

The Indefinite Life Handbook

Immortality, mind uploading,
and the pursuit of meaning

—

For individuals and populations

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In association with Lifetimes Infinity

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I will do my best to update this book as knowledge is shared with me and as I learn on my own. If you are kind enough, send me your criticisms and ideas so that I can continue to improve this book.

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Handbook Introduction

Abstract

The goal of this introductory volume is to help the reader better navigate and understand **The Indefinite Life Handbook** by outlining the content, structure, and purpose of the book. This volume is broken up into two chapters:

Chapter 1: Introduction to the Series — This chapter outlines the structuring of the book and covers the background on the writing of this book.

Chapter 2: Terminology — This chapter is a compilation of the domain-specific terminology used throughout the book.

Further Reading

While the focus of this book is on mind uploading, the book also covers a wide range of topics in limited depth. If at any point you come across a topic you wish to delve deeper into, Lifetimes Infinity has compiled a list of readings that will hopefully get you a few steps further into any of these domains (including mind uploading).

You can find more information and an updated list of recommended readings on the Lifetimes Infinity website: <http://www.lifetimesinfinity.com>

Chapter 1

Introduction to the Book

The overall goals of this book are to:

1. Provide a starting point for learning and thinking about indefinite life.
2. Lay down a framework for pursuing indefinite life to aid in life's collective efforts to become more fit for survival in this universe (and beyond).
3. Encourage more people to start thinking about the challenges we face as individuals and populations and to encourage people to start thinking about them from the perspective of survival.

The Indefinite Life Handbook explores many of the topics that surround living indefinitely (one of the major focus points being mind uploading). In exploring relatively undefined domains (such as indefinite life), it is important to provide a complete introduction without presupposing any domain specific knowledge or general assumptions the reader might have. Considering this, The Indefinite Life Handbook aims to be as comprehensive, coherent, and easy to follow as possible. I hope to achieve this by fully explaining every step in reasoning for all of the conclusions made throughout this book.

Background

I am writing this book as a member of the organization Lifetimes Infinity. I am attempting to represent Lifetimes Infinity to the best of my ability in the views presented in this book.

Development on this book officially began in 2015. However, this book is the culmination of all my work for Lifetimes Infinity from 2013 to 2015. In 2013, I started the organization that would eventually become Lifetimes Infinity. It has taken many years to piece together the information that has been condensed into these pages.

Given the topics discussed, I expected that aspects of this book will be contested. However, it's my view that any plan is better than no plan. I feel I have already spent too long as an armchair philosopher instead of taking action to develop solutions to the challenges we face. There are many things we don't know as individuals and as a collective, but we have to start somewhere. If we pick somewhere to start, then at the least we can start trying things out and nudging ourselves toward a better position. As we assimilate new knowledge, we can construct better models of reality and plot better courses of action. This book, like all things in life, is a work in progress.

Roadmap

One of the goals of this book is to create a modular and adaptable roadmap for pursuing mind uploading. The scope for creating a roadmap for pursuing all aspects of indefinite life is too large for one person to document at this point, so that's why I'm starting with mind uploading (a massive undertaking as it is).

The roadmap is built by reasoning from first principles, adding on layers based on the conclusions drawn in previous layers until we reach the end goal (mind uploading). In this way, we can be sure that all of our conclusions are not only built on a solid foundation, but that all of the sub-goals are in line with the end goal. By creating a roadmap that is built out of independent pieces, it is easy to adapt to new knowledge that comes along in order to improve the roadmap.

Logical Steps

I believe that in any endeavor it is important to lay down a good foundation to work within to make things easier on ourselves as we chase our curiosities deeper and deeper.

This book aims to be as rational and objective as possible in determining Lifetimes Infinity's goals and how to pursue them. The structuring of this book facilitates this. Each volume starts by presenting a challenge, then it discusses the possible solutions, and at the end it draws a conclusion which further outlines the best solution. Each volume either stands by itself (drawing conclusions based on postulates presented in the volume), or it builds off the conclusions of other volumes. Together, the volumes form a roadmap that can be used on all scales (large and small, near and distant, short and long) for pursuing indefinite life.

