] Yona Nelson-Shulman, "Information and Environmental Stress: Report of a Hospital Intervention," *Journal of Environmental Systems* 13, no. 4 (1984): 303-316.

[29] Ibid., 305.

[30] Ibid., 306-307.

[31] Ibid. 307.

[32] Ibid., 312.

[33] Gesine Marquardt, "Wayfinding for People with Dementia: A Review of the Role of Architectural Design," *Health Environments Research & Design Journal* 4, no. 2 (2011): 75-90.

[34] Ibid.

[35] Shan Jiang, Matthew Powers, David Allison, and Ellen Vincent, "Informing Healthcare Waiting Area Design Using Transparency Attributes: A Comparative Preference Study," *Health Environments Research & Design Journal* 10, no. 4 (2017): 49-63.

[36] Ibid., 50.

[37] Roger S. Ulrich, Robert F. Simons, Barbara D. Losito, Evelyn Fiorito, Mark A. Miles, and Michael Zelson, "Stress Recovery During Exposure to Natural and Urban Environments," *Journal of Environmental Psychology* 11, no. 3 (1991): 201-230.

[38] Ibid., 204.

[39] Ibid.

[40] Shan Jiang, Matthew Powers, David Allison, and Ellen Vincent, "Informing Healthcare Waiting Area Design Using Transparency Attributes: A Comparative Preference Study," *Health Environments Research & Design Journal* 10, no. 4 (2017): 51.

[41] Ibid., 59.

[42] Eliane Schreuder, Layla Lebesque, and Charelle Bottenheft, "Healing Environments: What Design Factors Really Matter According to Patients? An Exploratory Analysis," *Health Environments Research & Design Journal* 10, no. 1 (2016): 87-105.

[43] Ibid., 89.

[44] Ibid.

[45] Ibid.

[46] Ibid.

[47] Ibid., 88.

[48] Ibid., 89.

[49] Ibid.

[50] Ibid., 88.

[51] Ibid.

[52] Ibid.

[53] Vanessa Okken, Thomas van Rompay, and Ad Pruyn, "When the World is Closing In: Effects of Perceived Room Brightness and Communicated Threat During Patient-Physician Interaction," *Health Environments Research & Design Journal* 7, no. 1 (2013): 48.

[54] Stuart Albert and James M. Dabbs Jr., "Physical Distance and Persuasion," *Journal of Personality and Social Psychology* 15, no. 3 (1970): 265-270.

[55] Ibid., 269.

[56] Christopher H. Hsee, "The Evaluability Hypothesis: An Explanation for Preference Reversals between Joint and Separate Evaluations of Alternatives," *Organizational Behavior and Human Decision Processes* 67, no. 3 (1996): 247-257.

[57] Kristina Kampfer, Alexander Leischnig, Björn Sven Ivens, and Charles Spence, "Touch-flavor transference: Assessing the effect of packaging weight on gustatory evaluations, desire for food and beverages, and willingness to pay," *Public Library of Science One* 12, no. 10 (2017): e0186121.

[58] Ibid.

[59] G. Michael Allan, Joel Lexchin, and Natasha Wiebe, "Physician Awareness of Drug Cost: A Systematic Review," *Public Library of Science Medicine* 4, no. 9 (2007): 1486-1495.

[60] Ibid., 1491.

[61] Aural O. Iuga and Maura J. McGuire, "Adherence and health care costs," *Risk Management and Healthcare Policy* 7 (2014): 40.

[62] Ibid., 40.

[63] Thomas Rickert, *Ambient Rhetoric* (Pittsburgh: University of Pittsburgh Press, 2013).

[64] Ronald M. Epstein and Richard L. Street Jr., "The Values and Value of Patient-Centered Care," *Annals of Family Medicine* 9, no. 2 (2011): 100-103.

Chapter 4

[1] Eric Burns, *The Smoke of the Gods: A Social History of Tobacco* (Philadelphia: Temple University Press, 2007), 6.

[2] Ibid., 7.

[3] Marc-Antoine Crocq, "Historical and cultural aspects of man's relationship with addictive drugs," *Dialogues in Clinical Neuroscience* 9, no. 4 (2007): 355-361.

[4] Ibid.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] Aldo Badiani, "Is a 'general' theory of addiction possible? A commentary on: a multistep general theory of transition to addiction," *Psychopharmacology* 231, no. 9 (2014): 3923-3927.