The postulates presented in this book are not meant to be absolute, but I hope that they are at least aimed in the right direction and built on a solid foundation. In turn, I hope the ideas presented create a solid framework that allows us to begin developing solutions.

All of the conclusions and goals follow exclusively from the definitions, postulates, and other conclusions drawn in this book. Even if you may not necessarily agree with all of the postulates, I hope that you can follow the logic in reaching the conclusions. Many of the ideas presented in this book are speculative, but I attempt to base them in the best version of reality we know. Considering this speculative nature, all definitions, postulates, and conclusions are clearly labeled to make the logical steps as clear as possible. Since the whole book is built in this additive fashion, if a section becomes obsolete or a better model is found, I can simply switch out that section and keep the other logical steps in tact.

In this book, I attempt to outline what a rational actor would do in its pursuit of indefinite life, given the knowledge and resource we currently have as individuals and as a collective. That said, I, like all entities, only have limited knowledge to work with. Even though our knowledge and resources will always be limited, we can still meaningfully pursue any and all topics. Don't let anybody tell you otherwise.

In my own attempt at being as logical and rational as possible, I was led to the conclusion that I should pursue indefinite life and mind uploading. That's what got me into all of this in the first place. In a sense, as you read this book, you are reading the progression of my own thoughts as I reached the conclusions that sparked my deepest passion in life.

Survival Philosophy

Through this book, you will be shown reality through the perspective of survival. This is how I see reality, and is one of the philosophies I hope to instill in Lifetimes Infinity. Hopefully this book can inspire you to experience this perspective firsthand. That said, this book isn't meant to be a comprehensive documentation of the survival philosophy; there isn't enough space here to detail out the entirety of reality as seen through that perspective. My main hope with this books is more simply to inspire people like you to join in on the quest for indefinite life.

Volumes

This book is divided into many volumes that each seek to answer a specific question. Listed below are the volumes of this book along with the challenge and solution presented in each volume. While most of the volumes do well to stand on their own, I suggest reading them in order.

It should be noted that not all of the volumes are completed at this point in time, and the volumes that are currently included are subject to change in terms of content, titles, and order.

1 — The Tools of Rationality

Question

What are the best tools we can use to most accurately emulate a rational actor in finding the best solutions for any given challenge (and specifically in the pursuit of indefinite life)?

Conclusion

To achieve the **most optimal** solution to a given challenge, it is best to take on the perspective of a **rational actor** who reasons by **first principles** and has assimilated **sufficient knowledge** to **meaningfully** answer the question within a given margin for error.

To achieve the **fastest** answer that falls within a given margin for error in **meaningfully** answering a question, it is best to take on the perspective of a **rational actor** who **reasons by analogy**, using knowledge that is readily available.

Where the line is drawn for sufficient knowledge and meaningful construction is up to individuals and populations.

2 — The Meaning of Existence

Question

What is the meaning of life? What is the meaning of existence?

Conclusion

The meaning of existence (of all things living and nonliving) is survival.

3 — States of Existence

Question

What is the best state of existence for pursuing survival?

Conclusion

Indefinite life is the best state of existence for humanity to pursue (now and in the near future) on the quest for maximizing survival as individuals, populations, as a collective, in terms of all life, and even in terms of all existence.

4 — Indefinite Life Strategies

Question

What is the best option for pursuing indefinite life right now?

Conclusion

The best method for pursuing **indefinite life** at this point is through **indefinite lifespans**.

5 — Indefinite Lifespan Methods

Question

What is the best option for pursuing indefinite lifespans right now?

Conclusion

The best method for humans pursuing **indefinite lifespans** at this point is as **digital beings** who have gone through a **mind uploading** procedure.

6 — Mind Uploading Procedures

Question

What is the most promising procedure for transferring personal identity from one operating platform to another?

Conclusion

Offloading is the most promising mind uploading procedure in terms of ability to enable and test for the transfer of personal identity.

7 — Mind Uploading FAQ**Question**

What are the answers to the most commonly asked questions about mind uploading?

Conclusion

...

8 — Offloading**Question**

What equipment and procedures do we need in order to conduct an offloading procedure?

Conclusion

...

9 — Personal Identity**Question**

What is personal identity and how can we transfer it?