[9] Robert West and Jamie Brown, *Theory of Addiction: Second Edition* (West Sussex: Wiley Blackwell, 2013).

[10] Ibid., 1.

[11] Pier Vincenzo Piazza and Véronique Deroche-Gamonet, "A multistep general theory of transition to addiction," *Psychopharmacology* 229, no. 3 (2014): 3923-3927.

[12] Ibid.

[13] Ibid., 389.

[14] Ibid.

[15] Ibid.

[16] James C. Anthony, Lynn A. Warner, and Ronald C. Kessler, "Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the National Comorbidity Survey," *Experimental and Clinical Psychopharmacology* 2, no. 3 (1994): 244-268.

[17] Ibid., 395.

[18] Ibid.

[19] Ibid., 399.

[20] Ibid.

[21] Aldo Badiani, "Is a 'general' theory of addiction possible? A commentary on: a multistep general theory of transition to addiction," *Psychopharmacology* 231, no. 9 (2014): 3923-3927.

[22] Pier Vincenzo Piazza and Véronique Deroche-Gamonet, "A multistep general theory of transition to addiction," *Psychopharmacology* 229, no. 3 (2014): 408.

[23] Aldo Badiani, "Is a 'general' theory of addiction possible? A commentary on: a multistep general theory of transition to addiction," *Psychopharmacology* 231, no. 9 (2014): 3925.

[24] Ibid.

[25] Ibid.

[26] Robert West and Jamie Brown, *Theory of Addiction: Second Edition* (West Sussex: Wiley Blackwell, 2013).

[27] Ibid., 5.

[28] Ibid.

[29] Ibid.

[30] Ibid.

[31] Ibid., 153.

[32] Ibid., 157.

[33] Ibid. 192.

[34] Ibid., 195.

[35] Ibid., 196.

[36] Ibid., 200.

[37] Ibid., 201.

[38] Ibid., 202.

[39] Ibid.

[40] Ibid., 204.

[41] Ibid.

[42] Ibid., 229.

[43] Ibid.

[44] Ibid., 230.

[45] Ibid.

[46] Ibid.

[47] For a humorous attack on fastidious theories look no further than Kieran Healy's "Fuck Nuance," published in a 2017 article of *Sociological Theory*. Healy's spirited attack on an increasing emphasis on fastidious theories in sociology is truly a masterful demonstration of a counter-fastidious rhetorical strategy. Of course, an equally spirited response article called "Fuck Oversimplification" is just as imaginable, and would probably work just as effectively, given the baseline rhetoricity I'm outlining here between expeditious and fastidious theories.

Conclusion

[1] Galen, *On the Natural Faculties*, trans. Arthur Brock (London: W. Heinemann, 1916), 35.

[2]Galen, *De usu partium*, quoted in Theodore J. Tracy, "Plato, Galen, and the Center of Consciousness," *Illinois Classical Studies* 1, no. 1 (1976): 43-52.

[3] Ibid., 13.

[4] Plato, *Gorgias*, trans. Donald D. Zeyl, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 809.

[5] Plato, *Phaedrus*, trans. Alexander Nehamas and Paul Woodruff, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Company, 1997), 546-547.

[6] Aristotle, *Rhetoric*, trans. W. Rhys. Roberts, in *The Complete Works of Aristotle Volume Two*, ed. Jonathan Barnes (Princeton: Princeton University Press, 1984), 2154.

[7] Ibid.

[8] Aristotle, *Topics*, trans. W. A. Pickard-Cambridge, in *The Complete Works of Aristotle Volume One*, ed. Jonathan Barnes (Princeton: Princeton University Press, 1984), 168.

[9] Michael A. Rinella, *Pharmakon: Plato, Drug Culture, and Identity in Ancient Athens* (Lanham: Lexington Books, 2012), xvii.

[10] Gorgias, "Encomium of Helen," translated by Debra Hawhee in *Bodily Arts*, 79.

[11] Debra Hawhee, *Bodily Arts: Rhetoric and Athletics in Ancient Greece* (Austin: University of Texas Press, 2004), 79

[12] Ibid., 80.

[13] Charles P. Segal, "Gorgias and the Psychology of Logos," *Harvard Studies in Classical Philology* 66 (1962): 121-122.

[14] Robert J. Connors, "Greek Rhetoric and the Transition from Orality," *Philosophy and Rhetoric* 19, no. 1 (1986): 48.

[15] Ibid., 46.

[16] Ibid., 48.

[17] Ibid., 49.

[18] Jeffrey Walker, "*Pathos* and *Katharsis* in 'Aristotelian' Rhetoric: Some Implications," in *Rereading Aristotle's Rhetoric*, ed. Alan G. Gross and Arther E. Walzer (Carbondale: Southern Illinois University Press, 2000), 78.

[19] Jacques Derrida, *Dissemination*, trans. Barbara Johnson (Chicago: University of Chicago Press, 1972), 70.

[20] Ibid., 102.

[21] Ibid., 72.

[22] Michael A. Rinella, *Pharmakon: Plato, Drug Culture, and Identity in Ancient Athens* (Lanham: Lexington Books, 2012), 240.

[23] Ibid.

[24] Ibid., 45

[25] Theresa Brennan's work, *The Transmission of Affect*, is a key resource for understanding affective transference in groups. Reviewing sociological and psychological research on group interactions, Brennan posits that a number of stimuli, including olfactory and visual cues, lend group experiences their particular *ekstatic* sensation. Neither committed to the group as "mob," nor the group as collection of isolated individuals, Brennan recognizes that the ability for emotional affects to transfer rapidly in large groups is a powerful mechanism.

Bibliography

Abreu, José M. "Conscious and nonconscious African American stereotypes: Impact on first impression and diagnostic ratings by therapists." *Journal of Consulting and Clinical Psychology* 67, no. 3 (1999): 387-393.

Albert, Stuart, and James M. Dabbs Jr. "Physical Distance and Persuasion." *Journal of Personality and Social Psychology* 15, no. 3 (1970): 265-270.

Allan, G. Michael, Joel Lexchin, and Natasha Wiebe. "Physician Awareness of Drug Cost: A Systematic Review." *Public Library of Science Medicine* 4, no. 9 (2007): 1486-1495.

Anthony, James C. Lynn A. Warner, and Ronald C. Kessler. "Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the National Comorbidity Survey." *Experimental and Clinical Psychopharmacology* 2, no. 3 (1994): 244-268.

Aristotle. “Rhetoric.” In *The Complete Works of Aristotle Volume Two*, edited by Jonathan Barnes, 2152-2269. Translated by W. Rhys. Roberts. Princeton: Princeton University Press, 1984.

Aristotle. “Topics.” In *The Complete Works of Aristotle Volume One*, edited by Jonathan Barnes, 167-277. Translated by W. A. Pickard-Cambridge. Princeton: Princeton University Press, 1984.

Badiani, Aldo. “Is a ‘general’ theory of addiction possible? A commentary on: a multistep general theory of transition to addiction.” *Psychopharmacology* 231, no. 9 (2014): 3923-3927.

Balsa, Ana I., Naomi Seiler, Thomas G. McGuire, and M. Gregg Bloche. “Clinical Uncertainty and Healthcare Disparities.” *American Journal of Law & Medicine* 29, no. 2/3 (2003): 203-219.

Bar-Anan, Yoav., Timothy D. Wilson, and Daniel T. Gilbert. “The feeling of uncertainty intensifies affective reactions.” *Emotion* 9, no. 1 (2009): 123-127

Barker, Roger G. *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior*. Stanford: Stanford University Press, 1968.

Barker, Roger, and Herbert F. Wright. *One Boy's Day: A Specimen Record of Behavior*. New York: Harper and Brothers, 1951.Blendon, Robert J., John M. Benson, and Joachim O. Hero. "Public Trust in Physicians – U.S. Medicine in International Perspective." *New England Journal of Medicine* 371, no. 17 (2014): 1570-1572.

Brown, Mark A. "Science Versus Policy in Establishing Equitable Agent Orange Disability Compensation Policy." *Military Medicine* 176, no. 7 (2011): 35-40.

Burke, Kenneth. *A Grammar of Motive*. Berkeley: University of California Press, 1969.

Burns, Eric. *The Smoke of the Gods: A Social History of Tobacco*. Philadelphia: Temple University Press, 2007.

Buron, Joseph E. Joel E. Michalek, and Alton J. Rahe, "Serum Dioxin, Chloracne, and Acne in Veterans of Operation Ranch Hand." *Archives of Environmental Health* 53, no. 3 (1998): 199-204.

Calnan, Michael. "Clinical uncertainty: is it a problem in the doctor-patient relationship?" *Sociology of Health and Illness* 6, no. 1 (1984): 74-85.