Conclusion

...

10 — Exocortex Design**Question**

How might we design a universal artificial mind framework that allows us to offload minds?

Conclusion

...

11 — BCI Design**Question**

How might we design a Brain-Computer interface to facilitate mind uploading?

Conclusion

...

12 — Avatar Design**Question**

How might we design a robotic body that allows a digital mind to best interact with the universe?

Conclusion

...

12 — Forms of Existence**Question**

What are the advantages and disadvantages of biological life and digital life? Which form of existence is the most promising for indefinite life?

Conclusion

...

14 — Lifetimes Infinity**Question**

What are Lifetimes Infinity's plans for pursuing mind uploading and indefinite life?

Conclusion

...

15 — Deliberately Designing Reality**Question**

What long term plans should humanity focus on in our pursuit of indefinite life?

Conclusion

...

16 — Outer Space Colonization**Question**

What are our plans for pursuing indefinite life in physical space... beyond Earth, beyond our Solar System, beyond our Galaxy, and beyond our Universe?

Conclusion

...

17 — Society Design**Question**

How can we best manage a society comprised of biological or digital beings to pursue indefinite life?

Conclusion

...

18 — Infrastructure Design**Question**

How can we best facilitate digital, space-faring societies in their pursuit of indefinite life?

Conclusion

...

19 — Spaceship Design**Question**

How might we design spaceship to allow to best facilitate societies in their pursuit of indefinite life?

Conclusion

...

20 — Compact Survival Guide for Individuals in an Inhospitable Universe**Question**

What are the best strategies we can provide to individuals to maximize their opportunities for survival?

Conclusion

...

Chapter 2

Terminology

The definitions provided in this book are for how Lifetimes Infinity uses specific terms; they are not meant to be absolute definitions. You will find that other individuals and organizations may use the same terms in different ways.

Definitions and acronyms

Annex brain —

Artificial general intelligence (AGI) —

Artificial intelligence (AI) —

Biological immortality —

Brain-computer-interface (BCI) —

Brain module —

Digital immortality — Indefinite life as a digital mind operating under the same transferred consciousness (the same personal identity).

Human-machine interface (HMI) — Similar to brain-computer interface, but not limited to the technology interface strictly being computers and not limited to the human interface strictly being the brain.

Immortalities — One of the two categories of states of existence (the other being Mortalities).

Immortality — Having an infinitely long existence. ... (applicable to individuals/populations, living/non-living entities). This is a state of existence.

Indefinite life — Having a non-zero chance of indefinite survival (applicable to individuals/populations, living/non-living entities).

Indefinite lifespan — An individual having no upper bound to their lifespan.

Indefinite immortality — ... (applicable to individuals/populations, living/non-living entities). This is a state of existence.

Lifetimes Infinity (LI) —

Microelectrode array (MEA) —

Mind uploading (MU) —

Mortalities — Having a finitely long existence. One of the two categories of states of existence (the other being Immortalities).

Mortality — ... (applicable to individuals/populations, living/non-living entities). This is a state of existence.

Plane-bound immortality — ... (applicable to individuals/populations, living/non-living entities). This is a state of existence.

Pseudo immortality — ... (applicable to individuals/populations, living/non-living entities). This is a state of existence.

Substrate independent mind (SIM) — A term coined by CarbonCopies.org

True Immortality — Not being able to die (applicable to individuals/populations, living/non-living entities). This is a state of existence.

Volume I

The Tools of Rationality

Chapter 1

Introduction

This volume aims to answer the following question:

What are the best tools we can use to most accurately emulate a rational actor in finding the best solutions for any given challenge (and specifically in the pursuit of indefinite life)?

Before jumping into the meaning of life, indefinite life, or mind uploading, I want to explicitly outline the tools used in the discovery and construction of all the postulates and conclusions presented in this book. The tools outlined here can be applied to all facets of discovery.

Beyond the more obvious scientific applications, these tools can be used on the individual level to create more objective mental models of both the external reality and of one's self (*note that the scope of this book does not cover creating an objective model of one's self*).

I have used these tools to the best of my ability in the creation of this book. The tools are presented in a way that wraps them all into the category of rationality. Let's start off by defining rationality and a few related terms.