Cayirli, Tugba, and Emre Veral. “Outpatient Scheduling in Health Care: A Review of the Literature.” *Production and Operations Management* 12, no. 4 (2003): 519-549.

Cesario, Joseph. “Priming, Replication, and the Hardest Science.” *Perspectives on Psychological Science* 9, no. 1 (2014): 40-48.

Chamie, Karim, Ralph W. deVere White, Dennis Lee, Joon-Ha Ok, and Lars M. Elison. “Agent Orange Exposure, Vietnam War Veterans, and the Risk of Prostate Cancer.” *Cancer* 113, no. 9 (2008): 2464-2460.

“Citizens Commission on Human Rights.” *Citizens Commission on Human Rights*. http://www.cchr.org/.

Connors, Robert J. “Greek Rhetoric and the Transition from Orality.” *Philosophy and Rhetoric* 19, no. 1 (1986): 38-65.

Cox, Tom. “One way to solve the no-show problem.” *Medical Practice Insider*, January 26th, 2015. http://www.medicalpracticeinsider.com/best-practices/one-way-solve-no-show-problem.

Crocq, Marc-Antoine. “Historical and cultural aspects of man’s relationship with addictive drugs.” *Dialogues in Clinical Neuroscience* 9, no. 4 (2007): 355-361.

Derrida, Jacques. *Dissemination*. Translated by Barbara Johnson. Chicago: University of Chicago Press, 1972.

Devlin, Ann Sloan. “Wayfinding in Healthcare Facilities: Contributions from Environmental Psychology.” *Behavioral Sciences* 4, no. 4 (2014): 423-436.

Diagnostic and Statistical Manual of Mental Disorders: DSM-III-R. Washington DC, The American Psychiatric Association, 1987.

Engström, Yrjö. “Activity theory and individual and social transformation.” In *Perspectives on Activity Theory*. Edited by Yrjö Engström, Reijo Miettinen, and Raija-Leena Punamäki, 19-38. Cambridge: Cambridge University Press, 1999.

Epstein, Ronald M., and Richard L. Street Jr. “The Values and Value of Patient-Centered Care.” *Annals of Family Medicine* 9, no. 2 (2011): 100-103.

Fisher, Susan G., and Richard I. Fisher. “The epidemiology of non-Hodgkin’s lymphoma.” *Oncogene* 23, no. 38 (2004): 6524-6534.

Foucault, Michel. *Madness and Civilization: A History of Insanity in the Age of Reason*. Translated by Richard Howard. New York: Vintage Books, 1988.

Fox, Susannah and Maeve Duggan. "Health Online 2013." *Pew Research Center*, January 15, 2013. http://www.pewinternet.org/2013/01/15/health-online-2013/.

Galen. *De usu partium*. Quoted in Theodore J. Tracy, "Plato, Galen, and the Center of Consciousness." *Illinois Classical Studies* 1, no. 1 (1976): 43-52.

Galen. *On the Natural Faculties*. Translated by Arthur Brock. London: W. Heinemann, 1916.

Ghosh, Amit K. "On the challenges of using evidence-based information: The role of clinical uncertainty." *Journal of Laboratory and Clinical Medicine* 144, no. 8 (2004): 60-64.

Gibson, James J. *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin, 1979.

Gorgias. "Encomium of Helen." Translated by Debra Hawhee. In *Bodily Arts: Rhetoric and Athletics in Ancient Greece*. Austin: University of Texas Press, 2004.

Hacking, Ian. *The Social Construction of What?* Cambridge: Harvard University Press, 1999.

Hall, Judith, Debra L. Roter, Danielle C. Blanch, and Richard M. Frankel, "Observer-rated rapport in interaction between medical students and standardized patients." *Patient Education and Counseling* 76, no. 3 (2009): 323-327.

Hawhee, Debra. *Bodily Arts: Rhetoric and Athletics in Ancient Greece*. Austin: University of Texas Press, 2004.

Hayward, Richard. "Balancing certainty and uncertainty in clinical medicine." *Developmental Medicine & Child Neurology* 48 (2006): 74-77.

Herodotus. *The Histories of Herodotus*. Translated by Henry Cary. New York: D. Appleton and Company, 1899.

Hirshbein, Laura. "L Ron Hubbard's science fiction quest against psychiatry." *Medical Humanities* 42, no. 4 (2016): e10-e14.

Hsee, Christopher H. "The Evaluability Hypothesis: An Explanation for Preference Reversals between Joint and Separate Evaluations of Alternatives."