Definition

Rationality

A **rational actor** (rational decision maker) uses **logic**, **reason**, and facts (**knowledge**) to make the best choice between the available options. We define the best choice as the course of action that yields the greatest **expected utility**.

Definition

Expected utility is the utility value expected to be produced by an action. It is the sum of the utility of all possible outcomes, where each individual possibility is weighted by its probability of occurrence.

Definition

VNM Utility Theorem

The axioms of Von NeumannMorgenstern utility theorem are: completeness, transitivity, continuity, and independence.

“**Completeness** assumes that an individual has well defined preferences.”

“**Transitivity** assumes that preference is consistent across any three options.”

“**Continuity** assumes that there is a ‘tipping point’ between being better than and worse than a given middle option.”

“**Independence** (of irrelevant alternatives) assumes that a preference holds independently of the possibility of another outcome.”

— Wikipedia

“A rational decision maker will, when presented with a choice, take the action with the greatest expected utility. Von Neumann and Morgenstern provided 4 basic axioms of rationality. They also proved the expected utility theorem, which states a rational agent ought to have preferences that maximize his total utility. Humans often deviate from rationality due to inconsistent preferences or the existence of cognitive biases.” — Less Wrong

As humans, we aren’t inherently rational beings. The biological/evolutionary forces that programmed our minds affect our individual and collective abilities to be rational. There are many pitfalls that humans tend to succumb to in their attempts to make sense of reality (biases, ignorance, fallacies, etc.). Thankfully, there are some tools we can use to be more rationally. Rational actors reason by using facts (knowledge) to build logical steps to reach a conclusion. The tools of reasoning, logic, and knowledge are what we’ll be exploring in this chapter. The better developed these tools are on the individual, population, and collective levels, the better our ability will be to reach better conclusions in our quest for whatever we find meaningful.

Chapter 2

Reasoning

Reasoning can be broken down into main two categories:

1. Reasoning by first principles.
2. Reasoning by analogy.

Definition

Reasoning by first principles is starting from fundamental truths and building on those, layer by layer, until you get to where you want to be, only incorporating information that is supported by previous truths. At the very bottom layer, there isn't anything unsupported by fundamental truths.

*Reasoning by first principles is like baking a cake by understanding of how all the ingredients come together to create the end product. You break the cake down into its constituents, then figuring out how to bake your own version by manipulating the constituents to optimally reach your goals. This is essentially **baking from scratch**.*

On a deeper level, you could say reasoning by first principles is like baking a cake knowing how the chemistry of all the ingredients come together to create the end product.

Definition

Reasoning by analogy is approaching challenges similarly to how things have been done before (either in related or non-related fields).

This is like baking a cake using a recipe, maybe altering a few things, but not breaking it down to understand how the constituents come together to create a cake. After a long time and a lot of people using the recipe, people might not even know why a certain ingredient is used at all, but they put it in their cake because everyone else puts it in their cakes.

Reasoning by first principles takes more time and effort than reasoning by analogy, which is why in most of our day to day situations, we reason by analogy. We don't always want to have to be assessing our knowledge and fundamental truths in order to overcome most challenges. For example, if your friend hands you the key to their house and asks you to open the door (because maybe their hands are

full of groceries), you're going to assume that your friend's door functions the same way as most of the other doors you've come across (reasoning by analogy). You're not going to sit your friend down and assess what you both know about the situation in order to make sure that you find the best solution to opening the door (reasoning by first principles). However, if you are a door maker, you would want to take as much relevant information into consideration designing a door.

Chapter 3

Best uses: First Principles versus Analogy

As you have probably noticed, the quicker a solution is needed, the more sense it usually makes to reason by analogy. On the other side of things, the more important it is to do things optimally, the more sense it usually makes to reason by first principles.

Similarly, when resources (including time) are scarce, we'll have to make due with reasoning by analogy in areas where the impact won't be as great. Since resources are always scarce, we're always assessing which areas to put resources into. It doesn't make sense to have everyone trying to reinvent the wheel all the time in every domain. Looking at past experiences to determine the best course of action for the future is often superior in that it yields perfectly adequate solutions in far less time. We just have to watch out so that we don't pigeonhole ourselves into only reasoning by analogy.