Organizational Behavior and Human Decision Processes 67, no. 3 (1996): 247-257.

Institute of Medicine (US) Committee to Review the Evidence Regarding the Link Between Exposure to Agent Orange and Diabetes. *Veterans and Agent Orange: Herbicide/Dioxin Exposure and Type 2 Diabetes*. Washington DC: National Academies Press, 2000.

Iuga, Aural O., and Maura J. McGuire. "Adherence and health care costs." *Risk Management and Healthcare Policy* 7 (2014): 35-44.

Izard, Tito. "Managing the Habitual No-Show Patient." *Family Practice Management* 12, no. 2 (2005): 65-66.

Jack, Jordynn, and L. Gregory Applebaum. "'This is Your Brain on Rhetoric': Research Directions for Neurorhetorics." *Rhetoric Society Quarterly* 40, no. 5 (2010): 411-437.

Jahnke, Sara A., Christopher K. Haddock, Walker S. Carlos Poston, and Nattinee Jitarin. "Priorities of Legislatively Active Veteran Services Organizations: A Content Analysis and Review for Health Promotion Initiatives." *Military Medicine* 179, no. 11 (2014): 1331-1337.

Jiang, Shan, Matthew Powers, David Allison, and Ellen Vincent. “Informing Healthcare Waiting Area Design Using Transparency Attributes: A Comparative Preference Study.” *Health Environments Research & Design Journal* 10, no. 4 (2017): 49-63.

Kahneman, Daniel, and Amos Tversky. “Prospect Theory: An Analysis of Decision Under Risk.” *Econometrica* 47, no. 2 (1979): 263-292.

Kampfer, Kristina, Alexander Leischnig, Björn Sven Ivens, and Charles Spence. “Touch-flavor transference: Assessing the effect of packaging weight on gustatory evaluations, desire for food and beverages, and willingness to pay.” *Public Library of Science One* 12, no. 10 (2017): e0186121.

Kaptelinin, Victor, and Bonnie A. Nardi, *Acting With Technology: Activity Theory and Interaction Design*. Cambridge: The MIT Press, 2006.

Kent, Stephen A., and Terra A. Manca. “A war over mental health professionalism: Scientology versus psychiatry.” *Mental Health, Religion & Culture* 17, no. 1 (2014): 1-23.

Kheirkhah, Parviz, Qianmei Feng, Lauren M. Travis, Shahriar Tavakol-Tabasi, and Amir Sharafkhaneh. “Prevalance, predictors and economic consequences of no-shows.” *BMC Health Services* 16, no 13 (2016): 1-6.

Kirk, Stuart A., and Herb Kutchins. *The Selling of DSM: The Rhetoric of Science in Psychiatry*. New York: Routledge, 1992.

Knight, Frank H. *Risk, Uncertainty and Profit*. New York: Houghton Mifflin Company, 1921.

Kramárová, Eva, Manolis Kogevinas, Cung Thuyet Anh, Hoang Dinh Cau, Le Cao Dai, Steven D. Stellman, and D. Maxwell Parkin. “Exposure to Agent Orange and Occurrence of Soft-Tissue Sarcomas or Non-Hodgkin Lymphomas: An Ongoing Study in Vietnam.” *Environmental Health Perspectives* 106, no. 2 (1998): 671-678.

Kutchins, Herb, and Stuart A. Kirk. “DSM-III and Social Work Malpractice.” *Social Work* 32, no. 3 (1987): 205-211.

Lewin, Kurt. “Defining the ‘Field at a Given Time’.” *Psychological Review* 50, no. 3 (1943): 293-310.

Marquardt, Gesine. “Wayfinding for People with Dementia: A Review of the Role of Architectural Design.” *Health Environments Research & Design Journal* 4, no. 2 (2011): 75-90.

Martini, Edwin A. “Even We Can’t Prevent Forests: The Chemical War in Vietnam and the Illusion of Control.” *War & Society* 31, no. 3 (2012): 264-279.

Mayes, Rick and Allan V. Horwitz. “DSM-III and the Revolution in the Classification of Mental Illness.” *Journal of the History of the Behavioral Science* 43, no. 3 (2005): 249-267.

McCabe, David P., and Alan D. Castel. “Seeing is believing: The effect of brain images on judgments of scientific reasoning.” *Cognition* 107, no. 1 (2008): 343-352.