Later in this section, I talk about **subjectivity**, **objectivity**, and **perspectives of reality**. In building up such things as our perspective of reality, we want to make use of reasoning by first principles. Reasoning by first principles is useful when we are taking on revolutionary challenges and when it is important to arrive at innovative solutions. In these cases, we question everything we know to make sure that we are seeing the entire picture. In my experience, this is the most reliable way to produce novel solutions.

An idea worth mentioning is that often times opportunities are presented to those who act quickly over those who act slowly (even if the slow actor has the better solution). This is important to note because in the chapter States of Existence we equate survival to opportunities.

First Principles and Rationality

Conclusion

We should make use of **reasoning by analogy** in situations where quick decisions that are generally correct (employing a decent model of reality) are more valuable than slow decisions that are more correct (that employ the best* model of reality).

Best is subjective. In addition, we can always improve our best model given more time, so a scope must be decided upon.

Reasoning by first principles plays an important role throughout this book. It takes a lot of time and effort to assess what we know and then build on top of that, layer by layer, until we reach our goal. Reasoning by analogy takes far less time and effort, and for these reasons it is often more appealing. However, reasoning by analogy (by definition) does not allow us to escape our previous methods of thinking about a problem. Overcoming large challenges often necessitates the use of reasoning by first principles, because often times we need to find solutions that are not analogous to any existing solutions. This isn't to say that reasoning by analogy isn't useful. In this book I will reason by first principles as much as possible, outlining all the steps and assumptions I have taken in reaching my conclusions.

Chapter 4

Knowledge

Definition

Knowledge is information, facts, understanding, experiences, and memories.

Knowledge should not be confused with memorization. Memorization only plays a part in knowledge, the many types of intelligences, and one's ability to be rational.

For a given challenge, rational actors choose the subjective best course of action based on their knowledge (which includes subjective experiences) and the application of that knowledge through logical steps. Since humans are not objective beings and since we cannot be guaranteed to always create completely logical steps, we will not be able to say we have an objective best course of action. While an objective best course of action may exist for a given challenge, we cannot find it without complete information of the entire system we're interacting in (the universe). Since obtaining complete information of the system isn't an option, we must do the best we can to incorporate what relevant knowledge we do have into building models of reality.

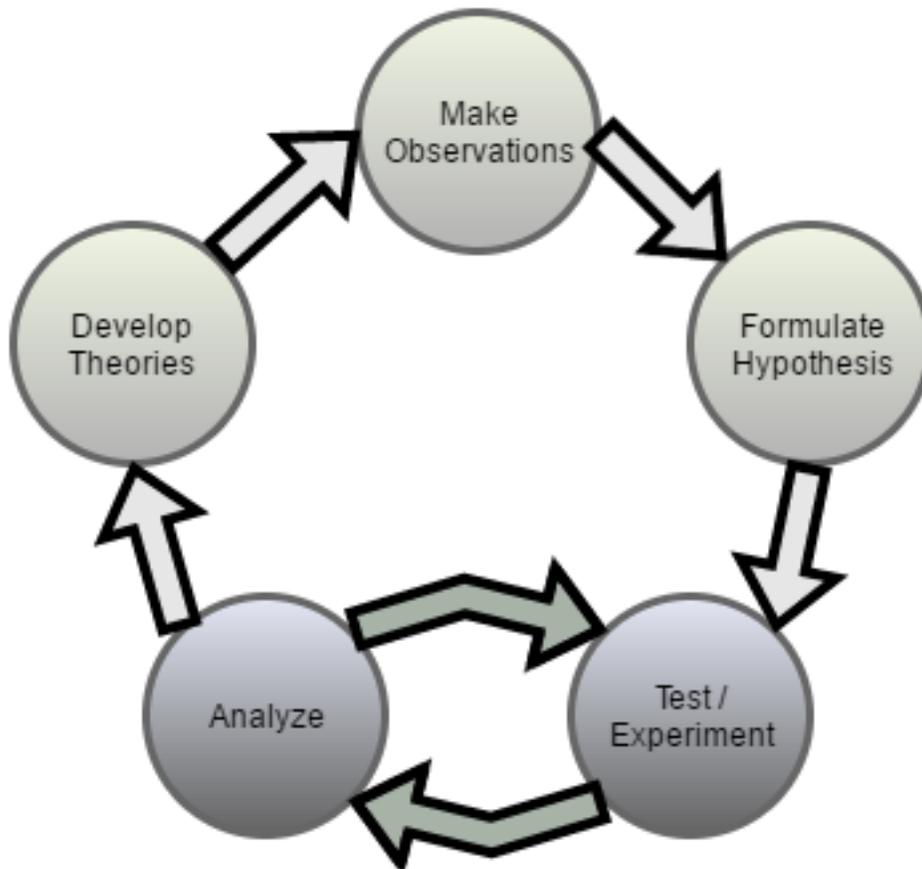
Hopefully we continue to develop better models for being rational and joining our collective knowledge together to reach better conclusions. In doing so, we need to be aware that knowledge from ourselves and others is subjective and can be incorrect. In building bigger more abstract models of reality, we need to ensure that new models are only built through first principles, since in these domains it is more important to have a better answer than a fast answer. In building much of our individual perspectives of reality, it is important to take the time to reason by first principles as well.

We'll always have to make assumptions and reason by analogy at times. This is perfectly fine, just so long as we acknowledge these assumptions and keep in mind that if they support a conclusion, that conclusion's validity is conditional on the assumptions we make.

The Scientific Method

There are many individuals who recognize the scientific method as our best method for integrating knowledge into our collective understanding of reality. However, it is less common find individuals who use these same methods for constructing their life (physical domains), constructing their subjective perspective on reality (mental domain), determining how they derive meaning in life, and determining

what their life philosophy is. This is mostly likely because of the effort required and because no one is forcing them to do it (whereas using the scientific method is the standard in the scientific community). For most day-to-day activities, we're not used to reasoning by first principles.



Chapter 5

Logic

Rationality and logic are two distinct concepts, and although they are extremely similar, they are not interchangeable. A rational actor will use logic to solve a problem, because logic yields the result with the greatest expected utility for a given amount of knowledge. In other words, given a certain amount of information, you can use logic to arrive at the best solution.

Definition

Logic — “Anything that is logical follows a sequence of events that arrive at the best solution of a problem in the most efficient manner. A logical person is seen as having scientific views and his actions are based upon facts.” — differencebetween.com

Here’s an example illustrating the difference between rationality and logic:

“Math is logical as there is no other way to arrive at a conclusion or the correct answer other than following logical steps. A person can be irrational, whereas it is his beliefs that are illogical.” — differencebetween.com

A rational actor chooses the action with the greatest expected utility for a given goal. Someone using logic is finding the best solution to a given problem. For example, a rational actor with the goal of pursuing indefinite life would take actions that increase their ability to survive. In determining each of their actions toward this goal, they would outline the problems and use logic to arrive at the best solution for each of these problems.

Chapter 6

Subjectivity and Objectivity

An objective actor is unbiased in their knowledge. However, as subjective beings, all the incoming knowledge we receive from reality is subjective. For this reason, it is important to discuss subjectivity and objectivity in relation to rationality. The more objective we can be in our knowledge and the more objective we can make our knowledge, the more true our models of reality will be able to become (both our external models and our internal models (our individual perspectives of reality)).

Definition

Subjective: “Existing in the mind; belonging to the thinking subject rather than to the object of thought. Relating to or of the nature of an object as it is known in the mind as distinct from a thing in itself.” — dictionary.com

Objective: “Not influenced by personal feelings, interpretations, or prejudice; based on facts; unbiased. Intent upon or dealing with things external to the mind rather than with thoughts or feelings, as a person or a book. Being the object of perception or thought; belonging to the object of thought rather than to the thinking subject (opposed to subjective). Of or relating to something that can be known, or to something that is an object or a part of an object; existing independent of thought or an observer as part of reality.” — dictionary.com

Perspective of Reality

All life is made up of subjective experiences. Our individual perspectives of reality will always be through our own subjective lenses, colored by our preexisting knowledge. It is important to remember that while we can discern objective truths, our own experiences cannot be anything but subjective. We must keep this in mind in order to be as rational as possible (in assimilating knowledge and in reasoning by first principles).