Meloncon, Lisa K. “Patient Experience Design: Expanding Usability Methodologies for Healtchare.” *Communication Design Quarterly* 5, no. 2 (2017): 20-28.

Nelson-Shulman, Yona. “Information and Environmental Stress: Report of a Hospital Intervention.” *Journal of Environmental Systems* 13, no. 4 (1984): 303-316.

Ngo, Anh D. Richard Taylor, Christine L. Roberts, and Tuan V. Nguyen. "Association between Agent Orange and birth defects: systematic review and meta-analysis." *International Journal of Epidemiology* 35, no. 5 (2006): 1220-1230.

Okken, Vanessa, Thomas van Rompay, and Ad Pruyn. "When the World is Closing In: Effects of Perceived Room Brightness and Communicated Threat During Patient-Physician Interaction." *Health Environments Research & Design Journal* 7, no. 1 (2013): 37-53.

Piazza, Pier Vincenzo, and Véronique Deroche-Gamonet. "A multistep general theory of transition to addiction." *Psychopharmacology* 229, no. 3 (2014): 3923-3927.

Plato. "Cratylus." In *Plato: Complete Works*, edited by John M. Cooper, 101-156. Translated by C.D.C. Reeve. Indianapolis: Hackett Publishing Company, 1997.

———. "Crito." In *Plato: Complete Works*, edited by John M. Cooper, 37-48. Translated by G.M.A. Grube. Indianapolis: Hackett Publishing Company, 1997.

———. "Gorgias." In *Plato: Complete Works*, edited by John M. Cooper, 791-869. Translated by Donald D. Zeyl. Indianapolis: Hackett Publishing Company, 1997.

———. “Laws.” In *Plato: Complete Works*, edited by John M. Cooper, 1318-1617. Translated by Trevor J. Saunders. Indianapolis: Hackett Publishing Company, 1997.

———. “Phaedrus.” In *Plato: Complete Works*, edited by John M. Cooper, 506-556. Translated by Alexander Nehamas and Paul Woodruff. Indianapolis: Hackett Publishing Company, 1997

———. “Protagoras.” In *Plato: Complete Works*, edited by John M. Cooper, 746-790. Translated by Stanly Lombardo and Karen Bell. Indianapolis: Hackett Publishing Company, 1997.

———. “Theaetetus.” In *Plato: Complete Works*, edited by John M. Cooper, 157-234. Translated by M.J. Levett. Indianapolis: Hackett Publishing Company, 1997.

Rathore, Saif S., Leslie A. Lenert, Kevin P. Weinfurt, Aldo Tinoco, Christopher K. Taleghani, William Harless, and Kevin A. Schulman. “The effects of patient sex and race on medical students’ ratings of quality of life.” *The American Journal of Medicine* 108, no. 7 (2000): 561-566.

Reid, John. “The Reid Technique.” *John E. Reid & Associates, Inc*. https://www.reid.com/educational_info/criticthnique.html.

Rickert, Thomas. *Ambient Rhetoric.* Pittsburgh: University of Pittsburgh Press, 2013.

Rinella, Michael A. *Pharmakon: Plato, Drug Culture, and Identity in Ancient Athens*. Lanham: Lexington Books, 2012.

Rose, Nikolas, and Joelle M. Abi-Rached. *Neuro: The New Brain Sciences and the Management of the Mind*. Princeton: Princeton University Press, 2013.

Rumsfeld, Donald. "DoD New Briefing – Secretary Rumsfled and Gen. Myers." U.S. Department of Defense, 2002.

Schippers, Gerard M., Mieke C. De Boer, Cees P.F. Van Der Staak, and W. Miles Cox. "Effects of alcohol and expectancy on self-disclosure and anxiety in male and female social drinkers." *Addictive Behaviors* 22, no. 3 (1997): 305-314.

Schreuder, Eliane, Layla Lebesque, and Charelle Bottenheft, "Healing Environments: What Design Factors Really Matter According to Patients? An Exploratory Analysis." *Health Environments Research & Design Journal* 10, no. 1 (2016): 87-105.

Segal, Charles P. “Gorgias and the Psychology of Logos.” *Harvard Studies in Classical Philology* 66 (1962): 99-155.

Slovic, Paul, Milissa L. Finucane, Ellen Peters, and Donald G. MacGregor. “The affect heuristic.” *European Journal of Operational Research* 177, no. 3 (2007): 1333-1352.

Spinoza, Baruch. *Ethics: Treatise on the Emendation of the Intellect and Selected Letters*, Translated by Samuel Shirley. Indianapolis: Hackett Publishing, 1992.

Stanley, Jason. *Knowledge and Practical Interests*. Oxford: Oxford University Press, 2005.

Stellman, Jeanne Mager, Steven D. Stellman, Tracy Weber, Carrie Tomasallo, Andrew B. Stellman, and Richard Christian Jr. “A Geiographic Information System for Characterizing Exposure to Agent Orange and Other Herbicides in Vietnam.” *Environmental Health Perspectives* 111, no. 3 (2003): 321-328.

Stone, Richard. “Agent Orange’s Bitter Harvest.” *Science* 315, no. 5809 (2007): 176-179.

Szasz, Thomas S. “The myth of mental illness.” *American Psychologist* 15, no. 2 (1960): 113-118.

———. *The Myth of Mental Illness: Foundations of a Theory of Personal Conduct.* New York: Harper Perennial, 1974.

Tandos, Jonathan and Arthur A. Stukas. "Identity Negotiation in Psychotherapy: The Influence of Diagnostic and Rapport-building Strategies on the Effects of Clinical Expectations." *Self and Identity* 9, no. 3 (2010): 241-256.

Tate, Andrew. Twitter Post. December 21, 2017. https://twitter.com/AndrewTateBack/status/943928527480672257.

Taylor, James W. "The Role of Risk in Consumer Behavior." *Journal of Marketing* 38, no. 2 (1974): 54-60.

Timmermans, Stefan, and Alison Angell. "Evidence-Based Medicine, Clinical Uncertainty, and Learning to Doctor." *Journal of Health and Social Behavior* 42, no. 4 (2001): 342-359.

Tversky, Amos, and Daniel Kahneman. "Judgment Under Uncertainty: Heuristics and Biases." *Oregon Research Institute Research Bulletin* 13, no. 1 (1973): 1-33.

———. "The Framing of Decisions and the Psychology of Choice." *Science: New Series* 211, no. 4481 (1981): 453-458.

U.S. Army. “FM 2-22.3 (FM 34-52) Human Intelligence Collector Operations.” *Department of Army*, 2006.

Ulrich, Roger S. Robert F. Simons, Barbara D. Losito, Evelyn Fiorito, Mark A. Miles, and Michael Zelson. “Stress Recovery During Exposure to Natural and Urban Environments.” *Journal of Environmental Psychology* 11, no. 3 (1991): 201-230.

Vallano, Jonathan P. and Nadja Schreiber Compo. “A Comfortable Witness is a Good Witness: Rapport-Building and Susceptibility to Misinformation in an Investigative Mock-Crime Interview.” *Applied Cognitive Psychology* 25, no. 6 (2011): 960-970.

Vatz, Richard E. and Lee S. Weinberg. “The Rhetorical Paradigm in Psychiatric History: Thomas Szasz and the Myth of Mental Illness.” In *Discovering the History of Psychiatry.* Edited by Mark S. Micale and Roy Porter, 311-330. New York: Oxford University Press, 1994.

“VFW Fact Sheet.” *Veterans of Foreign Wars*, last modified December 2017, https://vfw-cdn.azureedge.net/-/media/VFWSite/Files/News-and-Publications/Press-Room/VFWFactSheet.pdf?la=en.

Wakefield, Jerome C. "Disorder as Harmful Dysfunction: A Conceptual Critique of DSM-III-R's Definition of Mental Disorder." *Psychological Review* 99, no. 2 (1992): 232-247.

Walker, Jeffrey. "*Pathos* and *Katharsis* in 'Aristotelian' Rhetoric: Some Implications." In *Rereading Aristotle's Rhetoric*, edited Alan G. Gross and Arther E. Walzer, 74-93. Carbondale: Southern Illinois University Press, 2000.

West, Robert, and Jamie Brown. *Theory of Addiction: Second Edition*. West Sussex: Wiley Blackwell, 2013.

Whitaker, Robert. *Anatomy of an Epidemic: Magic Bullets, Psychiatric Drugs, and the Astonishing Rise of Mental Illness in America*. New York: Broadway Books, 2011.

———. *Mad in America: Bad Science, Bad Medicine, and the Enduring Mistreatment of the Mentally Ill.* New York: Basic Books, 2002.

Xenophon. *The Anabasis of Xenophon*. Translated by Thomas Clark. New York: David McKay Company, 1887.