The Constructs of Reality

We need to remember that all of our lenses (subjective perspectives) have been built up through biological and man-made constructs (from the rules and interactions of societies to the material and

mental tools we use to interact with reality). The everyday life that we have grown up in and grown accustomed to does not (for the most part) require that we rationally consider their effects upon us as individuals. The meanings humans have deliberately built into these constructs and the meanings that have emerged by themselves will too often mislead individuals (sometimes deliberately and even maliciously) as to what the meaning of life is. To begin answering what the meaning of existence is (in the next chapter), we will need to look beyond these constructs. Growing up inside of these systems, it can be difficult to see beyond them, but it is possible if we use first principles.

Nan-in, a Japanese master during the Meiji era (1868-1912), received a university professor who came to inquire about Zen. Nan-in served tea. He poured his visitor's cup full, and then kept on pouring. The professor watched the overflow until he no longer could restrain himself. "It is overfull. No more will go in!" "Like this cup," Nan-in said, "you are full of your own opinions and speculations. How can I show you Zen unless you first empty your cup?"

— Zen Koan

Chapter 7

Limitations of Rationality

As subjective beings, we will always have biases and incomplete knowledge. What we can do as a collective to combat these limitations is continue to design better systems for identifying biases, making decisions, and storing knowledge. We can also encourage the use of these rational systems more and more so that more of the population understands them has access to them. What we can do as individuals to combat these limitations of rationality is to simply acknowledge our limitations and actively work to minimize them as much as possible.

Chapter 8

Rationality Conclusion

So now that we've outlined rationality and the tools we will use to improve upon our ability to be rational actors, let's look at how rationality will be applied toward this book. The next chapter discusses the meaning of life and the meaning of existence. Beyond that we'll talk about indefinite survival. In order to talk about these things in any reasonable sense, I thought it was important to lay out the tools we will use to discuss them with.

Conclusion

To achieve the solution with the **greatest expected utility** for a given challenge, it is best to take on the perspective of a **rational actor** who reasons by **first principles** and has assimilated **sufficient knowledge** to propose a **meaningful solution** within an **acceptable margin for error**.

To achieve the **fastest** yet still **meaningful solution** that falls **within a given margin for error**, it is best to take on the perspective of a **rational actor** who **reasons by analogy**, using **knowledge that is readily available**.

For all cases which require a solution somewhere between the fastest and greatest expected utility, a combination of reasoning by first principles and reasoning by analogy will be required. Individuals and populations will need to determine what the ratio should be based on the available resources and desired solution.

Where the line is drawn for sufficient knowledge, meaningful solution, and acceptable margin of error is up to individuals and populations.

Every individual assigns meaning to life as actors somewhere in the spectrum between rational and irrational, and we all use varying degrees and types of knowledge. Knowing what tools we should be using and what to look for can help us stay away from misguided theories and philosophies. Keep in mind that there **does** need to be a goal to determine whether efforts are rational or misguided (since we can't talk about the expected utility of an action without respect to a goal).

It's worth mentioning that in order for us (as individuals and a collective) to better ensure our survival (if that is in fact our primary goal), we need to incorporate all these tools of rationality as best we can into how we build our understanding of reality and how we interact with reality.

The word "meaningfully" is used a lot within this book, because a lot of that ways to define something are ambiguous. Using the word "meaningful" lets us remove that ambiguity in the actual

definition and places into how meaningful is defined in that context. In this sense, “meaningful” is a placeholder. For example, the extent to which something persists as itself through time is often up to interpretation. So I will say something like “the individual meaningfully persists as itself through time”, then we can have a definition and the reader can decide what they want “meaningful” to mean. Or alternatively, I can define meaningful myself and the reader can decide to agree with that or not.

There are many techniques and tricks that we can use as humans to become more rational, but they are not within the scope of this book. One of the things I will often do in this book is quantify concepts as much as possible and get them into the same metric to find an optimal solution, since having things quantified in the same metric allows us to objectively compare them (then the question becomes whether I appropriately converted them to the same metric).